

DOCUMENT TITLE: **FLUORESCENCE DETECTOR FINAL TEST**

SYSTEM/ASSEMBLY NAME: **FLOURESCENCE DETECTOR(S)**

PART NUMBER AFFECTED **186002475, 800000148, 186247500, 700002035, 186015029,
800000235, 700003707, 700009344, 800000407,
N2971015,N2971037, 186017006,800000456**

TEST EQUIPMENT NAME: **FLUORESCENCE DETECTOR FINAL TEST SYSTEM**

TEST EQUIPMENT NUMBER: **TE82760**

TEST SOFTWARE:



AUTHOR(S): **ERIC TURNER**

DATE: **April 01, 2002**

REVISED BY: **TYLER MODELSKI**

DATE: **January 05, 2016**

EQUIPMENT REQUIRED

Quantity	Part Number	Description
1	TE82760	2475-FLR Final Test System

DISPOSABLES REQUIRED

Quantity	Part Number	Description
A/R	N/A	Waters ELGA Pure Water, Waters MilliQ Water or Equivalent
A/R	N/A	LC grade Methanol
A/R	N/A	LC grade Nitrogen

REFERENCE DOCUMENTATION

Document Number	Description
735000550	Performance Spec – 2475 Fluorescence Detector
735001303	ACQUITY UPLC FLR Performance Specification

TEST SPECIFICATIONS

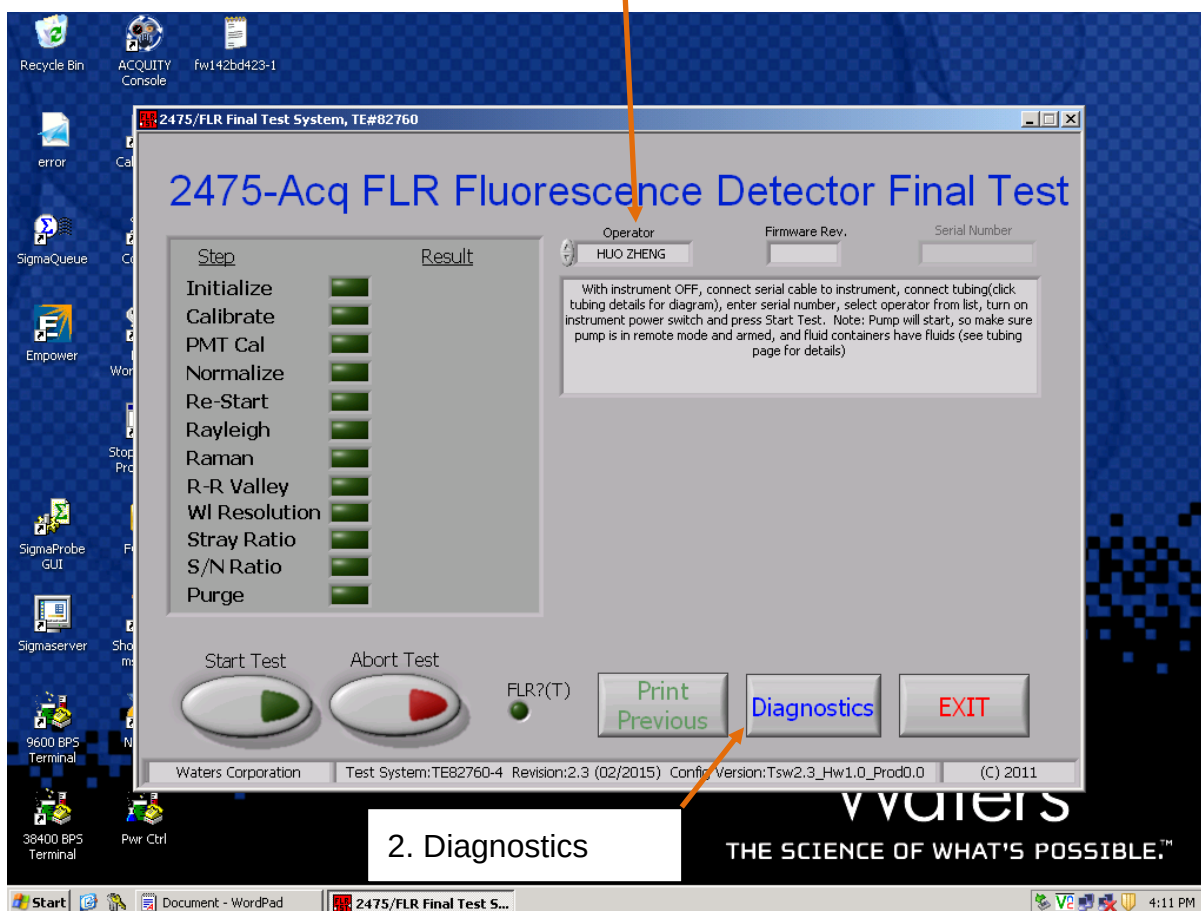
2475 Raman Peak – 397 +/- 2.5 nM
2475 Rayleigh Peak – 350 +/- 2.5 nM
2475 S/N Ratio - 1000<S/N Ratio<4000
FLR Raman Peak – 416 +/- 2.5 nM
FLR Rayleigh Peak – 365 +/- 2.5 nM
FLR S/N Ratio – 1000<S/N Ratio<4000

