

**Instruction Manual for  
the PASCO scientific  
Model OS-9102C**

# INCANDESCENT LIGHT SOURCE



## Description

The PASCO Scientific Incandescent Light Source, OS-9102C is intended to be used by students in an educational environment to perform experiments in basic optics.

The Incandescent Light Source produces a light output of approximately 15 candle power in the visible spectrum. It is powered by a very stable, well-regulated power supply that ensures the light source output will not drift in intensity. The output is bright enough and stable enough to perform demanding experiments such as investigations into Young's coherence.

The Incandescent Light Source mounts magnetically to the PASCO Introductory and Advanced Optics System's optical benches. A knob is provided on the top of the unit to adjust the filament position of the lamp.

## Operating Instructions

1. Place the light source on the optical bench with its steel pads on the bottom touching the magnetic strips on the bench, and its back edge pressed up against the alignment rail of the optical bench. To minimize bending of the optical bench, it is advisable to place the light source near one end of the bench.
2. Connect the light source to the 12 VDC, 2.5 A power supply provided. Connect the AC line cord to the power supply and to an appropriate power source.
3. When necessary, adjust the large knob on top of the light source to align the bulb filament along the optical axis of the optical bench. The bulb filament will move in the same direction that the knob is turned.
4. Mount filters, apertures, variable diaphragms, etc. on the magnetic surface of the front panel.

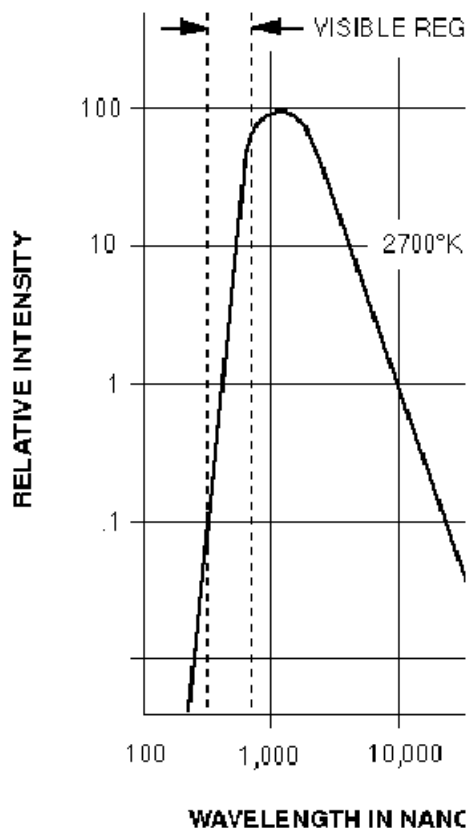


Figure 1 Spectral Output

## Troubleshooting

**If the bulb fails to light:** The most common cause for this situation is a burned-out bulb. Remove the bulb, and check to see if the filament is broken.

**Note:** A filament may not appear broken to the unaided eye. Therefore, it is recommended that in case of doubt, check filament continuity with an ohmmeter.

If the product is under warranty, or repairs by PASCO scientific are desired, please refer to the Equipment Return section in this manual. If you desire to perform repairs, necessary technical data is provided.

### Caution:

The lamp generates considerable heat, and after continuous operation the light source housing will become warm to the touch.

It is recommended, therefore, that you turn on the light source only when setting up and for the duration of the experiment.

## Replacement of bulbs

1. Turn light source switch to OFF and disconnect the power cord.
2. Remove the four screws from the front panel (the panel with the 22 mm diameter hole in its center).
3. Gently push the bulb back against the socket, turn the bulb counter-clockwise, and remove the bulb. (The bulb has a standard “twist to lock” type bayonet socket.)
4. A new #93 bulb is inserted by reversing the operation in step 3.

**Note:** When replacing the front panel, make certain that the bottom edge of the panel does not hang below the bottom surface of the light source. If the bottom edge of the panel does hang below the bottom surface, it will hinder the steel pads from making proper contact with the optical bench.

