DS-11 Series Spectrophotometer / Fluorometer

Nano UV-Vis Integrated Fluorescence Powerful Sample QC





Why Do Scientists Choose the DS-11 Series?

Nano UV-Vis, Fluorescence and Cuvette Unmatched Specificity and Sensitivity

Powerful EasyApps[™] Software Designed by Life Scientists, for Life Scientists Multi-Award Winning The World's Top Rated Spectrophotometer

Flexible Export and Connectivity Wi-Fi, USB, Email, Ethernet and more

Rapid and Reliable 1 μL UV-Vis



SmartPath[™] Technology

The DeNovix team developed a combination of opto-mechanical components and software algorithms that optimize results for every sample. Micron-level pathlength control and immediate absorbance feedback deliver the most sensitive and accurate microvolume measurements.

Bridge Testing™ verification eliminates unreliable results that stem from broken sample columns or loading issues. The algorithm detects unbridged samples and automatically adjusts in real-time to deliver accurate results, even for challenging 1 µL protein samples.



Key Features

- Quantify DNA, RNA and protein in less than 3 sec
- Widest dynamic range and lowest detection limit 0.75 – 37500 ng/µL dsDNA
- No routine maintenance or recalibration required
- Full spectrum UV-Vis analysis using 0.5 1.0 μL of sample

SmartQC[™] Contamination Alerts

Multiple algorithms ensure confidence in results while also providing important information about possible sample anomalies.

Surface Check	SmartPath™	Bridge Testing [™]	Spectral Analysis	Alert	Report
Check that previous sample has been removed.	Precisely select optimum pathlength for each sample.	Dynamic monitoring and adjustment ensures that sample column is formed.	Analyze for negative spectra, absorbance, within range, calculate purity ratios and quantify.	Check against threshold purity values. Flag contaminated samples. Display user guidance.	Save and report data ready for export. Optional auto-save to network drive.

Choice of Modes for Total Sample QC

Combine the ease of use, wide dynamic range and contamination detection of UV-Vis with the enhanced sensitivity and specificity of fluorescence quantification. Achieve total sample quality control and unmatched flexibility for current and future assay compatibility.

Integrated Fluorescence



The DS-11 Series uniquely integrates an optional 4-channel fluorometer. Fluorescence mode enables up to 1000x more sensitivity. DeNovix Fluorometers are compatible with a wide range of commonly used quantification assays.



Extend the lower detection limit for low concentration samples. Quantify down to $0.5 \text{ pg/}\mu\text{L}$ dsDNA.

2 Specificity

Selectively quantify a sample in the presence of contaminants using DeNovix Fluorescence Quantification Assays.

3 Total Sample QC

Combine Absorbance and Fluorescence measurements for specific quantification and reliable contamination detection.





DeNovix Fluorometers and Assays Combine for Unmatched Sensitivity

Key Features

• Full range of dsDNA and RNA assay kits

MODELS

DS-11 FX+

DS-11 FX

DS-11 +

DS-11

- Simple mix-and-measure, 2-point standard protocol
- Outperforms equivalent Thermo Fisher Qubit™ assay kits in both sensitivity and dynamic range

Cuvette Absorbance



Use standard quartz or disposable cuvettes for up to 10 mm pathlength absorbance measurements (190 – 840 nm).

Cuvette applications include nucleic acids, proteins, colorimetric assays, OD600 and custom standard curves. Systems include a cuvette block heater for Kinetics studies from 37 – 45°C.



Extended Product Line



QFX Fluorometer

Affordable, ultra-sensitive 4-channel fluorometer with software pre-installed for commercially popular assays. Includes full network connectivity.



DS-C Spectrophotometer

Cuvette-only instrument for UV-Vis applications (190 – 840 nm). Intuitive operation, full network connectivity and pre-installed EasyApps for rapid quantification.



FX Fluorometer Module

Add the USB connected FX Module to any DS-11 Series Spectrophotometer to enable all DeNovix Fluorometer apps. Features the same sensitivity and 4-channel flexibility as the DS-11 FX+, DS-11 FX and QFX.

Spectrophotometer Microvolume Mode (DS-11, DS-11+, DS-11 FX, DS-11 FX+)

Minimum Sample Size
Pathlength
Light Source
Detector Type
Wavelength Range
Wavelength Accuracy
Absorbance Precision
Absorbance Accuracy
Spectral Resolution
Absorbance Range
Detection Limit
Maximum Concentration
Measurement Time
AutoRun Function
Power Consumption
Contaminant Detection

0.5 mm (auto ranging to 0.020 mm) Pulsed Xenon flash lamp 2048 element CCD 190 - 840 nm 0.5 nm 0.015 AU (1 cm) or 1%, whichever is greater 1.5% at 0.75 AU at 260 nm 1.50 FWHM @253.65 nm 0.015 - 750A (1 cm) 0.04 mg/mL BSA; 0.75 ng/µL dsDNA 1125 mg/mL BSA; 37500 ng/µL dsDNA 2 seconds Yes 10 W (max 36 W) SmartQC* contamination alerts

Spectrophotometer Cuvette Mode (DS-11+, DS-11 FX+, DS-C)

0.5 µL

Beam height Heating Pathlength Detection Limit

Maximum Concentration

8.5 mm 37 - 45°C +/- 0.5°C 10, 5, 2, 1, 0.5, 0.2, 0.125 mm 0.002 mg/mL BSA (1 cm) 0.04 ng/µL dsDNA (1 cm) 75.0 ng/µL dsDNA (1 cm)

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Fluorometer Mode (DS-11 FX, DS-11 FX+, QFX, FX Module)

LED Sources

Excitation Filters

Emission Filters

Detectors Tube Type

General

Display Touch Screen Gesture Recognition Glove Compatibility Internal Storage Connectivity Accessories Weight Footprint Operating Voltage Approvals Manufacture Location Warranty Colors (DS-11 Series) Patented Design UV (375 nm), Blue (470 nm), Green (525 nm), Red (635 nm) UV (361-389 nm), Blue (442-497 nm), Green (490-558 nm), Red (613-662 nm) 435-485 nm, 514-567 nm, 565-650 nm, 665-740 nm Photodiode, detection range 300-1000 nm 0.5 mL thin-wall PCR tubes

7* high definition color display Projective capacitive Multipoint touch, swipe, pinch All common lab gloves 32 GB flash memory Wi-Fi, Ethernet, 3 USB ports Printer, barcode reader, keyboard, mouse 3.1 kg 20 cm X 33 cm 12 VDC UL/CSA, CE, FCC, Japan CAB USA 2 Year Standard

US9442009, Apparatus and Method for Making Optical Measurements of Samples



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