

DESCRIPTION

The P4310 Mercury Lamp Accessory for the Thermo Scientific Evolution 220 Spectrophotometer (Evo220) is a physical standard that never requires calibration, and can be used to calibrate or verify the performance of the instrument with respect to wavelength accuracy.

SPECIFICATIONS

Physical Specifications:

Product Dimensions	Packaging Dimensions	Product Weight
12cm (L) x 20cm (W) x 3.8cm (H)	16" x 16" x 9" / 40.6cm x 40.6cm x 22.9cm	4.7 lbs. / 2.13 kg

Material	Molded plastic
Color	Off-white
Printing	Thermo Scientific label plate with Serial number
Electrical Supply / Communication	Pin cable attaches to back of Thermo Evolution 220 spectrophotometer

Included Components:

- Mercury Lamp accessory with integrated cable
- Black plastic, latching storage case with molded foam insert

Recertification/Calibration:

None required or possible. The lamp emits light at specified wavelengths that are themselves a physical standard equivalent to a primary standard.

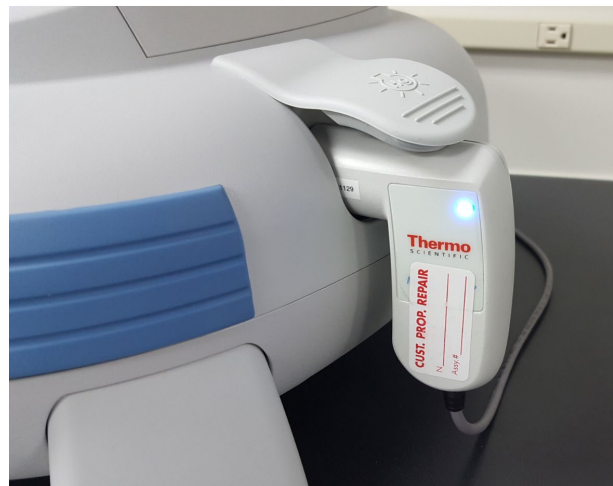
Packaging:

Unit is shipped in a cardboard box with the storage case containing the unit inside the case.

Storage:

Store the instrument in a cool and dry location.

PRODUCT PHOTOS



INSTALLATION

1. Plug the cable into the mercury lamp communications port on the back of the Evolution 220.
2. Open the Thermo Insight software. Select the calibration or performance verification (see details in the Usage section below).
3. When prompted, lift the mercury lamp access cover located on the right side of the Evo220, and insert the Mercury lamp into the cavity. Press gently until it is secure.
4. The lamp power light will illuminate, indicating that it is connected properly.
5. Refer to the Thermo Scientific Mercury Lamp User Guide for details.

