



## Beyond Measure: A New Era of Analytical Precision with the NanoDrop family of spectrophotometers and fluorometers

Introducing Thermo Scientific™ NanoDrop™ Ultra Microvolume UV-Vis Spectrophotometers and Fluorometers – the next generation of trusted laboratory instruments that have been the backbone of research for over 20 years. The NanoDrop Ultra instruments offer advanced features and software enhancements that set new standards for performance and compliance, from the research bench to the manufacturing line.

**All-in-one absorbance and fluorescence analysis** – Obtain the most complete information about the concentration and quality of your DNA or RNA samples by making absorbance or fluorescence measurements on the NanoDrop Ultra pedestal.

**Streamlined workflow** – A fully integrated qPCR recipe calculator saves time, optimizes efficiency, and achieves reliable results with precise reaction setup.

**Elevated sample insight** – Software provides corrected concentration values AND identifies common impurities found in nucleic acid and protein samples. Software can even differentiate between DNA and RNA for samples of mammalian, bacterial, and plant origin.

**Seamless Compliance, Assured Confidence** – Optional, user-friendly 21 CFR Part 11 software allows for secure data handling and meticulous tracking, with subsequent seamless integration into your LIMS environment using RESTful API.



Description	NanoDrop Ultra Spectrophotometers and Fluorometers	NanoDrop One/One <sup>c</sup> Spectrophotometer	NanoDrop 2000/2000 <sup>c</sup> Spectrophotometer	NanoDrop 1000 Spectrophotometer
Instrument Control	Built-in touchscreen or computer software	Built-in touchscreen or computer software	Computer software	Computer software
Minimum Sample Size	1 µL	1 µL	1 µL	1 µL
Pathlength(s)	0.030 to 1.0 mm auto-ranging	0.030 to 1.0 mm auto-ranging	0.05 mm to 1.0 mm auto-ranging	0.2 mm to 1.0 mm auto-ranging
Light Source(s)	<b>Absorbance</b> Xenon flash lamp	Xenon flash lamp	Xenon flash lamp	Xenon flash lamp
	<b>Fluorescence</b> Blue LED and Red LED			
Excitation Maxima of LEDs	Blue LED (~470 nm) and Red LED (~635 nm)	-	-	-
Detector Type	2048-element CMOS linear image sensor	2048-element CMOS linear image sensor	2048-element silicon CCD array	2048-element silicon CCD array
Wavelength Range	190–850 nm	190–850 nm	190-840 nm	220-750 nm
Wavelength Accuracy	±1 nm	±1 nm	±1 nm	±1 nm
Spectral Resolution	≤ 1.8 nm (FWHM at Hg 254 nm)	≤1.8 nm (FWHM at Hg 254 nm)	<1.8 nm (FWHM at Hg 253.7 nm)	3 nm (FWHM at Hg 546 nm)
Typical Measurement Repeatability*	0.002 A (1.0 mm path) or 1%CV, whichever is greater	0.002 A (1.0 mm path) or 1% CV, whichever is greater	0.002 A (1.0 mm path)	0.003 absorbance (1mm path)
Absorbance Accuracy**	±3% (at 0.97 A, 302 nm)	±3% (at 0.97 A, 302 nm)	±2% (at 0.76 A, 257 nm)	±3% (at 0.74 A, 350 nm)
Absorbance Range (10 mm equivalent)	Pedestal: 0-550 A, Cuvette: 0-1.5 A	Pedestal: 0-550 A, Cuvette: 0-1.5 A	Pedestal: 0-300 A, Cuvette: 0-1.5 A	0-75 A
Lower Limit of Detection	<b>Absorbance</b> Pedestal: 1.0 ng/µL (dsDNA), 0.03 mg/mL (BSA) Cuvette: 0.2 ng/µL (dsDNA), 0.006 mg/mL (BSA)	Pedestal: 2 ng/µL (dsDNA), 0.06 mg/mL (BSA) Cuvette: 0.2 ng/µL (dsDNA), 0.006 mg/mL (BSA)	Pedestal: 2 ng/µL (dsDNA), 0.10 mg/mL (BSA) Cuvette: 0.4 ng/µL (dsDNA), 0.01 mg/mL (BSA)	2 ng/µL (dsDNA)
	<b>Fluorescence***</b> Pedestal: 0.1 ng/µL (dsDNA), 0.2 ng/µL (RNA)			
Maximum Concentration	<b>Absorbance</b> Pedestal: 27,500 ng/µL (dsDNA), 820 mg/mL (BSA)	Pedestal: 27,500 ng/µL (dsDNA), 820 mg/mL (BSA)	Pedestal: 15,000 ng/µL (dsDNA), 400 mg/mL (BSA)	3,700 ng/µL (dsDNA)
	<b>Fluorescence***</b> Pedestal: 1,000 ng/µL (dsDNA), 100 ng/µL (RNA)			
Measurement and Data Processing Time	<b>Absorbance</b> ≤ 7 seconds	8 seconds	< 5 seconds	10 seconds
	<b>Fluorescence</b> ≤ 20 sec for Blue LED; ≤ 40 sec for Red LED			
21 CFR Part 11 Compliance	On-board Software: Yes, Optional SciVault 2 Software	On-board Software: No	No	No
	PC Software: Yes, Optional SciVault 2 Software	PC Software: Yes, Security Suite Software		
Integrated qPCR Recipe Calculator	Yes	No	No	No
Acclaro Contaminant ID	<b>dsDNA:</b> Protein, Phenol, Guanidine HCL, Mammalian RNA, Bacterial RNA, and Plant RNA	<b>dsDNA:</b> Protein, Phenol, Guanidine HCL, and Mammalian RNA	No	No
	<b>RNA:</b> Protein, Phenol, Guanidine Isothiocyanate, Mammalian DNA, Bacterial DNA, and Plant DNA	<b>RNA:</b> Protein, Phenol, Guanidine Isothiocyanate, and Mammalian DNA		
	<b>Protein:</b> DNA	<b>Protein:</b> DNA		
Acclaro Pro Software Compatibility	Yes	No	No	No
Acclaro Pro Software Absorbance Accuracy**	±5% up to 550 A	-	-	-
Acclaro Pro Software Measurement Repeatability	< 3% CV	-	-	-
Acclaro Pro Measurement & Data Processing Time	≤ 30 seconds	-	-	-

