

# 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

### Multi-Award Winning

The World's Top Rated Spectrophotometer

### Powerful EasyApps™ Software

Designed by Life Scientists, for Life Scientists

### Flexible Export and Connectivity

Wi-Fi, USB, Email, Ethernet and more

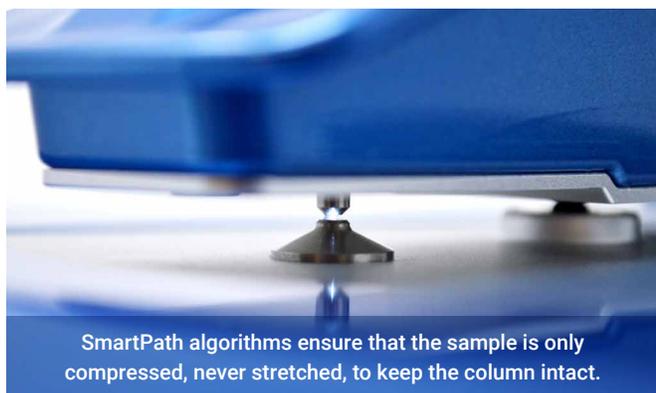
## Rapid and Reliable 1 µL UV-Vis



### 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.



SmartPath algorithms ensure that the sample is only compressed, never stretched, to keep the column intact.

### 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.

MODELS			
DS-11 FX+	✓	✓	✓
DS-11 FX	✓	✓	
DS-11 +	✓		✓
DS-11	✓		

## 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.

### 1 Sensitivity

Extend the lower detection limit for low concentration samples. Quantify down to 0.5 pg/μL dsDNA.

### 2 Specificity

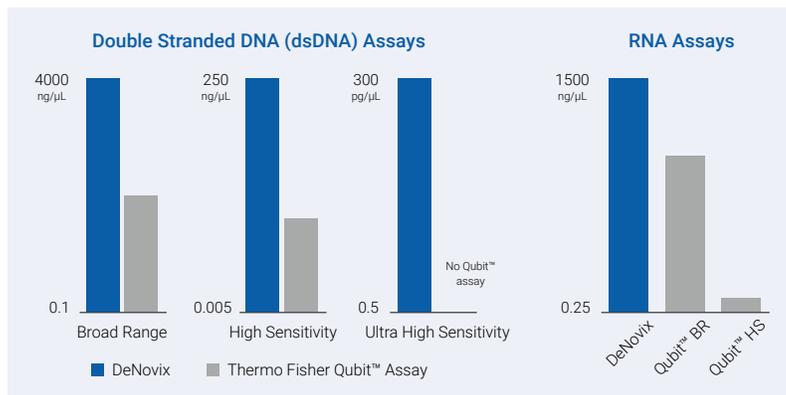
Selectively quantify a sample in the presence of contaminants using DeNovix Fluorescence Quantification Assays.

### 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
- 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	0.5 µL
Pathlength	0.5 mm (auto ranging to 0.020 mm)
Light Source	Pulsed Xenon flash lamp
Detector Type	2048 element CCD
Wavelength Range	190 - 840 nm
Wavelength Accuracy	0.5 nm
Absorbance Precision	0.015 AU (1 cm) or 1%, whichever is greater
Absorbance Accuracy	1.5% at 0.75 AU at 260 nm
Spectral Resolution	1.50 FWHM @253.65 nm
Absorbance Range	0.015 – 750A (1 cm)
Detection Limit	0.04 mg/mL BSA; 0.75 ng/µL dsDNA
Maximum Concentration	1125 mg/mL BSA; 37500 ng/µL dsDNA
Measurement Time	2 seconds
AutoRun Function	Yes
Power Consumption	10 W (max 30 W)
Contaminant Detection	SmartQC™ contamination alerts

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

Beam height	8.5 mm
Heating	37 - 45°C +/- 0.5°C
Pathlength	10, 5, 2, 1, 0.5, 0.2, 0.125 mm
Detection Limit	0.002 mg/mL BSA (1 cm) 0.04 ng/µL dsDNA (1 cm)
Maximum Concentration	75.0 ng/µL dsDNA (1 cm)

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

LED Sources	UV (375 nm), Blue (470 nm), Green (525 nm), Red (635 nm)
Excitation Filters	UV (361-389 nm), Blue (442-497 nm), Green (490-558 nm), Red (613-662 nm)
Emission Filters	435-485 nm, 514-567 nm, 565-650 nm, 665-740 nm
Detectors	Photodiode, detection range 300-1000 nm
Tube Type	0.5 mL thin-wall PCR tubes

#### General

Display	7" high definition color display
Touch Screen	Projective capacitive
Gesture Recognition	Multipoint touch, swipe, pinch
Glove Compatibility	All common lab gloves
Internal Storage	32 GB flash memory
Connectivity	Wi-Fi, Ethernet, 3 USB ports
Accessories	Printer, barcode reader, keyboard, mouse
Weight	2 kg
Footprint	20 cm X 33 cm
Operating Voltage	12 VDC
Approvals	UL/CSA, CE, FCC, Japan CAB
Manufacture Location	USA
Warranty	2 Year Standard
Colors (DS-11 Series)	
Patented Design	US9442009. Apparatus and Method for Making Optical Measurements of Samples

Qubit™ is a registered trademark of Thermo Fisher Scientific

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