

## Microvolume Analyses of DNA, RNA, & Proteins

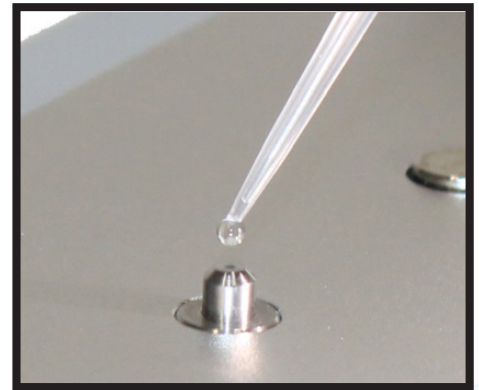


- *Quick & accurate results from a sample droplet*
- *Touch screen control panel, no PC or software required*
- *Built-in printer and cuvette port for OD600 readings*
- *XF model includes fluorometer for sensitive DNA quantification*

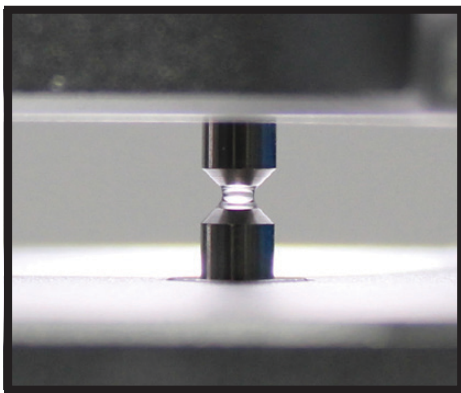


The Accuris **SmartDrop™** series nano spectrophotometers provide quick and easy quantification of small samples. Utilizing a small sample volume eliminates the need for dilutions, providing more accurate results.

A full color, 7" touchscreen with icon-driven menus and preprogrammed protocols gets users up and running quickly. No external computer is required. Each unit features a quartz pedestal onto which a drop of sample is placed. The arm is lowered and the drop is stretched into a liquid column for measurement. DNA, RNA and protein concentrations and purity numbers are displayed in a matter of seconds. The resulting data can be printed, saved to the *SmartDrop's* onboard memory or exported via USB as an Excel file. All *SmartDrop* models include an integrated printer for instantaneous documentation of results. For OD600 readings, each model includes a cuvette port and two optical glass cuvettes. Three *SmartDrop* models are available to meet a range of applications and budgets.



Only a small drop of sample needed



Drop is stretched into a liquid column



Integrated printer for results documentation

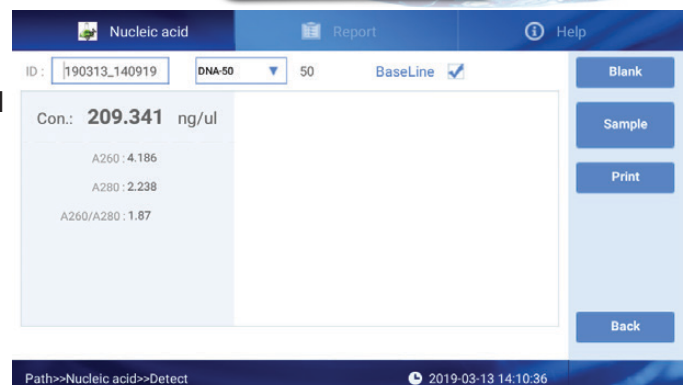


Cuvette port for OD600 readings

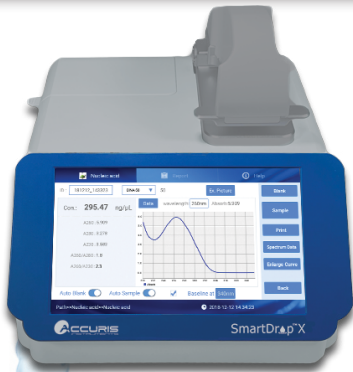
### SmartDrop L

- Ideal for basic DNA/RNA/protein quantification and purity
- Affordable LED and silicon detector technology
- Fixed 0.5mm path length, detect up to 2500ng/ul of dsDNA

The *SmartDrop L* is the affordable choice for laboratories needing to determine nucleic acid and protein concentrations and purity of samples. The LED light source and silicon photocell sensor provide readings at 260 and 280nm. Samples from 1.0 to 2.0µl are loaded directly on the pedestal. Results are provided in less than 6 seconds. The software automatically calculates and displays 260/280 ratios.