1. INSTRUMENT TEST PROCEDURE

- 1.1. Power up test system by pressing the power button on the front of the test station PC.
- 1.2. Power up HPLC pump similarly.
- 1.3. After PC boots, it will display a login screen. User name: **tester** depending on the test station and password: **tester**.
- 1.4. Connect the Unit Under Test (UUT) to the tester by connecting the power, the serial cable and the Ethernet cable to the back of their respective connections on the back of the instrument.
- 1.5. Complete a Methanol/Nitrogen/Water Purge before test of each instrument to check that there is no blockage in the flow cell.
 - a) Connect the input of the UUT flow cell to the test station.
 - b) Run the "2475FLRFinal", select Operator Name, go to Diagnostics mode.

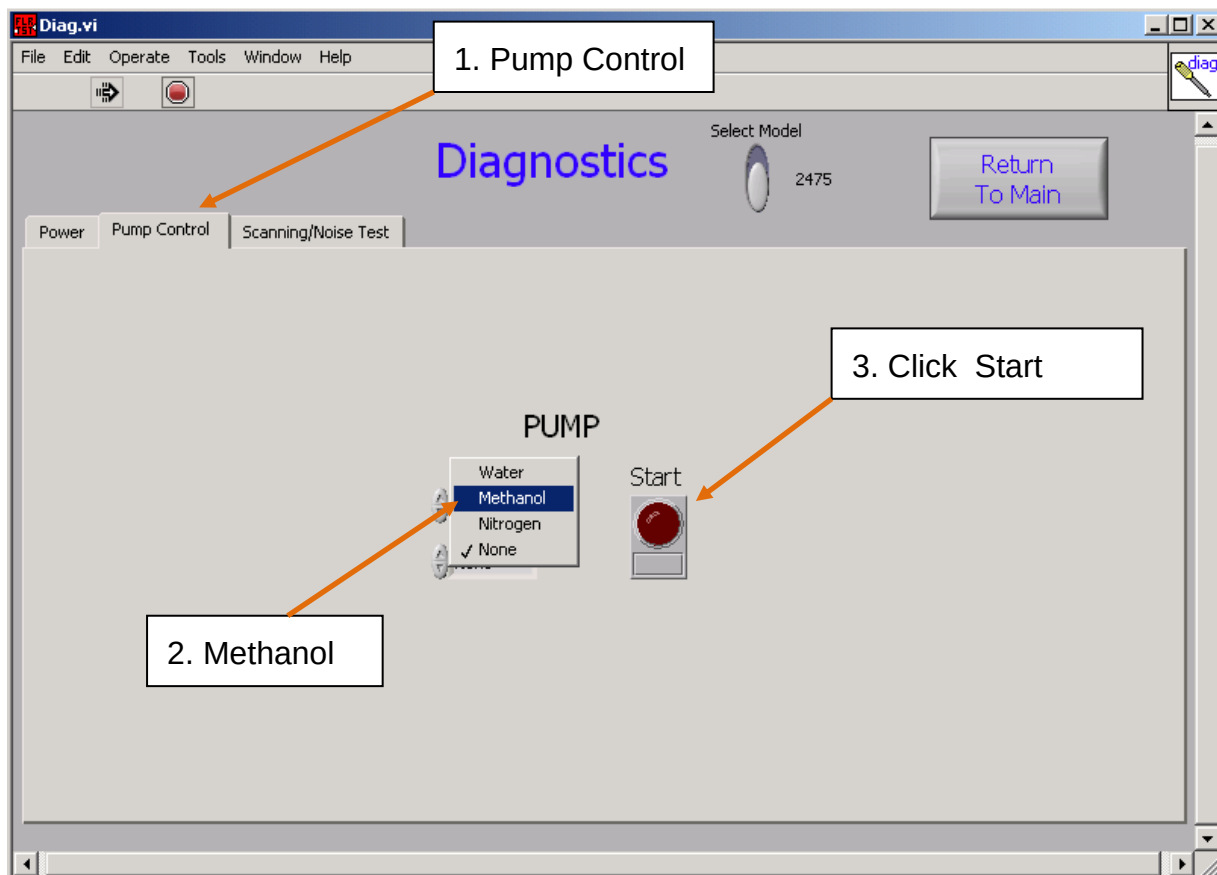


1. Operator Name

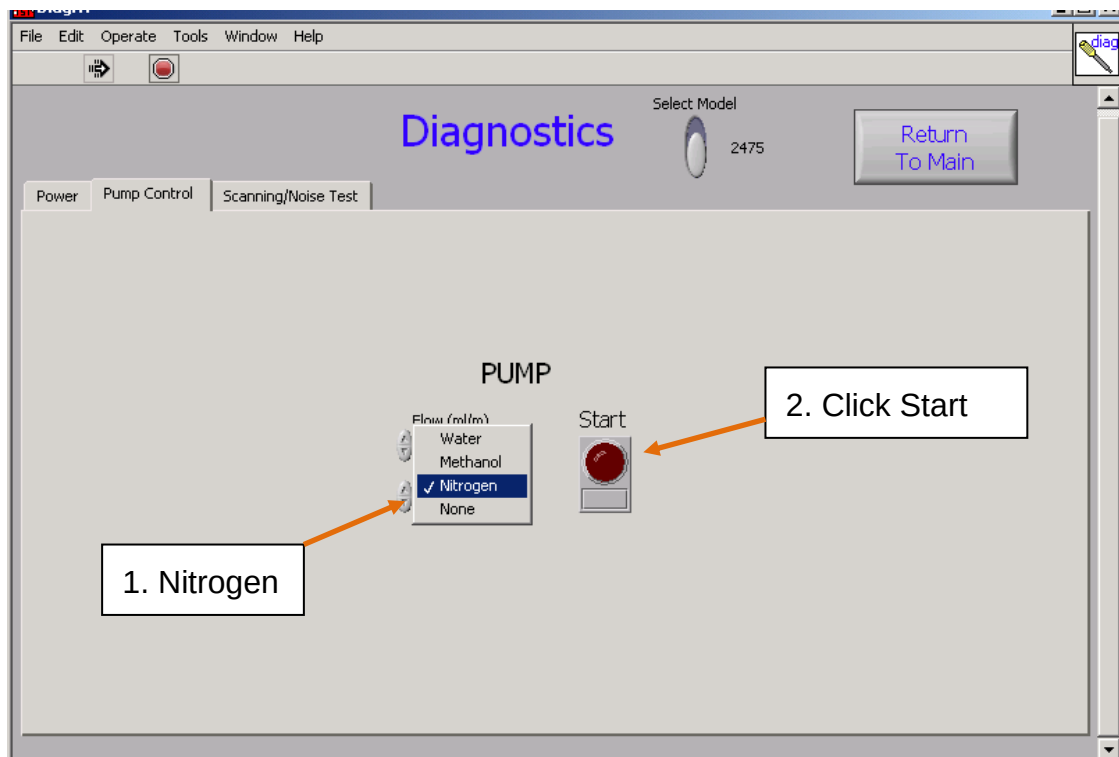


2. Diagnostics

