

Technical Specifications of LED Fluorimeter Model LF-2 or *Equivalent as per spec.*

Analytical Technique	- Fluorescence of uranium salt
Element Analysed	-Uranium in aqueous medium
Excitation Source	-Pulsed UV LEDs (Light Emitting Diodes) emitting at 400 nm wavelength and with suitable filter.
Energy of LED per pulse	-20 μ J or higher
Pulse to pulse variation of output energy	-Less than 1%
Life of source of excitation	-At least 5 Years
Detector	- Photomultiplier tube with precision multilayer optical filter.
Analyte volume	- 6 ml
External Size	- 12.5mm x 22.5 mm x 45 mm
Cuvette	- Made from Ultra low fluorescence Fused Silica Open top with PTFE lid
Dynamic range	- 0.1 – 1000 ppb (0.1 - 1000 microgram per litre).
Accuracy	-Better than 10%.
Reproducibility	Better than 5 %
Modes of operation	Standard Addition Mode (Spike Mode) Calibrated Fluorescence Mode (Calibration Curve Mode) Uncalibrated Fluorescence Mode (Fluorescence Count Mode)
Averaging	The instrument averages 256 measurements and displays this average. This is automatically repeated five times and the five averages, their Standard Deviation and Coefficient of Variance are displayed. The average of these five averages i.e. average of 1280 measurements is used for calculation of uranium concentration. This can be increased to more than 2000 pulses
Time for one Measurement	-About 1 sec
Display	178 mm (7") Full Colour Touch screen. The touch screen is interactive and apart from displaying the results, guides the operator in use of the instrument.

Electronics	<p>The instrument has a Microprocessor and a Single Board Computer which operates the instrument and does all the necessary calculations. The instrument has 16 bit precision Analog to Digital converters to convert the LED pulse and fluorescence signal to digital format for further processing. All other electronics such as OP Amps etc are high precision with low drift.</p>
Data Processing And Software	<p>The Single Board Computer (SBC) in the instrument operates on windows software.</p> <p>The SBC calculates uranium concentration in whichever mode is being used and displays it on the screen.</p> <p>The instrument will store details of more than 100,000 measurements. These can be downloaded to a pen drive and then to a PC for further processing.</p>
Basic Accessories	<p>Basic Accessories included with the instrument are -</p> <ol style="list-style-type: none"> Adaptor to operate from 230 V mains Keyboard and mouse Four port USB hub Dust Cover Stylus for touch screen operation CD containing software to operate the instrument Operator's Manual One cuvette made from spectrosil A grade fused silica
Power Requirement	<p>- The unit operates on 12V DC and can be operated from a UPS</p> <p>Power required - About 8 Watts.</p> <p>An adapter to enable operation from 100-230 V A/C</p>
Warranty	<p>- At least One Year</p>