Spectra-Physics Pre-Installation Guide For Femtolasers Element 2 Systems

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Congratulations on your purchase of a Spectra-Physics Laser System!

This guide describes the pre-installation information for your laser system. Some preliminary planning is essential to avoid unnecessary delays during installation and to ensure easy operation and access to your system. You are requested to carefully consider your operating environment prior to installation. Proper utility parameters must be maintained for each system.

A checklist of pre-installation considerations is provided in this guide. You are responsible for meeting these requirements prior to installation, with due consideration given to all applicable building and safety codes.

We at Spectra-Physics Lasers intend to provide you with responsive support so you can derive great satisfaction and value in using our systems for your applications. We can be contacted at service@spectra-physics.com or at **1-800-456-2552**.

Check-off Sheet/Confirmation

- ☐ **Inspection**
- ☐ **Review All Instruction Manuals**
- ☐ **Laser Safety Concerns**
- ☐ **Interlocks**
- ☐ **Placement of Laser**
- ☐ **Utilities are Ready**

Inspection

When the system arrives, any sign of damage to the shipping crates should be brought to the attention of the delivering freight company. A claim must be filed with that commercial carrier, usually within 30 days. Notify the originating Spectra-Physics office of any shipping damage.

Your packing list will show all items that you have ordered. Open all the packages and check each item for possible damage during shipping. Check the items against your packing list. Some items may have been installed at the factory.

Each system is supplied with a user's manual; verify that you have received it.

Please report any missing or damaged items to Spectra-Physics or to your Spectra-Physics sales engineer right away.

Review All Instruction Manuals

Please read all the manuals to get vital information about your system. Familiarize yourself with the system. You are encouraged to spend as much time as possible reviewing the system components before your Spectra-Physics service engineer arrives for the installation and training. Spectra-Physics also offers user training courses as well as limited servicing courses for all their products.

Laser Safety Considerations

In addition to reviewing the sections in the manual regarding laser safety, be sure to have the proper safety glasses available for **ALL** lab personnel present during the installation and testing of your system. All personnel using the laser should already have taken a laser safety class. **All these lasers are considered Class IV!!** For more information, please call Spectra-Physics at 1-800-456-2552.

Interlocks

An external interlock receptacle for use with a remote interlock switch or relay contact is included. This interlock circuit is at a low voltage DC level and is not compatible with the 115 VAC interlock circuit of the older Quanta-Ray systems. This circuit is not designed to power any devices.

Location and Environment

The location and environment of your system should have the following features:

A. Safe location that meets all applicable building codes.

B. Easy access and adequate clearance around the instrument.

C. Consider room requirements for future maintenance and upgrades by your Spectra-Physics Service Engineer.

D. Proper vibration isolation may be required for your system. The structural integrity of the floor may be important for some applications.

E. Ambient room temperature control is important to the performance of the system. Room temperature changes could interfere with the system's performance. For stable operation on a day-to-day basis, the recommended room temperature range should be 15° to 25°C and should not fluctuate more than 3°C during an eight-hour period. The optimum room temperature is 20°C. The system should not be placed near air conditioning vents. This may result in changing temperature gradients near the system, as well as stir up dust particles that may settle on critical optical surfaces. Humidity should be controlled to prevent any condensation on optical surfaces.

F. The laser should be located on an optical table or something similar.

Tools Needed to Unpack Laser

Utility knife

Physical Description

Dimensions and Weights

Element 2				
Unit	**Dimensions**		**Weight**	
	SAE (inch)	Metric (mm)	kg	Lbs.
Element 2 Head	23.6 x 13.2 x 6.0	600 x 335 x 151	20	44.1
SMC Water Chiller				
Control Unit	19.0 x 12.8 x 3.5	483 x 325 x 88	5	1.1

Utility Requirements

Each Spectra-Physics system has its own water and electrical requirements. To ensure smooth, uninterrupted operation, each system should have dedicated utility services.

Electrical Services

Element 2 Control Unit	100-240 VAC, 50/60Hz, < 2A
Water Chiller	100-240 VAC, 50/60Hz, < 10A

Final Check:
Upon the completion of the installation of utilities, Customer is required to verify that the services meet all building safety codes!

Water Services

Chiller	OptiShield II/Distilled Water Mix

Diagnostics

During installation, power measurements will be demonstrated on all the appropriate wavelengths. To demonstrate other published specifications, consult with your Spectra-Physics Service Engineer to determine additional equipment that may be required to conduct the necessary tests. Certain specification measurements may incur an additional charge due to complexity and time involved. A nonstandard system requires special considerations. Our Service Engineer can identify which specifications will be demonstrated and the equipment necessary to conduct the tests.

Recommended Equipment

Power meter

Required Maintenance

To maintain a valid warranty on your Spectra-Physics system, it is necessary for the customer to assume the responsibility and perform the routine maintenance program. Failure to do so may result in the warranty being voided.

Consumable Components

During the warranty period, Spectra-Physics' parts must be used to for the warranty to remain valid.

Chiller Water

OptiShield II/Distilled Water Mix should be used for the chiller. Follow the maintenance for the chiller. Refer to chiller manual.