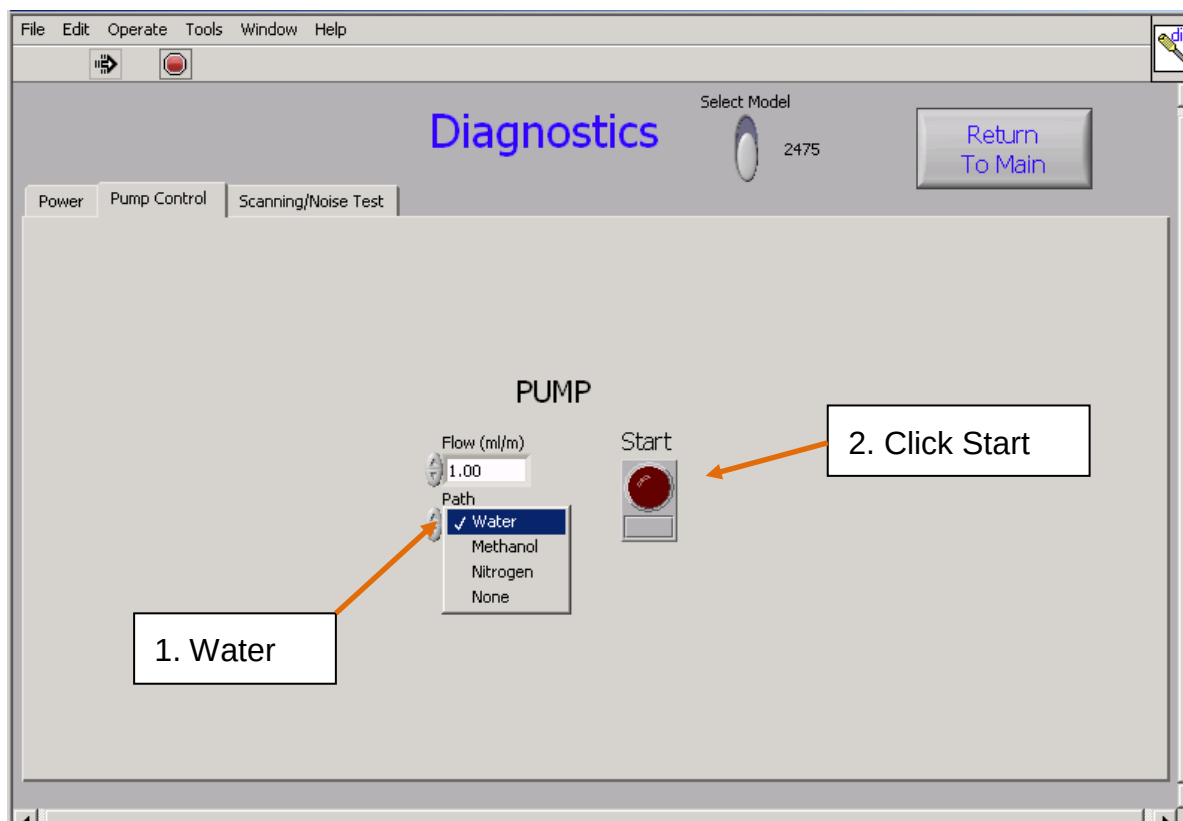
- c) Select “Pump Control Tab” and Select Path to be “Methanol” and flow rate to 1 mL/min. Press “START” button.
- d) Check that Methanol is flowing from the outlet of the flow cell by pointing it into a glass container. Once it is visually verified that methanol is flowing, stop the flow in diagnostics. Discard the methanol from the glass container into an appropriate waste container.



