



# QuatBox

by WILSON ANALYTICAL

## Product Information

### What is a QuatBox?

A Hardened Fluorescence Spectrometer, designed exclusively for field-based corrosion inhibitor analysis.

- Fast, accurate, lab quality data
- Easy to use and maintain
- Rugged construction
- Custom designed software
- GPS enabled
- Sample temperature controlled via:
  - Display of sample temperature and indicator LED (All models)
  - Thermally stabilized sample chamber (Regulated model)



### What Software Does it Use?

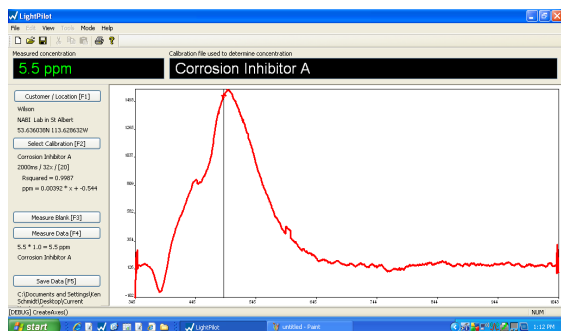
## LightPilot

*"Thinking inside the box"*

LightPilot is the custom-designed software that drives the QuatBox, generating calibration curves and sample data with the minimum of training and fuss.

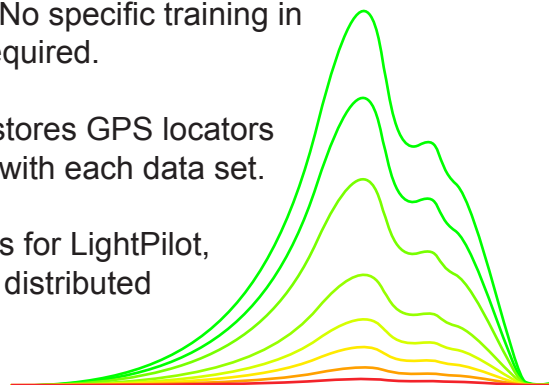
LightPilot has a simple structure: calibrate, measure or review data.

In each mode the user is guided through the acquisition process. No specific training in analytical chemistry is required.



LightPilot automatically stores GPS locators and date & time stamps with each data set.

There are no license fees for LightPilot, and the software can be distributed as desired.



## How Does it Work?

### Self-Quenching

To obtain accurate concentration data, samples must always be measured in the linear calibration range. Due to a phenomenon called 'self-quenching', this linear range is below 200 ppm for most corrosion inhibitor solutions.

Every QuatBox comes equipped with a high intensity *uv* light source that allows the instrument to operate with extreme sensitivity.

This sensitivity means that the user can use a 10-fold to 100-fold sample dilution to ensure that the measured concentration falls into the linear range. Dilution also helps to resolve matrix effects, such as those due to strong brines.

### Temperature Dependence

To obtain accurate concentration data, calibration and sample measurements must always be done at the same temperature, as the fluorescence signal is temperature dependent.

Every QuatBox comes equipped with a numerical sample temperature display to allow the operator to ensure that the sample is at the correct temperature for accurate results. A closely-positioned sensor determines the temperature of the sample cuvette as soon as it is placed inside the QuatBox. Once the sample is within  $27\pm 3^{\circ}\text{C}$  ( $81\pm 5^{\circ}\text{F}$ ), the 'Temperature' LED also turns green to indicate that the sample is ready.

As an option, the temperature-regulated model is equipped with efficient and affective temperature regulation that ensures that all measurements are taken at  $27\pm 3^{\circ}\text{C}$  ( $81\pm 5^{\circ}\text{F}$ ). The QuatBox automatically brings the sample temperature within range, at which point the 'Temperature' LED turns green.

### Photosensitivity

To obtain accurate concentration data, corrosion inhibitor samples must be analyzed as quickly as possible, before exposure to ultra-violet (ambient) light causes the active species to degrade.

Every QuatBox has been designed specifically to provide rapid and accurate results, even under adverse field conditions.

- Corrosion-resistant, waterproof exterior
- Ruggedized electronics
- Easy to clean sample chamber
- Operates on 12V power

The QuatBox is the perfect technology for obtaining laboratory quality analytical data, directly at the point of sampling.

