

PASCO®
PS-2146
Absolute
Pressure
Temperature
Sensor



PASCO PS-2146 Absolute Pressure Temperature Sensor Owner's Manual

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PASCO®

PASCO PS-2146 Absolute Pressure Temperature Sensor



Product Information

Specifications

- **Product Name:** PASPORT Absolute Pressure/Temperature Sensor PS-2146
- **Temperature Range:** -20°C to 100°C
- **Pressure Range:** 0 to 101.3 kPa
- **Connection Ports:** 1 PASPORT connection port, 2 Pressure port, 3 Temperature port

Product Usage Instructions

Hardware Setup

For temperature measurements:

1. Insert the Fast Response Temperature Probe into the temperature port on the sensor.

For pressure measurements:

1. Cut a piece of tubing to the desired length.
2. Insert a quick release connector into one end of the tubing.
3. Insert the other end of the quick release connector into the pressure port. Twist the connector clockwise about one-eighth of a turn until the connector clicks into place.
4. Insert the other end of the tubing into the syringe.

IMPORTANT: Do NOT immerse the sensor in liquid or allow it to get wet!

Software Setup

1. Start PASCO Capstone, SPARKvue, or Chemvue software.
2. Connect your PASPORT interface to the program.
3. Plug the Absolute Pressure/Temperature Sensor into a PASPORT port on the interface.

4. Create a display to measure absolute pressure, temperature, or both as needed.
5. Begin collecting data.

Calibration

The absolute pressure is factory-calibrated and cannot be calibrated by the user. Temperature measurement generally does not require calibration, but a one-point or two-point calibration can be performed if necessary. Refer to the online help for calibration instructions.

FAQs

• **Q: Can the sensor be submerged in water?**

A: No, the sensor is not waterproof. Avoid immersing it in liquid or exposing it to moisture to prevent damage.

• **Q: How do I access technical support?**

A: You can reach our Technical Support staff via chat, phone, or email. Contact information is provided below:

- **Chat:** Visit [pasco.com](https://www.pasco.com)
- **Phone (USA):** 1-[800-772-8700](tel:800-772-8700) x1004
- **Phone (outside USA):** +1 916 462 8384
- **Email:** support@pasco.com

• **Q: Where can I find warranty information?**

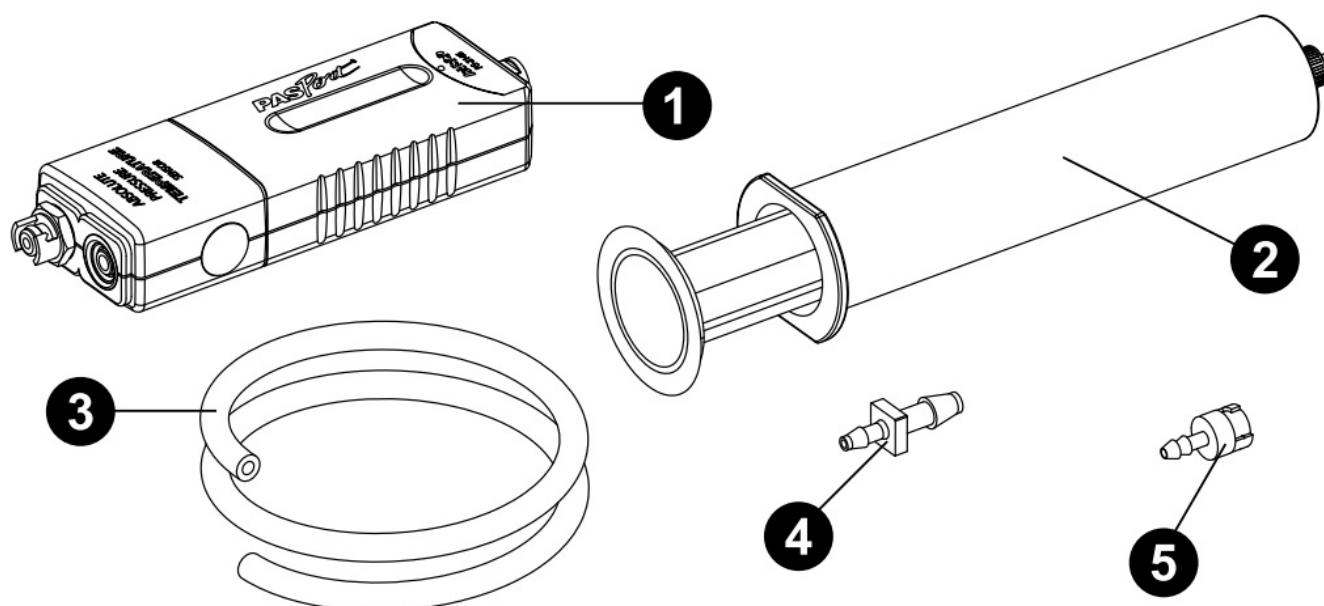
A: For details on the product warranty, please visit www.pasco.com/legal.

