Technical Note 125

DeNovix DS-11 Spectrophotometer Advantages vs. Thermo Fisher NanoDrop™ 2000 Spectrophotometer

Thermo Scientific NanoDrop™ 2000 spectrophotometers are used to measure nucleic acid and protein samples in small volumes, typically 1µL. The term “NanoDrop™” has become synonymous with the type of spectrophotometry, but the Thermo Fisher NanoDrop™ 2000 spectrophotometer does not offer comprehensive advantages over all other microvolume spectrophotometers.

The DeNovix DS-11 Spectrophotometer is a compact, stand-alone spectrophotometer with some of the best-in-class features and advantages. It outperforms the Thermo Fisher NanoDrop™ 2000 spectrophotometer from the perspective of accuracy, convenience, performance, reliability and more.

Technical Note 125 is a direct comparison of key features of the DeNovix DS-11 Spectrophotometer versus the Thermo Fisher NanoDrop™ 2000 spectrophotometer. Browse the table below for a full breakdown of which instrument comes out on top in key performance areas.

	DeNovix DS-11 Spectrophotometer	Advantage	Thermo Fisher NanoDrop™ 2000 Spectrophotometer	Advantage
Fluorescence Option	Yes - DS-11 FX and DS-11 FX+ (UV, Blue, Red, Green)	√	None	-
Warranty	2 years	√	I year	-
Built-in Connectivity	Yes, Wi-Fi, Ethernet, USB	√	USB only	-
SmartPath™ Technology with Bridge Testing™ Verification*	Yes	√	No	-
Protein Performance	Outstanding	√	Only if sample column is formed properly*	-
Bench Space Required	20 x 33 cm	√	50 x 22 cm Instrument and Laptop	-
Microvolume Pathlength	0.5 mm (auto ranging to 0.02 mm)	√	1.0 mm and 0.2mm*	-
Max Concentration	dsDNA: 37,500 ng/µL IgG: 547 mg/mL	√	dsDNA: 15,000 ng/µL IgG: 219 mg/mL	-
Absorbance Range	0.015 – 750 AU	√	0.04 – 300 AU	-
AutoRun Feature	Yes	√	No	-
Pathlength Control	Precision screw driven by high resolution motor	√	Adjustment screw driven by stepper motor	-
Built-in Computer	Yes	√	No, requires a PC	-
Operating System	Custom embedded OS	√	Windows® with version specific requirements	-
Display Type	7 " HD Color Touchscreen Glove Compatible	√	None	-
Software	Preconfigured EasyApps™ software	√	Standard Windows® Interface	-
Color Availability	Arctic White, Brazilian Blue, Tungsten Silver, Fire Red	√	Beige	-

	DeNovix DS-11 Spectrophotometer	Advantage	Thermo Fisher NanoDrop™ 2000 Spectrophotometer	Advantage
Design	Modern look	√	Dated	-
Recalibration Required	No	√	Recommended	-

*An erroneous measurement can occur if an insufficient volume is pipetted when using systems that stretch a sample between two measurement pedestals. DeNovix SmartPath™ technology eliminates this through sample compression, setting the optimum pathlength for each sample. In addition, many microvolume spectrophotometers, such as the Thermo Fisher NanoDrop™ 2000 spectrophotometer, can exhibit a phenomenon referred to as “unconditioning.” This is when the surface loses its hydrophobic property, and droplets spread out instead of beading up. The Thermo Fisher NanoDrop™ 2000 spectrophotometer does not alert the user to a broken column and allows erroneous measurements to go undetected. The DS-11 SmartPath technology detects if a sample does not fully bridge the gap and automatically compensates for the issue in real time.

Interested in Microvolume Spectrophotometers?

The next-generation DeNovix DS-11 spectrophotometer introduces new features to the microvolume spectrophotometer market, providing more confidence for a broader range of sample types and sample concentrations. If you have any queries about how we arrived at the conclusions in this technical note, or have questions about the DeNovix DS-11 spectrophotometer versus the Thermo Fisher NanoDrop™ 2000 spectrophotometer, simply contact a member of the team today.

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