

INSTRUCTIONAL GUIDE

Contents

- Power Supply & Storage Unit
- AC adapter
- Instructional Guide

Required for activities:

- [NexGen Spectrum Tubes](#)



Background

The NexGen Spectrum Tube System offers a considerable improvement in safety, convenience, and tube life over conventional systems. It consists of a power supply and tube storage unit and a series of spectrum tubes filled with various gases for spectral inspection and measurement.

Up to seven spectrum tubes can be loaded into the power supply and storage spaces. The desired tube is energized by sliding the selected tube into the energizing station.

The NexGen spectrum tubes offer extended life by having no internal electrodes and are protected against accidental breakage by a hard polymer shell. Unlike conventional spectrum tubes, the tubes in this set do not have a time limit for how long they can be energized.

Operation

Tube Components

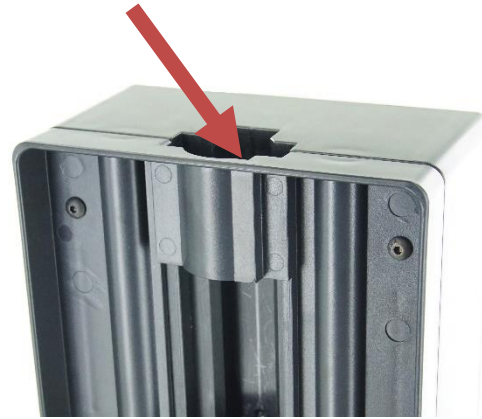
- Tube
- Hard polymer shell
- Spring-loaded contacts
- Gas species label
- Safety interlock magnet



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

Tubes can only be inserted into the energizing station in one orientation. To ensure correct orientation of the tube in the tube well, the tube shell has a ridge along the front right side. Match the ridge on the tube shell to the insertion aperture on the top of the power supply.



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 in the recess at the bottom of the well. You should hear and feel a positive click as the magnetic interlock system engages.



Inserting a tube



Tube in place

Turning on



Power Supply - back

The back of the power supply carries the power input socket, the fuse, and the on/off switch. Insert the output connector of the wall mount power supply into the main power supply input socket.

Insert the wall mount power supply into a 110 V AC electrical outlet.

Insert desired tube in the energizing station and turn on the power switch. The discharge tube will now strike and run.

To remove a tube, turn the power supply OFF, then slide the tube up. Be careful not to touch the tube after it has been running for an extended time.

Do not touch the hot tube that has just been running!



Tube at energizing station

Maintenance

The system needs no special maintenance. It should be stored in a dry, dust-free environment. For repairs or replacement parts, contact us at helpdesk@arborsci.com. Please do not return any item without receiving a return authorization number from us. Replacement spectrum tubes are available.

Resources

Tubes for the system are available with the following gases and vapors.

<u>Gas species</u>	<u>Item number</u>
Air	P2-9900-01
Argon	P2-9900-02
Carbon Dioxide	P2-9900-03
Helium	P2-9900-04
Hydrogen	P2-9900-05
Neon	P2-9900-06
Nitrogen	P2-9900-07
Water	P2-9900-08

Related Products

RSpec Explorer (P2-9505) Digitally capture an individual spectrum, and then compare it to a series of known spectra! The included camera and software make this an easy and inexpensive solution to studying quantitative spectral data in the classroom.

Spectrum Analysis Chart (P2-7067) This chart shows the visible continuous spectrum of the sun and the emission or bright line spectra of ten relatively common elements. It provides an excellent beginning point to show the student the total individuality of the spectrum of each element.

Quantitative Spectroscope (P2-7061) Use this durably constructed, economical tool to see and measure different spectra. Brighter and clearer than other spectrosopes. A built-in scale measures light wavelengths from 400nm to 700nm with a precision of +/- 5 nm.