- e) Select “Pump Control Tab” and select the path to be “Nitrogen” and flow rate to 1 mL/min. Press “START” button.
- f) Check that nitrogen is flowing from the outlet of the flow cell by pointing it into a glass container. Once it is visually verified that nitrogen is flowing, stop the flow in diagnostics. Discard the nitrogen from the glass container into an appropriate waste container.



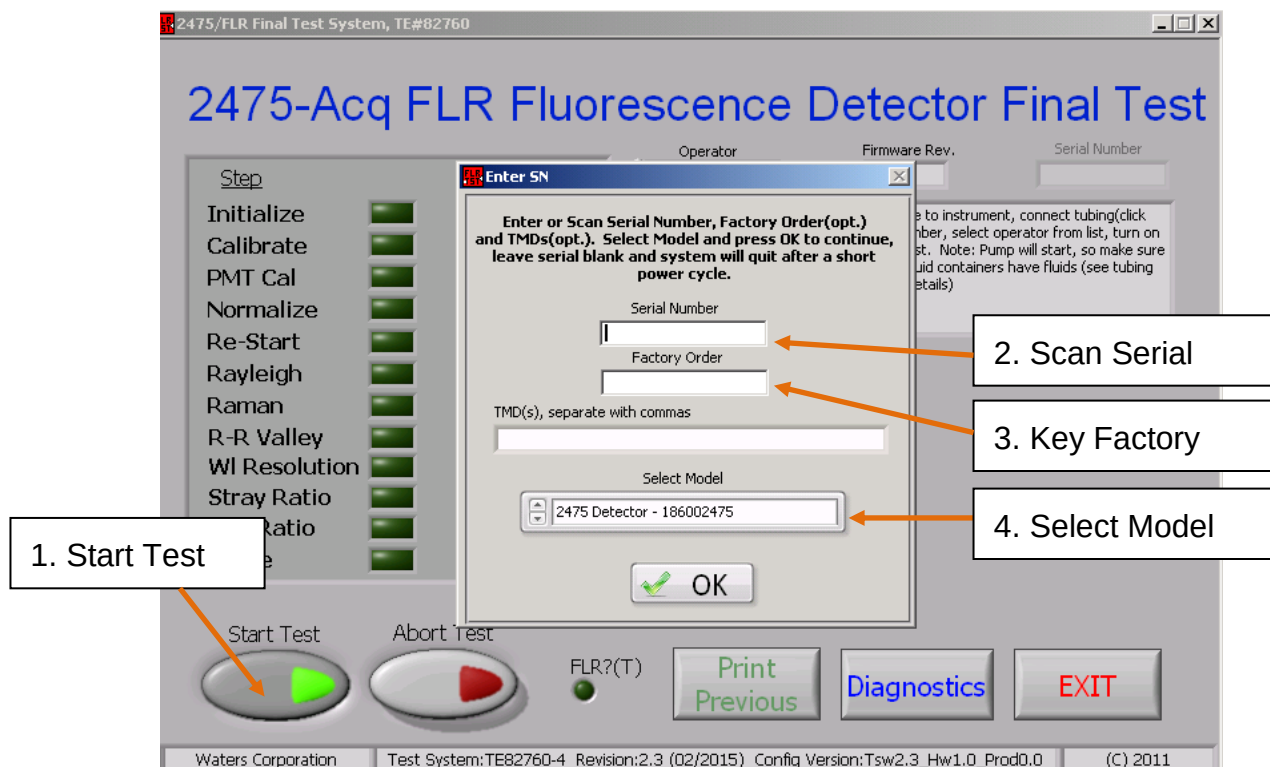
- g) Select “Pump Control Tab” and select path to “Water” and flow rate to 1 mL/min. Press “START” button.
- h) Check that water is flowing out from the outlet of the flowcell by pointing it into a glass container. Once it is visually verified that water is flowing, stop the flow in diagnostics. Discard of the water from the glass container into the appropriate waste container.