## Light Source Specifications

**Output:** Approximately 15 candle power  
For spectral output see Figure 1.

**Filament temperature:** 2700 °K

**Bulb:** #93 operated at 12 V  $\text{---}$ , 1.1 A, lifespan approximately 700 hours

**Regulation:** Maximum light output change is <1%.

**Distance from filament to front panel light opening:** approximately 22 mm

## Power Supply Specifications

**Input:** 100-250 V~  
47-63 Hz  
0.9 A maximum

**Output:** 12 V  $\text{---}$   
2.5 A maximum

**Note:** Power supply is short circuit protected.

# Copyright, Warranty, and Equipment Return

**Please**—Feel free to duplicate this instruction manual subject to the copyright restrictions below.

## Copyright Notice

The PASCO scientific 012-07133A instruction manual is copyrighted and all rights reserved. However, permission is granted to non-profit educational institutions for reproduction of any part of the Coulomb Balance manual providing the reproductions are used only for their laboratories and are not sold for profit.

Reproduction under any other circumstances, without the written consent of PASCO scientific, is prohibited.

## Limited Warranty

PASCO scientific warrants the product to be free from defects in materials and workmanship for a period of one year from the date of shipment to the customer. PASCO will repair or replace at its option any part of the product which is deemed to be defective in material or workmanship. The warranty does not cover damage to the product caused by abuse or improper use. Determination of whether a product failure is the result of a manufacturing defect or improper use by the customer shall be made solely by PASCO scientific. Responsibility for the return of equipment for warranty repair belongs to the customer. Equipment must be properly packed to prevent damage and shipped postage or freight prepaid. (Damage caused by improper packing of the equipment for return shipment will not be covered by the warranty.) Shipping costs for returning the equipment after repair will be paid by PASCO scientific.

## Equipment Return

Should the product have to be returned to PASCO scientific for any reason, notify PASCO scientific by letter, phone, or fax BEFORE returning the product. Upon notification, the return authorization and shipping instructions will be promptly issued.

► **NOTE:** NO EQUIPMENT WILL BE ACCEPTED FOR RETURN WITHOUT AN AUTHORIZATION FROM PASCO.

When returning equipment for repair, the units must be packed properly. Carriers will not accept responsibility for damage caused by improper packing. To be certain the unit will not be damaged in shipment, observe the following rules:

- ① The packing carton must be strong enough for the item shipped.
- ② Make certain there are at least two inches of packing material between any point on the apparatus and the inside walls of the carton.
- ③ Make certain that the packing material cannot shift in the box or become compressed allowing the instrument come in contact with the packing carton.

Address: PASCO scientific  
10101 Foothills Blvd.  
P.O. Box 619011  
Roseville, CA 95747-7100

Phone: (916) 786-3800

FAX: (916) 786-3292

email: techsupp@pasco.com

web: www.pasco.com

# Technical Support

## Feedback

If you have any comments about the product or manual, please let us know. If you have any suggestions on alternate experiments or find a problem in the manual, please tell us. PASCO appreciates any customer feedback. Your input helps us evaluate and improve our product.

## To Reach PASCO

For technical support, call us at 1-800-772-8700 (toll-free within the U.S.) or (916) 786-3800.

fax: (916) 786-3292

e-mail: [techsupp@pasco.com](mailto:techsupp@pasco.com)

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

## Contacting Technical Support

Before you call the PASCO Technical Support staff, it would be helpful to prepare the following information:

- ▶ If your problem is with the PASCO apparatus, note:
  - Title and model number (usually listed on the label);
  - Approximate age of apparatus;
  - A detailed description of the problem/sequence of events (in case you can't call PASCO right away, you won't lose valuable data);
  - If possible, have the apparatus within reach when calling to facilitate description of individual parts.
  
- ▶ If your problem relates to the instruction manual, note:
  - Part number and revision (listed by month and year on the front cover);
  - Have the manual at hand to discuss your questions.