Introduction

The PASPORT Absolute Pressure/Temperature Sensor simultaneously measures the pressure and temperature of a gas. The sensor can measure pressures in the range of 0 kilopascals (kPa) to 700 kPa. The included Fast Response Temperature Probe plugs into the temperature port and can measure temperatures in the range of -10 °C to 70 °C. The sensor includes tubing, quick release connectors, and in-line connectors.

Components

Included components:



1. PASPORT Absolute Pressure/Temperature Sensor
2. Syringe, 60 cm³
3. Polyurethane tubing, 2 ft
4. 4× in-line connectors
5. 4× quick release connectors
6. 3× Fast Response Temperature Probes (PS-2135; not pictured)
7. PASPORT Sensor Extension Cable (PS-2500; not pictured)

Required equipment:

- PASPORT interface
- PASCO Capstone, SPARKvue, or Chemvue data collection software

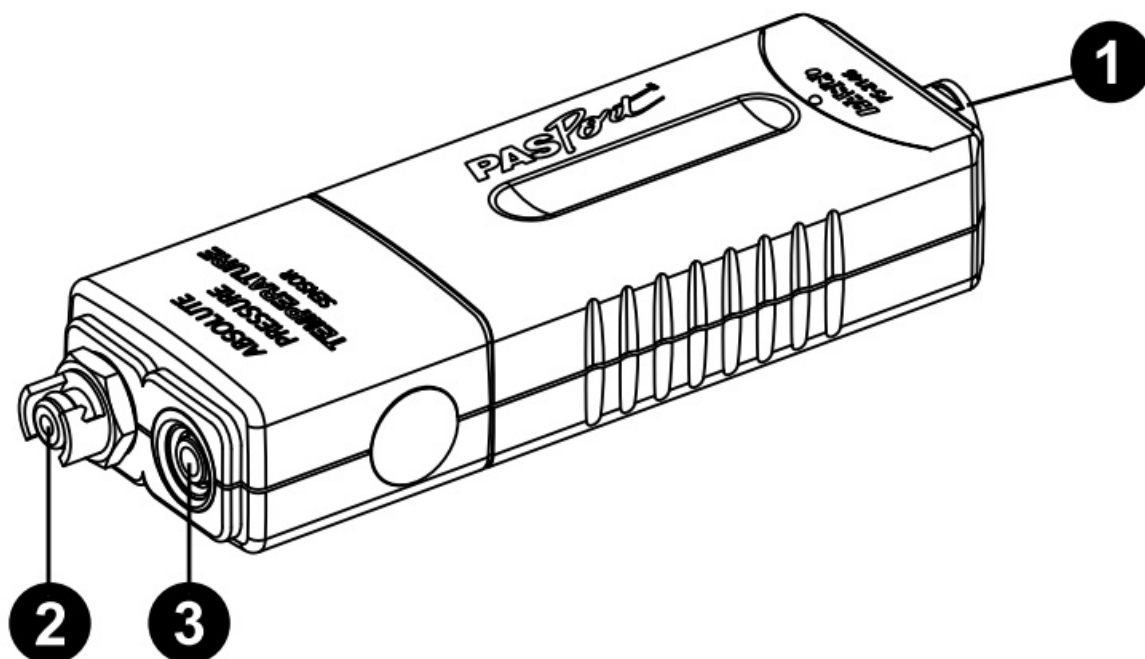
Recommended equipment:

- Absolute Zero Sphere (TD-8595)
- Ideal Gas Law Apparatus (TD-8596A)

Compatible equipment:

- PASPORT Skin/Surface Temperature Probe (PS-2131)
- PASPORT Stainless Steel Temperature Probe (PS-2153)

Features

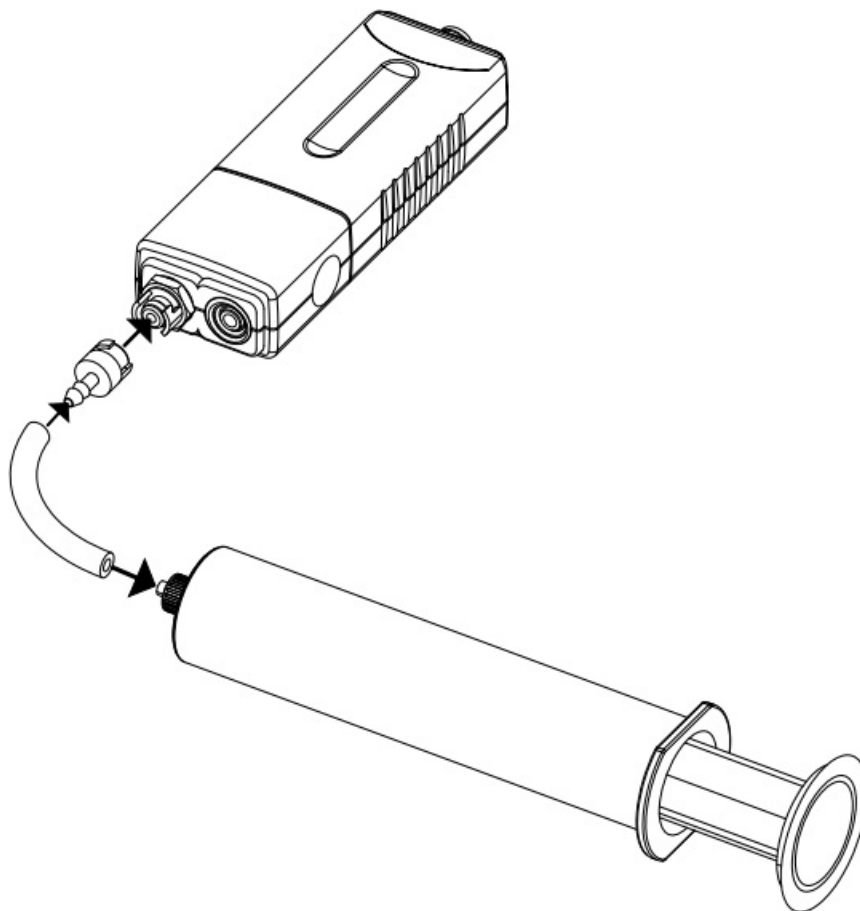


1. PASPORT connection port
2. Pressure port
3. Temperature port

Hardware setup

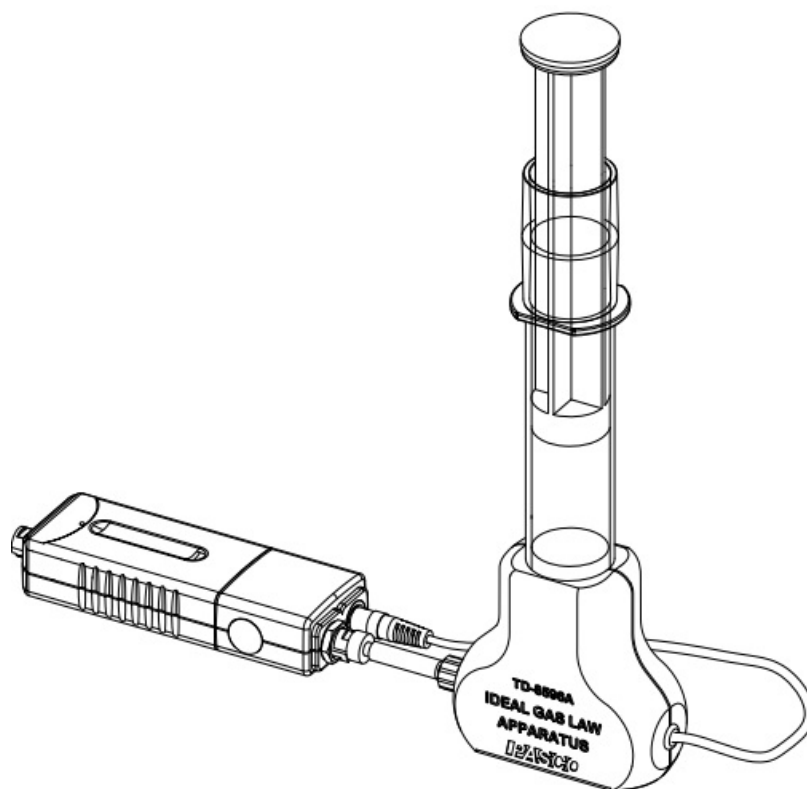
For temperature measurements, simply insert the Fast Response Temperature Probe into the temperature port on the sensor. For pressure measurements, follow these steps:

1. Cut a piece of tubing to the desired length.
2. Insert a quick release connector into one end of the tubing.
3. Insert the other end of the quick release connector into the pressure port. Twist the connector clockwise about one-eighth of a turn until the connector clicks into place.
4. Insert the other end of the tubing into the syringe, as shown below.



IMPORTANT: Do NOT immerse the sensor in liquid or allow it to get wet! The sensor is not waterproof, and moisture will cause damage to its internal components.

If you are using the Ideal Gas Law Apparatus (TD-8596A) or the Absolute Zero Sphere (TD-8595), the setup process is slightly different. In this case, plug the apparatus's mini stereo jack into the sensor's temperature port, then connect the quick release connector on the apparatus to the sensor's pressure port. (See below.)



Software setup

1. Start PASCO Capstone, SPARKvue, or Chemvue.
2. Connect your chosen PASPORT interface to the program. For more details on this, see the manual for the interface or the online help for your chosen program.
3. Plug the Absolute Pressure/Temperature Sensor into a PASPORT port on the interface. The program should automatically detect and recognize the sensor.

NOTE: If needed, you can instead connect one end of the PASPORT Sensor Extension Cable to the sensor and plug the other end of the cable into the interface.

4. Create a display to measure the absolute pressure, temperature, or both as needed for your experiment.