- 1.6. If the final test software is not already open, open it by double clicking on the “2475FLRFinal” icon.

1.7. Press the “Start” button on the test software:

- a) Scan the serial number of the instrument.
- b) Key in the Factory Order.
- c) Select the model for testing and click “OK”.



1.8. At end of test, the test report will print on the default system printer. Retrieve the printout and place with the Factory Order paperwork. The unit will be flushed out with methanol and nitrogen by the test system.

1.9. Complete a Nitrogen Purge at the end of test of each instrument to ensure there is no blockage in the flow cell.

- a) Connect the input of the UUT flow cell to the test station.
- b) Go to the diagnostics section pump control page and select the path to be “Nitrogen” and the flow rate to 1 mL/min. Press the “Start” button.
- c) Check that nitrogen is flowing from the outlet of the flow cell by pointing it into a glass container. Once it is visually verified that nitrogen is flowing, stop the flow in diagnostics. Discard of the nitrogen from the glass container into the appropriate waste container.

Steps 2-4 are taken from TSP 735000589 and are to be performed after final test of 2475.

2. CONTRAST TEST PROCEDURE (2475 ONLY)

2.1. On the front panel of the instrument press, “Shift” and “6”.

2.2. Then press the arrow up or down to increase or decrease the contrast until the text on the

3. SETTING LAMP INSTALLATION DATE

3.1 On the front panel of the instrument press “DIAG”, “7”, “1”

3.2 Enter 111111 in the field of lamp serial number.

3.3 Enter the date installed MM/DD/YYYY.

4. KEY PAD TEST PROCEDURE (2475 ONLY)

- 4
- 3.1. On the front panel of the instrument press “DIAG”, “7”, “2” to open up the key pad test screen.
 - 3.2. Press every button on the key pad and verify that the corresponding light on the screen lights up.
 - 3.3. Press the “Home” button to return to the home screen.

5. SCREEN TEST PROCEDURE (2475 ONLY)

- 4.1. On the front panel of the instrument press “DIAG”, “7”, “3” to open up the screen test screen.
- 4.2. Watch the screen test progress and verify that all pixels light up in the correct order.
- 4.3. Leave power button “ON” after test. As power is automatically controlled on the final test station.
- 4.4. Press the “Home” button to return to the home screen.
- 4.5. Press the ON / OFF button to power off the unit.

6. OPTICS BENCH SPARES TESTING

- 5.1. A spare optics bench (700002035, 700003707, and 700009344) must be tested in an instrument before packaging for shipment.
- 5.2. Install the bench in a new chassis as if this was a full test for a complete unit.
- 5.3. Test as per Instrument Test Procedure above.
- 5.4. At end of test, remove bench for shipping. Place the copy of the Test Results with the relevant paperwork for the Optics Bench. Ensure the Flowcell which was tested with the unit is shipped with the unit.
- 5.5. The chassis may be subsequently used for more spares testing or as a part of a complete unit.

7. DATA COLLECTION

- 6.1. Data will be stored in the Sigmaquest2 server, available at <http://sigmserver2:8888/sq/>. See sigmaserver2 admin for access and password.

8 DIAGNOSTICS

- 7.1. This is used to troubleshoot the UUT.
- 7.2. To enter diagnostics mode, click on the DIAGNOSTICS button when the system is waiting for another unit to be tested.
- 7.3. You may choose to a) power on or off the UUT, b) move fluid through the test system/UUT, or c) run a scan.
- 7.4. You must wait for the UUT to complete its initialization to run a scan.
- 7.5. Click **Return to Main** to exit diagnostics mode. The system will turn off the pump if it is on.