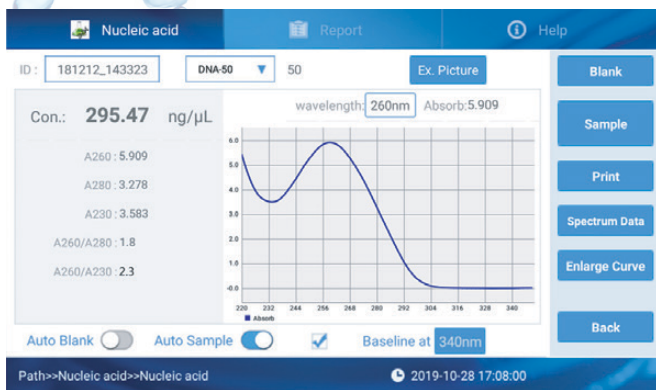



The screenshot displays the software interface for the SmartDrop L. At the top, there are tabs for 'Nucleic acid', 'Report', and 'Help'. Below the tabs, the sample ID is '190313\_140919', the protocol is 'DNA-50', and the path length is '50'. The 'BaseLine' checkbox is checked. The main display area shows the concentration: 'Con.: 209.341 ng/ul'. Below this, it lists the absorbance readings: 'A260: 4.186', 'A280: 2.238', and the calculated ratio: 'A260/A280: 1.87'. On the right side, there are buttons for 'Blank', 'Sample', 'Print', and 'Back'. At the bottom, the status bar shows 'Path>>Nucleic acid>>Detect' and the date/time '2019-03-13 14:10:36'.



## SmartDrop X

- Full-spectrum absorbance scans from 200 to 800nm and calculations of 260/280 and 260/230 ratios
- Long-life Xenon lamp and linear array CCD detector
- Auto-ranging path lengths (0.2mm and 1.0mm)
- Detect up to 4,500 ng/μl of dsDNA without dilution



A full spectrum UV-Vis spectrophotometer, *SmartDrop X* requires 0.5 to 2.0μl of sample. In addition to nucleic acid and protein calculations, the software has preset programs for BCA, Bradford and Lowry assays. A full spectrum analysis can be performed in about 6 seconds, aiding in the identification of unknowns.

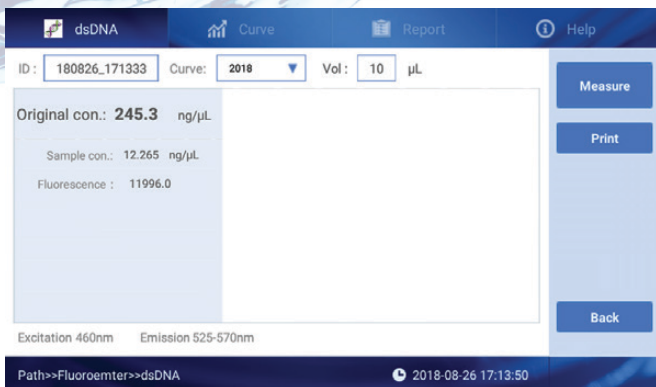
The long life Xenon lamp requires no warm up and is paired with a highly sensitive CCD detector. To provide the most accurate results, the *SmartDrop X* utilizes 2 path lengths.



Fluorometer & Cuvette  
OD600 ports

## SmartDrop XF - Spectrophotometer + Fluorometer

- Full-spectrum absorbance scanning and calculations of 260/280 and 260/230 ratios
- Long-life Xenon lamp with linear array CCD detector
- Auto-ranging path lengths (0.05mm, 0.2mm and 1.0mm)
- Detect up to 15,000ng/μl of dsDNA without dilution
- Integrated fluorometer for sensitive quantitation of low concentration nucleic acids



This top of the line spectrophotometer can perform not only UV-Vis readings in the range of 200-800nm, but also fluorescence readings. Like the *SmartDrop X*, the *SmartDrop XF* features predefined programs for nucleic acids, proteins, and various colorimetric assays.

For more accurate and selective quantitation of nucleic acids and proteins, the integrated fluorometer can measure sample concentrations as low as 0.5 pg/μl (dsDNA). The blue light channel (460nm) is useful for detection of dyes such as PicoGreen, RiboGreen, GFP and fluorescein. UV, green, and red channel models are available upon request.

