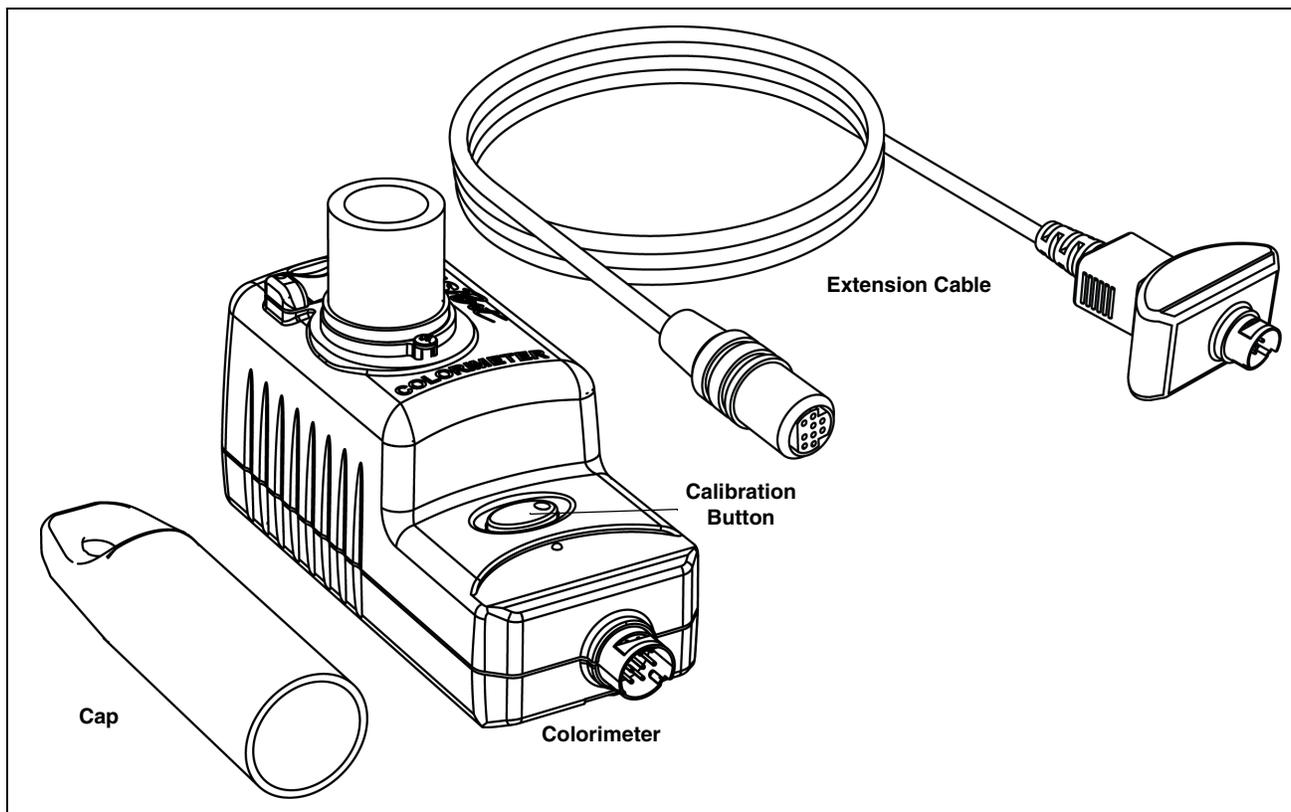


# Water Quality Colorimeter

PS-2179



Included Equipment	Part Number
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Water Quality Colorimeter	PS-2179
PASport Extension Cable	PS-2500

Additional Required Equipment	
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ezSample Snap Vial Test Kit	Various, see <a href="http://www.pasco.com">www.pasco.com</a> or PASCO catalog
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Xplorer GLX	PS-2002
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or

other PASPORT interface

Recommended Equipment	
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Water Quality Field Guide	PS-2829A
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## Introduction

The PASPORT Water Quality Colorimeter is designed for chemical analysis of water samples using PASCO's ezSample Snap Vial water quality test kits.

ezSample Snap Vials contain a reagent (specific to a particular ion) in a vacuum-sealed ampoule. When the scored tip of the ampoule is snapped off in the water sample, the sample is drawn into the ampoule and mixes with the color-forming reagent. The absorbance of the resulting solution depends on the ion concentration.

The colorimeter accurately measures the absorbance by projecting light through the ampoule and measuring the intensity of transmitted light. It uses Beer's Law and built-in calibration curves to calculate the ion concentration.

The colorimeter's measurements are sent to your PASPORT interface for display, recording, and analysis.

# Measurement Procedure

## With the Xplorer GLX (Standalone Mode)

Follow these steps to use the colorimeter connected to a GLX without a computer. The colorimeter should be horizontal when it makes a measurement. If you connect it directly to the GLX without a cable, keep the GLX horizontal.

1. Connect the colorimeter to the GLX (may require Extension Cable 514-07281). The GLX detects the colorimeter and opens the Digits screen.
2. Press  to highlight the data source field.
3. Press  again to open the data source menu (right).
4. Use the arrow keys to highlight the desired measurement and press . (Select the measurement corresponding to the test kit that you will use.)
5. (Optional) Perform the calibration procedure (see “Calibration” on page 3).
6. Follow the instructions provided with your ezSample Snap Vial kit to mix your water sample with the reagent in the ampoule.
7. Handling the ampoule by the tip, wipe the glass clean using a non-abrasive cleaning tissue. Avoid touching the glass after it is clean.
8. Insert the ampoule into the colorimeter.
9. Place the cap over the ampoule.

