

## 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 0.02 mm)
Light Source	Pulsed Xenon flash lamp
Detector Type	2048 element CCD
Wavelength Range	190-840 nm
Wavelength Accuracy	0.5 nm
Wavelength Precision	0.14 nm
Spectral Resolution	1.5 nm (FWHM at Hg 253.7 nm)
Absorbance Precision	0.015 AU (1 cm), or 1%, whichever is greater
Absorbance Accuracy	1.5% at 0.75 AU at 260 nm
Absorbance Range	0.015 – 750 (1 cm equivalent)
Detection limit	0.04 mg/ml BSA; 0.75 ng/µl dsDNA
Maximum Concentration	1125 mg/ml BSA; 37500 ng/µl dsDNA
Lower Sample Surface Material of Construction	303 stainless steel and sapphire window
Upper Sample Surface Material of Construction	303 stainless steel and quartz fiber

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

Beam height	8.5 mm
Heating	37-45 °C +/- 0.5 °C
Pathlength	10, 5, 2, 1, 0.5, 0.2, 0.125 mm
Absorbance Range	0.0008-1.5 AU (1 cm)
Detection Limit	0.002 mg/ml BSA; 0.04 ng/µl dsDNA (1 cm)
Maximum Concentration	75 ng/µl dsDNA (1 cm)

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

Light Sources	UV LED (~375 nm), Blue LED (~470 nm), Green LED (~525 nm), Red LED (~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 Real Time thin-wall PCR tube (polypropylene)

## Onboard Controller (No PC required)

Operating System	Custom Linux® OS
CPU	Quad-core Cortex-A72
Display	7" high definition color display
User Input	Touch screen with swipe and pinch motion; glove compatible
Internal Storage	32GB flash drive
Connectivity	3 USB ports for printer, barcode reader and USB drive
Networking	Ethernet and Wi-Fi

## General

Colors	Arctic White, Brazilian Blue, Fire Red, Tungsten Silver
Measurement Time for Spectrophotometry	2 seconds
Measurement Time for Fluorescence	2 seconds
Footprint	20 cm X 33 cm
Weight	2 kg
Operating Voltage	12 VDC
Operating Power Consumption	10 W; max 30 W
Approvals	CE, UL/CSA, FCC and Japan CAB
Manufacture Location	USA