## Specifications

Model	SmartDrop L (NS1000)	SmartDrop X (NS1010)	SmartDrop XF (NS1020)
Display	7-inch touch screen	7-inch touch screen	7-inch touch screen
Minimum sample size	1.0µl - 2.0µl	0.5µl - 2.0µl	0.5µl - 2.0µl
Path length	0.5mm	0.2mm, 1.0mm	0.05mm, 0.2mm, 1.0mm
Light source	UV LED	Xenon Flash Lamp	Xenon Flash Lamp
Detector	UV Silicon Photocell	2048 Element Linear Silicon CCD Array	2048 Element Linear Silicon CCD Array
Wavelength	260, 280, & 600nm	200 - 800nm (1nm steps)	200 - 800nm (1nm steps)
Absorbance range	0.2 - 50 A (10mm equivalent)	0.04 - 90 A (10mm equivalent)	0.04 - 300 A (10mm equivalent)
Absorbance precision	0.005 A	0.003 A	0.003 A
Lower limit of detection	dsDNA: 10ng/µl	dsDNA: 2ng/µl; BSA: 0.1mg/ml	dsDNA: 2ng/µl ; BSA: 0.1mg/ml
Upper limit of detection	dsDNA: 2,500ng/µl	dsDNA: 4,500ng/µl; BSA: 135mg/ml	dsDNA: 15,000ng/µl; BSA: 360mg/ml
Detection time	< 6 seconds	< 5 seconds	< 6 seconds
Communication ports	USB for data export	USB for data export	USB for data export
Voltage input	DC 24V, 2A	DC 24V, 2A	DC 24V, 2A
Power	25W	25W	25W
Dimensions (WxDxH)	20.8 x 8.0 x 18.6 cm / 8.2 x 11.0 x 7.3 in.	20.8 x 28.0 x 18.6 cm / 8.2 x 11.0 x 7.3 in.	20.8 x 28.0 x 18.6 cm / 8.2 x 11.0 x 7.3 in.
Weight	3.6 kg / 7.9 lbs	2.8 kg / 6.2 lbs	3.6 kg / 7.9 lbs
<b>Cuvette OD600 detection</b>			
Absorbance range	0.0 - 4.0 A	0.0 - 4.0 A	0.0 - 4.0 A
Absorbance stability	[0,3] ≤ 0.5%, [3,4] ≤ 2%	[0,3] ≤ 0.5%, [3,4] ≤ 2%	[0,3] ≤ 0.5%, [3,4] ≤ 2%
Absorbance repeatability	[0,3] ≤ 0.5%, [3,4] ≤ 2%	[0,3] ≤ 0.5%, [3,4] ≤ 2%	[0,3] ≤ 0.5%, [3,4] ≤ 2%
Absorbance precision	[0,2] ≤ 0.005 A, [2,3] ≤ 1%, [3,4] ≤ 2%	[0,2] ≤ 0.005 A, [2,3] ≤ 1%, [3,4] ≤ 2%	[0,2] ≤ 0.005 A, [2,3] ≤ 1%, [3,4] ≤ 2%
<b>Fluorescence detection</b>			
Excitation/Emission**	N/A	N/A	460 ± 20nm / 525-570nm
Sensitivity	N/A	N/A	dsDNA: 0.5pg/µl
Linearity	N/A	N/A	R <sup>2</sup> ≥ 0.995
Repeatability	N/A	N/A	≤ 1.5%
Stability	N/A	N/A	≤ 1.5%

## Ordering Information

Cat No.	Description
NS1000*	SmartDrop™ L Nano Spectrophotometer, 115V
NS1010*	SmartDrop™ X Nano Spectrophotometer, 115V
NS1020*	SmartDrop™ XF Nano Spectrophotometer, 115V
NS1020-HS-100	High Sensitivity DNA Quantitation Kit, 100 assays
NS1020-BR-100	Broad Range dsDNA Quantitation Kit, 100 assays
NS1000-C	Additional Standard-Size Cuvettes, pack of 2
NS1020-T	0.5ml Fluorescence Detection Tubes, pack of 250
NS1000-PA	Extra Paper Roll for SmartDrop internal printer, pack of 3

\* Use part number "-E" to indicate 240V input and specify required plug type.

\*\* Standard model includes blue channel. UV, green, & red channels available.