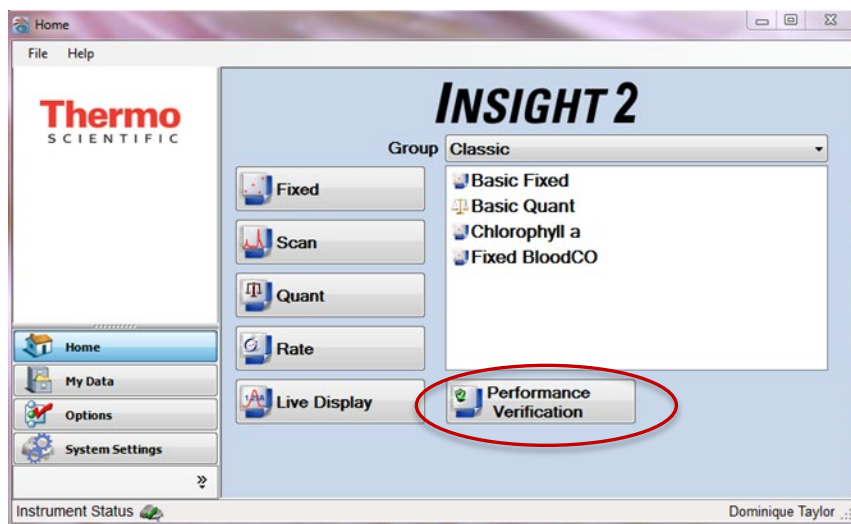


USAGE

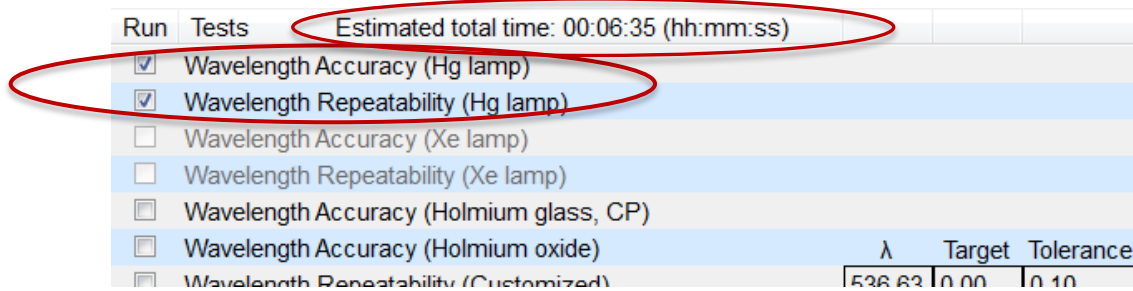
Evolution 220 Wavelength Accuracy Verification with the Mercury Lamp Accessory:

Testing includes verification at five (5) points from 254nm to 872nm, and repeatability testing at the middle point.

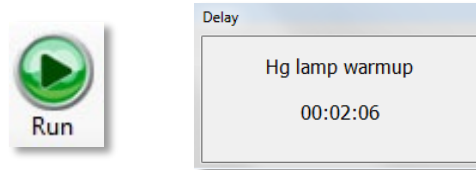
1. Open the Thermo Insight Software.
2. Select the 'Performance Verification' button on the home screen.



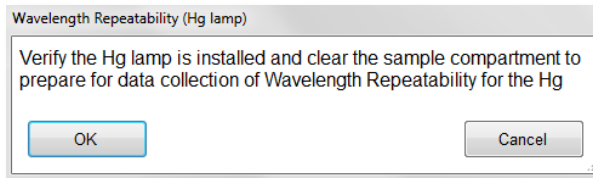
3. From the list of available tests, unselect all but the Mercury (Hg) lamp wavelength accuracy and repeatability. When selected, the estimated total time to execute the tests is displayed. See image below:



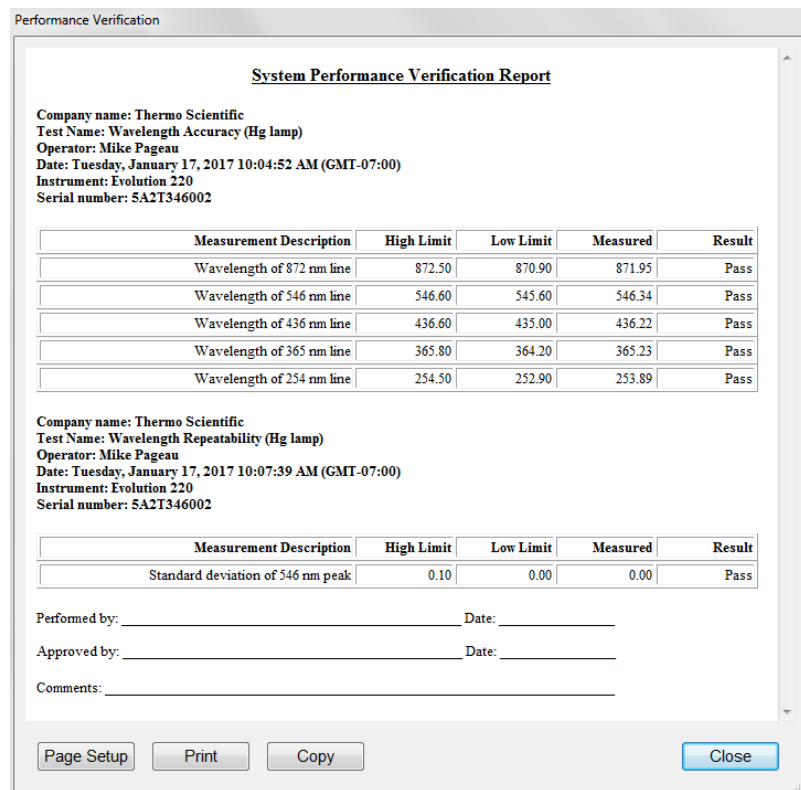
4. Press the 'Run' button in the upper-left of the screen, or F6 on your keyboard, to begin the tests.
5. A screen will appear showing a warmup countdown for the Mercury (Hg) lamp.



6. After the countdown completes, the software will prompt the user to verify that the Mercury Lamp is installed. Clear the sample compartment and select 'OK' to continue.



