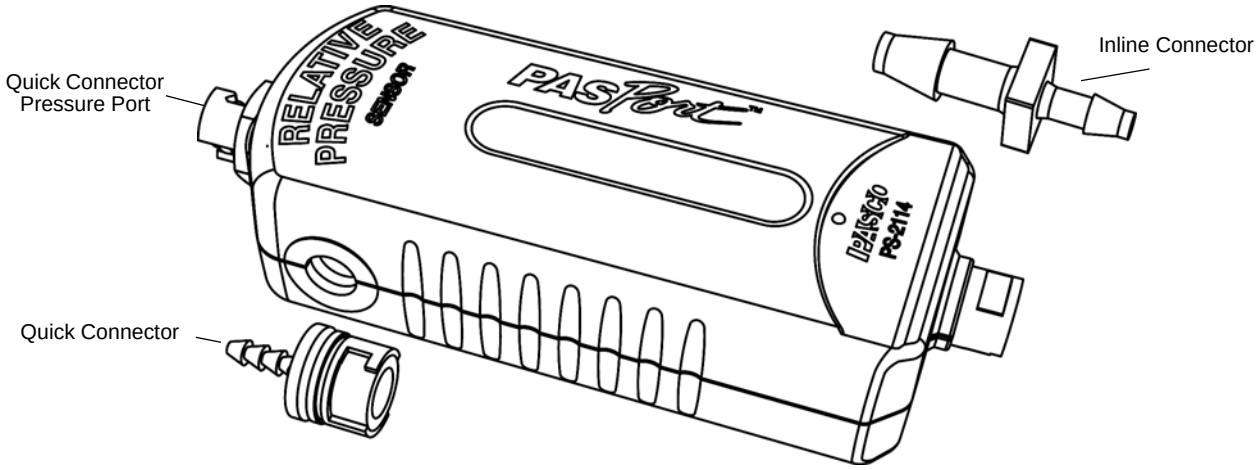
Relative Pressure Sensor

PS-2114



Included Items
Tubing, 60 cm (2 ft.), not shown
Connector, inline (4)
Connector, quick (4)

Required Items*
PASCO Interface
PASCO Data Acquisition Software

**See the PASCO catalog or the PASCO web site at www.pasco.com for more information.*

Other Items*
Heat Engine/Gas Law Apparatus
PASCO Temperature Sensor
PS-2500 PASPORT Extension Cable

Introduction

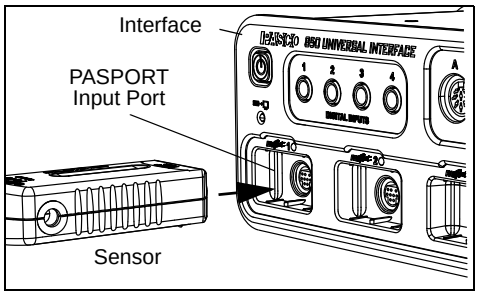
The PS-2114 Relative Pressure Sensor measures small changes in pressure in kilopascals (kPa).

The sensor is designed to work with a PASPORT-compatible interface (such as the UI-5100 850 Universal Interface) and PASCO data acquisition software (such as PASCO Capstone). With the data acquisition software, the sensor can be used to measure change in pressure over a period of time.

The sensor includes plastic tubing, four inline connectors, and four quick connectors. The quick connector attaches to the pressure port on the front end of the sensor. The inline connector can be used to attach a piece of tubing to a one-hole stopper, for example.

Setup the Relative Pressure Sensor

- Plug the Relative Pressure Sensor into one of the PASPORT input ports of a PASCO interface.



NOTE: If more distance is needed between the sensor and the interface, plug the sensor into a PASPORT Extension Cable, and then plug the cable into the interface.

- Start the PASCO data acquisition software. Set up a data display in the software.

Using the PASCO Capstone Software

- Click the "Hardware Setup" icon in the Tools palette to open the "Hardware Setup" panel. Confirm that the Relative Pressure Sensor icon appears with the interface's icon.
- Click the "Data Summary" icon in the Tools palette to open the "Data Summary" panel. The panel lists the sensor's measurements.
- Click one of the display templates in the workbook page, or double-click an icon in the "Displays" palette to open a data display.

Using the SPARK Science Learning System

- Start the interface and plug the sensor into a port on the SPARK SLS.
- In the sensor parameter screen, tap 'Relative Pressure' to highlight it, and then tap 'Show' to open a graph display.

Record Data

- Click "Record" or tap the 'Start' button to begin recording data.

Specifications

Item	Value
Range:	**0 to 10 kPa**
Accuracy:	**±0.05 kPa**
Resolution	**0.001 kPa**
Maximum Sample Rate	**20 Hz**
Repeatability	**0.01 kPa**

Suggested Activities

Measure Pressure versus Temperature

Use the Relative Pressure Sensor with a PASCO temperature sensor to measure the change in pressure inside a chamber as the chamber is warmed or cooled to different temperatures.

Measure Pressure versus Volume

Use the sensor with a PASCO Heat Engine/Gas Law Apparatus (such as the TD-8572 or TD-8592) to study the relationship of pressure and volume (Boyle's Law).

Respiration Rate

Use the sensor with the PASCO Respiration Belt (CI-9842) to study breath rate.

Technical Support

For assistance with any PASCO product, contact PASCO at:

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

Phone: +1 916-786-3800 (worldwide)
800-772-8700 (U.S.)

E-mail: support@pasco.com

Web www.pasco.com

For the latest information about the Barometer/ Low Pressure Sensor, visit the PASCO web site at www.pasco.com and enter "PS-2114" in the Search window.

Limited Warranty For a description of the product warranty, see the PASCO catalog. **Copyright** The PASCO scientific *Instruction Sheet* is copyrighted with all rights reserved. Permission is granted to non-profit educational institutions for reproduction of any part of this manual, providing the reproductions are used only in their laboratories and classrooms, and are not sold for profit. Reproduction under any other circumstances, without the written consent of PASCO scientific, is prohibited. **Trademarks** PASCO, PASCO Capstone, PASPORT, SPARK Science Learning System, SPARK SLS, and SPARKvue are trademarks or registered trademarks of PASCO scientific, in the United States and/or in other countries. For more information visit www.pasco.com/legal.

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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 place where you purchased the product.

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