5. Begin collecting data.

Calibration

The absolute pressure for this sensor is factory-calibrated and cannot be calibrated by the user. The temperature measurement generally does not require calibration, but a one-point or two-point calibration can be performed if necessary. For information on calibrating the temperature measurement, see the PASCO Capstone, SPARKvue, or Chemvue online help.

Specifications and accessories

Visit the product page at [pasco.com/product/PS-2146](https://www.pasco.com/product/PS-2146) to view the specifications and explore accessories. You can also download experiment files and support documents from the product page.

Technical support

Need more help? Our knowledgeable and friendly Technical Support staff is ready to answer your questions or walk you through any issues.

Chat [pasco.com](https://www.pasco.com)

Phone 1-[800-772-8700](tel:800-772-8700) x1004 (USA)

+1 916 462 8384 (outside USA)

Email support@pasco.com

Limited warranty

For a description of the product warranty, see the Warranty and Returns page at www.pasco.com/legal.

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Product end-of-life disposal

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 or disposal service, or the place where you purchased the product. 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.

CE statement

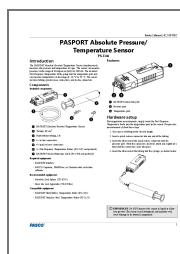
This device has been tested and found to comply with the essential requirements and other relevant provisions of the applicable EU Directives.

FCC statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Documents / Resources



[PASCO PS-2146 Absolute Pressure Temperature Sensor](#) [pdf] Owner's Manual
PS-2146, PS-2146 Absolute Pressure Temperature Sensor, Absolute Pressure Temperature Sensor, Pressure Temperature Sensor, Temperature Sensor, Sensor

References

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- [User Manual](#)

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