

Spectrum Tube Single Power Supply

(Order Code ST-SPS)

The Vernier Spectrum Tube Single Power Supply offers a considerable improvement in safety, convenience, and tube life over conventional systems. It consists of a power supply and a tube storage unit. Spectrum tubes filled with various gases for spectral inspection and measurement are available, as are several spectrometers.

The available spectrum tubes offer extended life by having no internal electrodes and are protected against accidental breakage by a hard polymer shell. The Spectrum Tube Single Power Supply's electrical parts are enclosed and a magnetic interlock system prevents application of the energizing voltage to the tube contacts unless a tube is correctly inserted. The height of the tube above the bench can be adjusted to accommodate the differing heights of the inlet slits of the various models of spectrometer in current use.

Note: Vernier products are for educational use only.

What's Included

- Spectrum Tube Single Power Supply
- Spectrum Tube Fiber Optic Holder
- AC Adapter

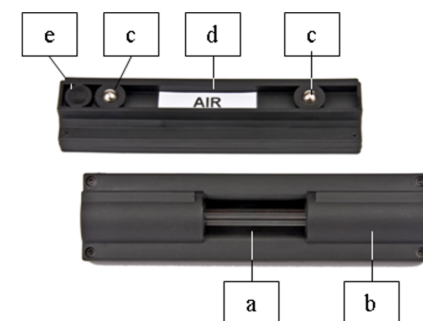


System Parts



Power Supply and Storage Unit

1. AC adapter
2. Tube storage recesses
3. Power supply body
4. Tube well
5. Tube insertion aperture
6. Fiber Optic Holder (see below)



Tube (sold separately)

- a. Tube
- b. Hard polymer shell
- c. Spring-loaded contacts
- d. Gas species label
- e. Safety interlock magnet

Fiber Optic Holder

The Fiber Optic Holder for the Spectrum Tube Single Power Supply securely holds an optical fiber in the proper position to carry light from the discharge tube to the spectrometer. The position of the fiber can be adjusted to optimize the light intensity. The Spectrum Tube Single Power Supply ships with one Fiber Optic Holder. Additional holders can be purchased (order code: ST-FHS).



Specifications

AC Adapter	input: 100-240 VAC, 50/60H output: 15VDC, 1000mA, UL listed
Tube energizing supply voltage	1.8 kV AC
Dimensions	26 × 18 × 29.5–38.0 cm
Mass	2.55 kg
Fuse	T1AL 250V, 5 × 20 mm miniature
Height of center of light-emitting region above bench	21.5–30.0 cm
Length of light-emitting region	4.75 cm

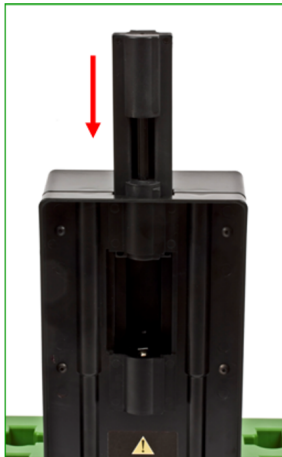
Operation

CAUTION: This unit is suitable for operation in dry locations only. The tube becomes hot in operation. Do not touch the hot tube.

Inserting a Tube

To ensure correct orientation of the tube in the tube well, the tube shell has a ridge along the front right side.

1. Match the ridge on the tube shell to the insertion aperture on the top of the power supply. The round magnet cover on the rear of the shell should be facing down.
2. Insert the lower end of the tube into the insertion aperture and slide the tube all the way down into the well so that it seats at the bottom of the well.



Inserting a tube



End of tube - back view

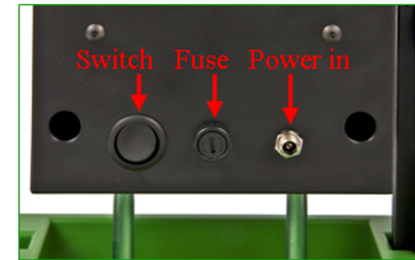


Tube in place

Apply Power

The back of the power supply carries the power input jack, the fuse, and the on/off switch.

1. Insert the output connector of the AC adapter into the power input jack.
2. Insert the AC adapter into an electrical outlet.
3. Turn on the power switch.



The spectrum tube should ignite and glow. If it does not, consult the troubleshooting guide:

www.vernier.com/til/3585

Adjusting the Height of the Tube

Various models of spectrometers have the entry slit at different heights. The power supply can be adjusted to bring the light emitting region of the tube to the appropriate height.

Grasp the base and top ledge of the power supply and raise the unit as needed.

Changing the Tube

To change the spectrum tube, first turn off the Spectrum Tube Single Power Supply. Be careful, as a tube that has been energized for many minutes may be hot to the touch.

The tube can be removed by placing a finger under the top ledge of the illuminated area and lifting the unit until its top can be grasped from above and lifted out.

Although tubes can be changed with the power turned on without damaging the tubes or risking electrical shock, because the supply voltage contacts are automatically disconnected when the tube is lifted from its engaged position, this is not recommended.

Accessories/Replacements

Item

Replacement Spectrum Tube Power Supply AC Adapter
Replacement Fiber Optic Holder for Single Power Supply

Order Code

PS-ST
ST-FHS

Available Tubes

Tubes for the Spectrum Tube System are available with the following gases and vapor. Contact Vernier to obtain tubes.

Gas species	Order code
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Hydrogen	ST-H
Helium	ST-HE
Neon	ST-NE
Carbon Dioxide	ST-CO2
Air	ST-AIR
Argon	ST-AR
Nitrogen	ST-N



Warranty

Warranty information for this product can be found on the Support tab at www.vernier.com/st-sps

General warranty information can be found at www.vernier.com/warranty

Disposal

When disposing of this electronic product, do not treat it as household waste. Its disposal is subject to regulations that vary by country and region. This item should be given to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring that this product is disposed of correctly, you help prevent potential negative consequences on human health or on the environment. The recycling of materials will help to conserve natural resources. For more detailed information about recycling this product, contact your local city office or your disposal service.



The symbol, shown here, indicates that this product must not be disposed of in a standard waste container.



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