Quick Start Guide For Your CFR Laser System

CFR Laser Head/ICE 450 Rack Power Supply

WARNING: THIS IS A CLASS IV LASER. READ AND FOLLOW YOUR USER’S MANUAL BEFORE OPERATING TO AVOID DAMAGE OR PERSONAL INJURY.

WARNING: OPERATING YOUR LASER WITHOUT COOLANT WILL CAUSE CATASTROPHIC FAILURE.

1. **UNPACK** your system. Save your packing material.
   Locate the following items:
   - Laser Head
   - Rack Power Supply with Fill Kit
   - Coolant Lines* and Electrical Cables
   - Accessory Kit (including keys)
   - Power Cord
   - Coolant (Distilled Water)
   - External DI Cartridge (optional)

2. **CABLE CONNECTION**
   1. Attach coolant lines to the back of the laser head and back of the power supply: **blue to blue** and **red to red**.
   2. Attach the double-connector side of the electrical cable to the laser head. These connectors have red dots indicating proper orientation. **Note:** It is easier to attach the bottom connector first. Ensure that the connectors are fully seated. **Note:** You should hear an audible “click”.
   3. Attach the other end of the D-Connector to the back of the power supply and **tighten the thumb screws** completely to avoid connector contact damage. **Note:** Never operate the laser system without the connectors of the electrical cable fully inserted and the thumbscrews tightened.
      * If you received a DI Cartridge that is not attached to the coolant lines, instructions to attach the DI Cartridge are on the opposite side of this Quick Start Guide.
   4. Hold the bottle higher than the reservoir and loosen the cap to allow coolant to fill the reservoir until it begins to rise in the vent tube (Item 5).
   5. Turn the Power Key Switch (Item 2) to the ON (“I”) position.
   6. The Pump will turn ON automatically after the system power is ON and will begin filling the lines with coolant. When the coolant level falls below the Minimum Coolant Level Indicator (Item 3) on the front of the ICE 450 Rack, the pump will turn OFF and the reservoir backlights will blink.
   7. Add more coolant until the level visible in the reservoir is well above the Minimum Coolant Level Line and the pump automatically turns back ON.
   8. The Pump ON/OFF cycle will repeat up to three times during the filling process. To fill coolant lines that are longer, use the **fill mode** as described in the pump section of your User’s Manual. (The pump will restart up to thirty times.)
   9. The reservoir backlights will remain ON whenever the coolant is above the Minimum Coolant Level Indicator. When the coolant level is stable and the pump remains ON, the filling process is completed. Disconnect the Fill/Drain Bottle from the front panel.

3. **FILL**
   1. Connect the laser head coolant lines to the blue and red Fittings on the back panel (Items 6 & 7).
   2. Fill the supplied Fill/Drain Bottle with coolant.
   3. Connect the Fill/Drain Tube to the Reservoir Fill/Drain Port Fitting (Item 4) on the Front Panel. Connect the vent tube to the Reservoir Vent Port Fitting (Item 1).
   4. Hold the bottle higher than the reservoir and loosen the cap to allow coolant to fill the reservoir until it begins to rise in the vent tube (Item 5).
   5. Turn the Power Key Switch (Item 2) to the ON (“I”) position.
   6. The Pump will turn ON automatically after the system power is ON and will begin filling the lines with coolant. When the coolant level falls below the Minimum Coolant Level Indicator (Item 3) on the front of the ICE 450 Rack, the pump will turn OFF and the reservoir backlights will blink.
   7. Add more coolant until the level visible in the reservoir is well above the Minimum Coolant Level Line and the pump automatically turns back ON.
   8. The Pump ON/OFF cycle will repeat up to three times during the filling process. To fill coolant lines that are longer, use the **fill mode** as described in the pump section of your User’s Manual. (The pump will restart up to thirty times.)
   9. The reservoir backlights will remain ON whenever the coolant is above the Minimum Coolant Level Indicator. When the coolant level is stable and the pump remains ON, the filling process is completed. Disconnect the Fill/Drain Bottle from the front panel.

(OVER)
CONGRATULATIONS!
Your system is ready for full operation.

CONSULT CHAPTER 2 OF THE USER'S MANUAL BEFORE CONTINUING FOR APPROPRIATE EYE PROTECTION AND SAFETY PRECAUTIONS.

1. Ensure that the red emergency stop button located on the front of the power supply is rotated to the OUT position.
2. Insert the key and turn it to the ON position. 
   Note: The front panel will illuminate and the pump will turn on.
3. Check the Pulse Repetition Frequency for the desired value and adjust accordingly.
4. Press the RUN/STOP button. Note: You should hear a continuous “chirping” as the lamp flashes.
5. Press the Q-Switch Button. The yellow LED on the top of the laser head will illuminate to indicate lasing.
   Note: You can control the output energy with the output energy control buttons. Also, for systems with harmonics, it may take several minutes for desired energy to stabilize.

Your laser is pre-configured to operate at full energy and Pulse Repetition Frequency (PRF).

The only routine maintenance required on the CFR system is deionization filter replacement and flashlamp replacement. Cycle the coolant at least 30 minutes every month and replace the flashlamp as required. See the User's Manual for details.

If you need to ship the laser for any reason, see the User's Manual for details on draining the system for transport to prevent freezing.

DI Cartridge (not attached to the coolant lines):
If your DI Cartridge is not attached to the coolant lines, please follow the steps below:
1. Remove the gray shipping fittings on the DI cartridge by using two fingers to hold down the base of the fitting while pulling straight out on the top of the fitting (See Item 1). Repeat on the opposite side.
2. Remove the two gray caps from the fittings on the coolant line (Item 2).
3. Attach the two sides of the DI cartridge to the coolant lines at the fittings on both ends (Items 3-4). Make sure that the “Flow” arrow on the DI Cartridge is pointing in the correct direction (away from the power supply). Return to the “Cable Connection” section of this Quick Start Guide.

START UP

FOR TECHNICAL SUPPORT
PLEASE CALL CUSTOMER SERVICE:
QUANTEL USA: 1-800-914-8216
QUANTEL: (33)1-6929-1700