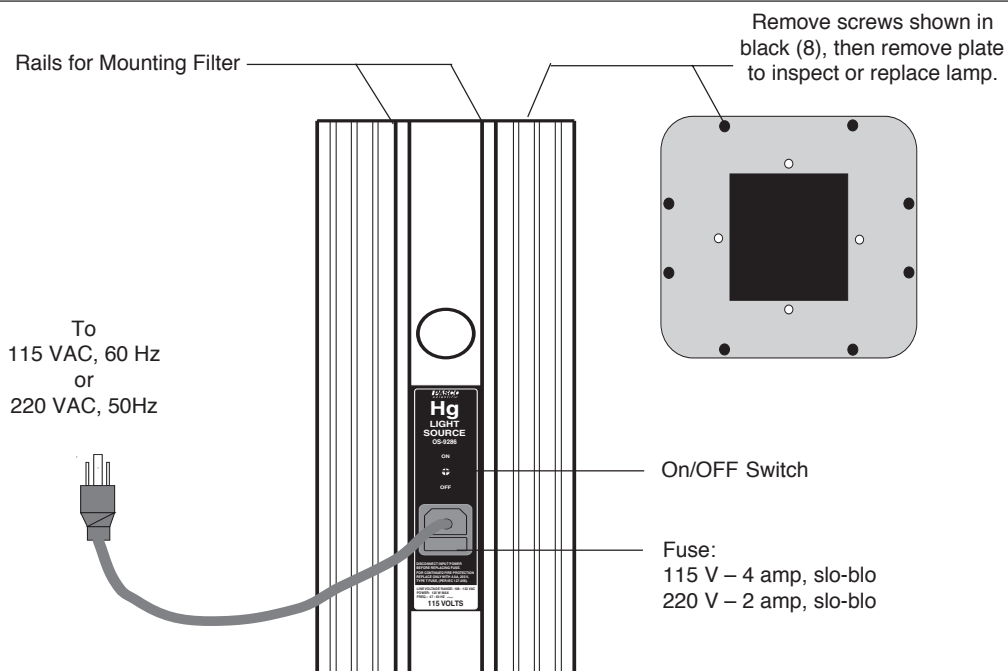


**Instruction Sheet
for the PASCO
Model OS-9286A**

MERCURY VAPOR LIGHT SOURCE



Introduction

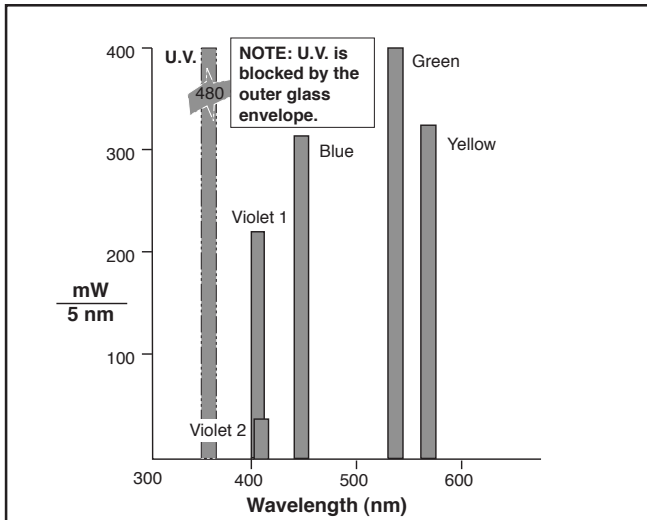
The PASCO scientific Model OS-9286A Mercury Vapor Light Source provides approximately 3,000 lumens of light in the mercury spectrum. The 100 watt light source comes ready to use, with a built-in power supply so the unit can be powered from a standard 115 VAC, 60 Hz outlet (OS-9286A-220 is powered from a 220 VAC, 50 Hz outlet). Cooling fins and air vents on the sturdy aluminum case ensure cool, safe operation. In addition, rails on the front and rear of the case can be used for mounting standard 2-inch by 2-inch filters, so that monochromatic light can be obtained.

► **Note:** For maximum life of the mercury vapor lamp:

- ① Always operate the light source in its upright position.
- ② If you are going to use the light source more than once during the day, leave it on. Lamp wear results more from turning the light source on and off than from steady operation.

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This instruction sheet edited by: Dave Griffith



Spectral Power Distribution per 1000 Lumens

Color	Frequency (Hz)	Wavelength (nm)
Yellow	5.18672E+14	578
Green	5.48996E+14	546.074
Blue	6.87858E+14	435.835
Violet	7.40858E+14	404.656
Ultraviolet	8.20264E+14	365.483

Wavelength of the Mercury Spectral Lines

All values except wavelength for yellow line are from *Handbook of Chemistry and Physics, 46th ed.* The wavelength of the yellow was determined experimentally using a 600 line/mm grating.

► **NOTE:** The yellow line is actually a doublet with wavelengths of 578 and 580nm.

To Operate the Light Source:

Simply plug it into a standard, grounded, 115 VAC (or 220VAC) outlet; then flip the switch on the front of the light source to ON.

► **CAUTION:** The outer glass tube of the mercury vapor lamp blocks harmful ultraviolet radiation produced by the lamp. *If the outer tube is cracked or broken, this radiation can cause severe skin burn and produce eye inflammation.* Regularly inspect the outer tube for cracks, especially if the light source has received a significant jolt. *If the glass bulb is broken, immediately turn lamp off and remove it to avoid possible injury.* Replace Bulb prior to next use.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER ON UNIT. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Maintenance

The light source lamp can be expected to provide 24,000+ hours of trouble free operation. However, if the light at any time fails to come on, first check the fuse on the front of the light source case. If the fuse is not blown, you may need to replace the lamp. In rare cases, the problem may be with the ballast. However, ballast replacement should be performed only by experienced personnel. If the fuse is intact and replacing the bulb does not restore operation, we recommend you return the unit to PASCO scientific for repair.