7. After all tests have been completed, a Test Report is generated and displayed. See image below:

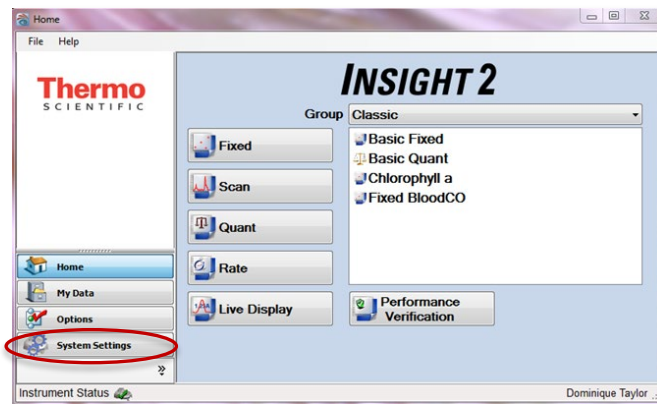


8. Acceptance Criteria
 - a. If all tests pass, no further actions are required.
 - b. If any tests fail, the wavelength accuracy of the Evolution 220 will need to be calibrated. See Wavelength Accuracy Calibration below for details.
9. After repeated failures, contact GEX customer service or Thermo Scientific for support and recommendations.
10. Remove the Mercury Lamp from the Evolution 220 and replace the access cover on the right side of the Evolution 220.
11. Store the Mercury Lamp in the provided case in accordance with the instructions above.

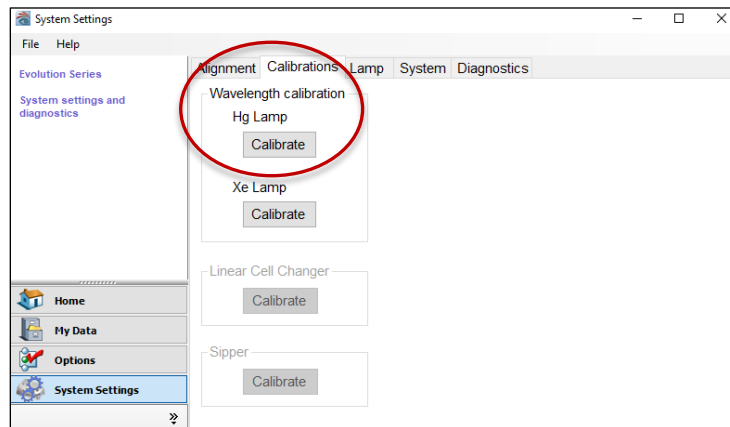
Evolution 220 Wavelength Accuracy Calibration

The wavelength accuracy of the Evolution 220 spectrophotometer can be calibrated using either of two distinct methods:

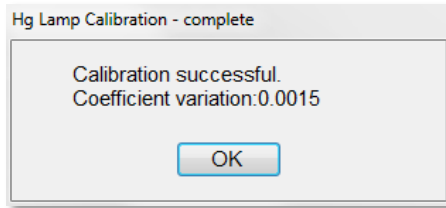
- One method uses the P4310 Mercury Lamp Accessory. The procedure is described below; this method should be used if the instrument fails Verification Testing, as described in the previous section.
 - The second method available is the use of the instrument’s Xenon lamp to calibrate the wavelength accuracy. For more information on that method refer to *GEX Doc# 100-156, Evolution 220 Spectrophotometer – Product Specification and Usage (PSU)*.
1. Install the Mercury lamp into the Evolution 220 as described in the ‘Installation’ section above. From the Thermo Insight home screen, select the ‘System Settings’ button from the lower-left of the screen.



2. Select the ‘Calibrations’ tab at the top of the next screen and under Hg Lamp, press the button labeled ‘Calibrate’.



3. When prompted, press OK to begin calibration. The process will take about 10 minutes to complete.
4. When calibration of the wavelength accuracy completes, a message should appear that calibration was successful.



5. After calibration, repeat the Wavelength Accuracy Verification procedure as described above.

CARE & MAINTENANCE

Do not drop the accessory or it may become permanently damaged; it is not warranted against physical damage from careless handling or accidents. Refer to the *Thermo Scientific Mercury Lamp User Guide* for more details.

When not in use, store the accessory in the case provided in accordance with the storage recommendations above.

PRECAUTIONS

Refer to the *Thermo Scientific Mercury Lamp User Guide* for important safety precautions.

WARRANTY/GUARANTEE

Warranty:

Please refer to the Thermo Scientific product information for warranty information.

Guarantee:

1-year GEX satisfaction guarantee. Product may be returned within one year from the date of delivery for any customer dissatisfaction.

RELATED DOCUMENTS

- GEX Doc #100-156 Evolution 220 Spectrophotometer – Product Specifications and Usage (PSU)
- Thermo Scientific Evolution 220 Spectrophotometer User Guide (*Performance Verification* section)
- Thermo Scientific Mercury Lamp User Guide

REVISION HISTORY

DATE	CHANGE DESCRIPTION	REVISION
05/23/19	Initial release – content taken from 100-156 Rev. B, then improved clarity and organization.	A