

Smart^QTM

Quantitative Fluorometer

FLUORESCENCE-BASED QUANTIFICATION

DNA, RNA, & PROTEINS



CALCULATE RESULTS IN SECONDS



SINGLE OR MULTICHANNEL



- Sensitive quantification down to 0.1pg/uL dsDNA
- Large color touch screen for programming & operation
- Two models for single or 8-sample processing
- Built-in reagent calculators for sample preparation
- Compact & portable (11 x 6 in. footprint)





Icon-Driven Menu

The Smart-Q™ 100 & Smart-Q™ 800 Fluorometers are designed for the precise quantification of DNA, RNA, and protein samples. By utilizing well-established methodologies for fluorescence detection, the Smart-Q Fluorometers provide higher specificity and enhanced accuracy compared to the traditional method of UV-absorbance detection. Accurate results are particularly crucial in workflows involving:

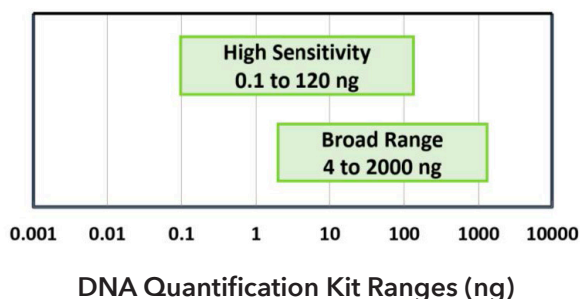
- Next Generation Sequencing
- PCR
- Transfection
- Western blotting
- Immunoassays

The Smart-Q Fluorometers are engineered to achieve optimal performance with Fluorescent DNA Quantification Kits and assay tubes; however, they also maintain compatibility with a range of kits offered by various other suppliers.



Intuitive Usability

Each instrument is equipped with a 7-inch color touchscreen, featuring an intuitive, icon-driven user interface. Preprogrammed protocols allow for quick & effortless assay set-up. Results are quickly calculated and displayed in less than 6 seconds, and saved to the instrument's internal memory. All data can be also be exported easily to a PC using a USB flash drive.

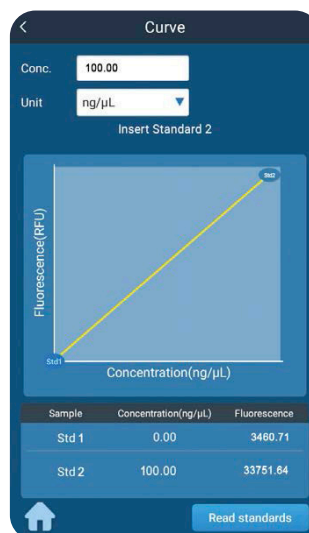


Accurate Quantification

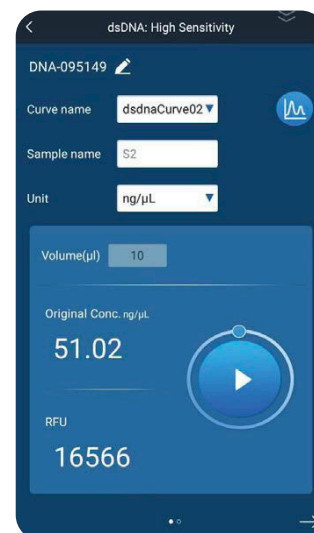
The Smart-Q Fluorometers, along with their accompanying assay kits, are engineered for the precise measurement of fluorescent dye signals that are bound to targeted biological molecules. These specially formulated dyes exhibit selective affinity towards DNA, RNA, or proteins, and generate fluorescent signals exclusively upon binding to their respective targets. Both Smart-Q models include Blue and Red channels that allow for various fluorescent dyes to be used in nucleic acid and protein measurements.

The Smart-Q Fluorimeters incorporate advanced curve-fitting algorithms to establish calibration curves from standard samples of known concentrations.

The concentration of an unknown sample, whether it be DNA, RNA, or protein, is determined by correlating its Relative Fluorescence Units (RFUs) with those of the standards employed during calibration. The measurement sensitivity for each type of assay is distinct and defined by its detection limits.



Smart-Q Calibration Curve



Smart-Q Calculated Results

Options for Throughput

The Smart-Q portfolio includes two distinct models, each designed to meet specific laboratory requirements:

The Smart-Q 100 allows for single-sample processing in 0.5mL assay tubes. This renders the Smart-Q 100 ideal for laboratories processing fewer samples.

The Smart-Q 800 caters to high-throughput workflows and allows for up to eight samples to be evaluated at once using individual 0.2mL tubes or 8 x 0.2mL strips tubes (Order no. ES59801-T and ES59802-T-8). The use of a standard 8-channel pipettor can streamline both the reagent preparation and sample transfer, making the Smart-Q 800 an efficient solution for workflows requiring parallel processing of multiple samples.



Options for Throughput on Smart-Q Series. The Smart-Q 100 readily accepts 0.5mL optically clear tubes. The Smart-Q 800 can accept either single 0.2mL or 8-tube (0.2mL) strips.

Specifications:

Model	Smart-Q™ 100 Fluorometer (ES59801)	Smart-Q™ 800 Fluorometer (ES59802)
Display:	7.0-inch, color touch screen	7.0-inch, color touch screen
Dynamic Range:	5 orders of magnitude	4 orders of magnitude
Light Source:	Blue LED Red LED	Blue LED Red LED
Excitation Wavelength:	Blue: 460 ± 20nm Red: 625 ± 20nm	Blue: 460 ± 20nm Red: 625 ± 20nm
Emission Wavelength:	Green: 525 - 570nm Red: 670 - 725nm	Green: 525 - 570nm Red: 670 - 725nm
Stability:	≤ 1.5%	≤ 1.5%
Detector:	Photodiodes	Photodiodes
Measurement Speed:	≤ 5 seconds	≤ 6 seconds
Calibration Type:	2-3-point standard	2-3-point standard
Consumable Type:	0.5mL assay tubes	0.2mL assay tubes (single & 8-tube strip)
Input Voltage:	24 VDC 2A	24 VDC 2A
Dimensions (WxDxH):	6.34 x 11.30 x 2.40 in. (16.1 x 28.7 x 6.1 cm)	6.3 x 11.3 x 3.0 in. (16.1 x 28.7 x 7.6 cm)
Weight:	3.5lbs (1.6kg)	4.4lbs (2.0kg)

Cat No.	Description	UOM
ES59801	Smart-Q™ 100 Fluorometer, 115V	Each
ES59802	Smart-Q™ 800 Fluorometer, 115V	Each
ES5250	High Sensitivity dsDNA Quantification Kit	100 assays
ES5251	Broad Range dsDNA Quantification Kit	100 assays
ES59801-T	0.5mL Fluorescence Detection Tubes	250/pack
ES59802-T	Smart-Q™ 800 Assay Tubes	1000/pack
ES59802-T-8	Smart-Q™ 800 Assay Tube Strips	120/pack