► **CAUTION—HIGH VOLTAGE:** Do not open the light source with the unit plugged in.

To Replace the Mercury Vapor Lamp:

- ① Unplug the light source. Allow 10 to 15 minutes for the lamp to cool.
- ② Unscrew the eight screws that attach the top plate of the light source and remove the top plate.
- ③ Using a glove or several folds of thick cloth to protect your hand, unscrew the lamp. Discard it as you would any broken glass.
- ④ Replace the lamp and the top plate of the light source.

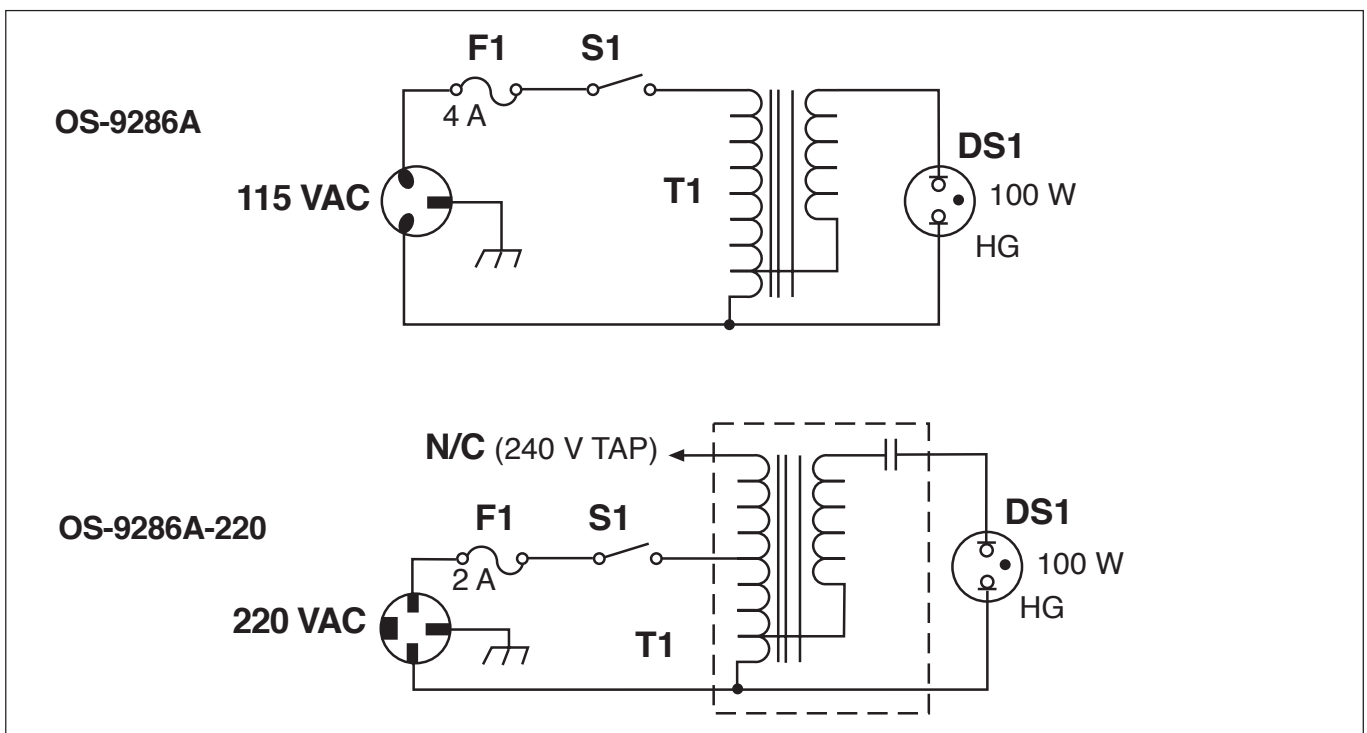
Replacement Parts

Only the following replacement parts should be used:

Description	Pasco #
OS-9286A	
Hg Lamp GE HR100A38	526-018
Hg Lamp Ballast	322-019
Fuse (5x20) 4 amp, slo-blo	530-035
OS-9286A-220	
Hg Lamp GE HR100A38	526-018
Hg Lamp Ballast	322-028
Fuse (5x20) 2 amp, slo-blo	530-036

Other PASCO Spectral Equipment

PASCO scientific offers a variety of student spectral light sources, and a precision student spectrometer for accurate spectral measurements in the student lab. For more information, check the current PASCO catalog, or call toll-free at 1-800-772-8700. Outside the United States call 1-916-786-3800.



Schematic

Warranty and Equipment Return

Limited Warranty

PASCO scientific warrants this 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. This 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 this product have to be returned to PASCO scientific, for whatever reason, notify PASCO scientific by letter or phone 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.

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 carton must be strong enough for the item shipped.
- ② Make certain there is 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 can not shift in the box, or become compressed, thus letting the instrument come in contact with the edge of the box.

Address: PASCO scientific
10101 Foothills Blvd.
P.O. Box 619011
Roseville, CA 95678-9011

Phone: (916) 786-3800

FAX: (916) 786-8905