The GLX automatically monitors and displays live measurements in the Digits screen.

10. (Optional) To start recording data, press .



To remove the measurement from the lower segment of the Digits screen: Press . Press the down arrow to highlight the data source field of the lower segment. Press  again to open the menu. Use the arrow keys to highlight **Clear Input** and press .

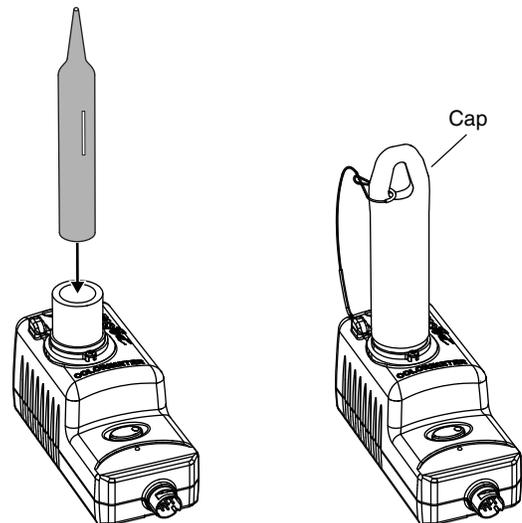
## With a Computer

Follow these steps to use the colorimeter with any PASPORT interface connected to a computer.

1. Connect your PASPORT interface to the computer and start the PASCO Data Collection Software.
2. Connect the colorimeter to the PASPORT interface. The software detects the colorimeter. Set up a digits display showing all available measurement.
3. (Optional) Perform the calibration procedure (see “Calibration” on page 3).
4. Follow the instructions provided with your ezSample Snap Vial kit to mix your water sample with the reagent in the ampoule.
5. Handling the ampoule by the tip, wipe the glass clean using a non-abrasive cleaning tissue. Avoid touching the glass after it is clean.
6. Insert the ampoule into the colorimeter.
7. Place the cap over the ampoule.
8. Start recording and displaying data.

The software displays all available measurements. Read the one corresponding to the test kit that you used. (The other live measurements are not meaningful and should be ignored.)

To remove unneeded measurements from the digits display, click each measurement and press delete.



## For Best Results

- Place the cap fully over the ampoule. A blinking red light on the calibration button indicates that the colorimeter is not ready to make a valid measurement: either stray light is entering the colorimeter or the measurement is out of range. Ensure that the cap is properly in place to make the light stop blinking.
- Keep the colorimeter horizontal.
- The ambient temperature and the temperature of the test solution should be about equal and between 5° C and 40° C. A cold ampoule may develop condensation, which would affect the reading.
- Ensure that the outside of the ampoule is clean and dry.
- Do not test turbid water samples.
- Shield the colorimeter from direct sunlight.

## Calibration

Calibration is not required but is recommended for better accuracy. Calibration information is stored in the colorimeter; when you unplug the sensor and reconnect it, the sensor retains the last calibration.

To calibrate the colorimeter you will need a calibration ampoule, which is included in each ezSample Snap Vial kit.

- Handling the calibration ampoule by the tip, wipe the glass clean using a non-abrasive cleaning tissue. Avoid touching the glass after it is clean.
- Align the mark on the calibration ampoule as illustrated on page 2 and insert the ampoule into the colorimeter
- Place the cap over the ampoule.
- Press the green button on the sensor. The button illuminates (in green) to indicate calibration is in progress.
- Wait for the light to turn off.
- Remove the calibration ampoule.

*If the red light on the button blinks, ensure that the cap is properly in place and repeat the calibration procedure.*

*The interface cannot collect data from the colorimeter during calibration. Wait until the green light turns off before recording or monitoring data.*

*Because zero concentration is outside of the calibrated range for the test kits, the colorimeter may register a small or even negative value.*

## Specifications

Each type of ezSample test kit has its own accuracy and range specifications. For that information, refer to the instruction sheet included with the kit.

These specifications apply to the colorimeter itself, independent of the reagent used.

<b>Range</b>	0 to 100% transmittance
<b>Wavelengths</b>	660 nm (red), 610 nm (orange), 565 nm (green), 461 nm (blue)
<b>Accuracy</b>	±0.5% transmittance
<b>Resolution</b>	0.1% transmittance
<b>Default sample rate</b>	1 sample/s
<b>Maximum sample rate</b>	5 samples/s
<b>Temperature range</b>	5° C to 40° C

## Technical Support

Before you call PASCO technical support, have the apparatus and this user's guide available. Please note the following:

- Product name and model number (e.g., Large Structures Set, ME-7003)
- Approximate age of the product;
- Detailed description of the problem/sequence of events required to duplicate the problem.

For assistance with any PASCO product, contact PASCO at:

Address: PASCO scientific  
10101 Foothills Blvd.  
Roseville, CA 95747-7100

Phone: 916-462-8384 (worldwide)  
877-373-0300 (U.S.)

Web: [www.pasco.com](http://www.pasco.com)

Email: [support@pasco.com](mailto:support@pasco.com)

**Limited Warranty** For a description of the product warranty, see the PASCO catalog.

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### Product End of Life Disposal Instructions:

This electronic product is subject to disposal and recycling regulations that vary by country and region. It is your responsibility to recycle your electronic equipment per your local environmental laws and regulations to ensure that it will be recycled in a manner that protects human health and the environment. To find out where you can drop off your waste equipment for recycling, please contact your local waste recycle/disposal service, or the product representative.

The European Union WEEE (Waste Electronic and Electrical Equipment) symbol on the product or its packaging indicates that this product **must not** be disposed of in a standard waste container.

