

# 1. Introduction

## Instrument Description

Thermo Scientific NanoDrop™ 2000/2000c Spectrophotometers measure 0.5- 2 µl samples with high accuracy and reproducibility. The NanoDrop 2000c model offers the convenience of both the NanoDrop patented sample retention technology and a traditional cuvette for sample measurements.

The sample retention system employs surface tension to hold the sample in place between two optical fibers. This enables the measurement of very highly concentrated samples without the need for dilutions. Using this technology, the full spectrum (190 – 840 nm) NanoDrop 2000/2000c Spectrophotometers have the capability to measure sample concentration up to 200 times more concentrated than samples measured using the standard cuvette.

## Instrument Specifications

### NanoDrop 2000/2000c – pedestal mode

Instrument Type:	Spectrophotometer
Minimum Sample Size:	0.5 µL
Pathlength:	1 mm (auto-ranging to 0.05 mm)
Light Source:	Xenon flash lamp
Detector Type:	2048-element linear silicon CCD array
Wavelength Range:	190-840 nm
Wavelength Accuracy:	±1 nm
Spectral Resolution:	≤1.8 nm (FWHM @Hg 253.7 nm)
Absorbance Precision:	0.002 absorbance (1 mm path)
Absorbance Accuracy:	± 2% (at 0.76 absorbance at 257 nm)
Absorbance Range:	0.02 -300 (10 mm equivalent)
Detection limit:	2 ng/µL dsDNA
Maximum Concentration:	15,000 ng/µL (dsDNA)
Measurement Time:	< 5 seconds
Footprint:	14 cm x 20 cm
Weight:	2.0 kg
Sample pedestal Material of Construction:	303 stainless steel and quartz fiber
Operating Voltage:	12 VDC
Operating Power Consumption:	12-18 W, (max 30 W)
Software Compatibility:	Windows® XP and Vista (32 bit)

### NanoDrop 2000c – cuvette mode

Beam height:	8.5 mm
Heating:	37 ± 0.5°C
Stirrer:	150-850 RPM
Pathlength:	10, 5, 2, 1 mm
Detection Limit:	0.4 ng/µL dsDNA
Maximum Concentration:	750 ng/µL (dsDNA)
Measurement Time:	< 3 seconds
Weight:	2.1 kg

All NanoDrop instruments are approved to CE and UL/CSA standards.

## Patents

The sample retention technology used in NanoDrop 2000/2000c Spectrophotometers is covered under US patents 6,628,382 and 6,809,826. Other patents are pending.