\*SD of 10 individual samples measured at 0.97 A

\*\* Absorbance expressed at Abs/mm at 25°C

\*\*\*The NanoDrop Ultra fluorescence kits have been optimized for microvolume measurements. Performance of other fluorescence dyes / reagents on the microvolume pedestal cannot be guaranteed.

Description	NanoDrop Ultra Spectrophotometers and Fluorometers	NanoDrop One/One <sup>c</sup> Spectrophotometer	NanoDrop 2000/2000 <sup>c</sup> Spectrophotometer	NanoDrop 1000 Spectrophotometer
Footprint (wdh)	32.1 × 18.1 × 19.8 cm	20 × 25.4 × 32.3 cm	14 × 20 cm (wd)	14 cm X 20 cm
Weight	4.1 kg	3.6 kg	2.0 kg	1.6 kg
Sample Pedestal	303 stainless steel and quartz fiber	303 stainless steel and quartz fiber	303 stainless steel and quartz fiber	303 stainless steel and quartz fiber
Cuvette Position	Optional (with stirring)	Optional (with stirring)	Optional (with stirring)	No
Operating Voltage	12 V (DC)	12 V (DC)	12 V (DC)	12 V (DC)
Operating Power Consumption	11-18 W	12–18 W	12-18 W, (max 30 W)	6 W
Standby Power Consumption	7 W	5 W	-	1.5 W
Battery	Yes, Supports USB-C battery (75Wh yeilds approximately 8 hrs of runtime)	No	No	No
Software Compatibility	Standalone control.  PC Software: Windows®  Windows® 10/11 Professional (64 bit)	Standalone control.  PC Software: Windows®  Windows® 10/11 Professional (64 bit)	<ul style="list-style-type: none"> <li>Windows® 7 Professional (32 bit and 64 bit)</li> <li>Windows® 8.1 Professional (64 bit)</li> <li>Windows® 10 Professional (64 bit)</li> <li>Windows® 11 Professional (64 bit).</li> </ul>	<ul style="list-style-type: none"> <li>Windows 7 Professional (32 bit and 64 bit)</li> <li>Windows Vista (32 bit)</li> <li>Windows XP (32 bit)</li> </ul>
Advance Connectivity	<ul style="list-style-type: none"> <li>Restful API</li> <li>Microsoft OneDrive</li> <li>Google Drive</li> <li>Thermo Fisher Connect Platform</li> </ul>	Thermo Fisher Connect Platform	-	-
Warranty	2 Years	2 Years	1 Year	1 Year

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 Learn more at [thermofisher.com/nanodrop](https://thermofisher.com/nanodrop)

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