

## Our downstream bioprocessing platform provides critical results on-demand, reducing the cost of drug development and accelerating time to market.

Powered by patented high precision tunable laser spectroscopy™ (HPTLS), our all-in-one platform delivers simultaneous quantitative analysis of buffer excipients and protein product concentrations with unprecedented dynamic range.



### 1 PIPETTE SAMPLE



- 15  $\mu$ L
- No sample prep
- No dilution

### 2 CLOSE LID




- Laser scans through droplet
- <30 second acquisition time
- <3 minute time-to-result

### 3 GET RESULTS



Buffer Validation 



Surfactant Quantitation 



New Excipient Characterization & Validation 



UF/DF Process Monitoring 



Product ID 



Stability/DoE 

## SPECIFICATIONS

<b>Technology</b>	High precision tunable laser spectroscopy (HPTLS) <sup>™</sup>
<b>Instrument Control</b>	Embedded 10.1" touchscreen (1280 × 800)
<b>Dimensions (L × W × H)</b>	13.6"L × 9.8"W × 10.4"H (34.5 cm L × 24.8 cm W × 26.5 cm H)
<b>Weight</b>	23 lbs (10.4 kg)
<b>Power Requirements</b>	100–240 VAC, 50-60 Hz (Current 10A @ 100-115VAC and 6A @ 200-240VAC)
<b>Mains Supply Fluctuations</b>	+/- 10%
<b>Overvoltage</b>	Category II
<b>System Warm-up (cold start)</b>	60 minutes
<b>Regulatory Compliance</b>	Meets IEC/UL/CSA-61010-1, CE, RoHS Standards
<b>Near Infrared Laser Classification</b>	Class 1 (eye-safe), 200 nm tunable range, 0.1 nm repeatability
<b>Measurement Mode</b>	At-line with manual pipetting and cleaning protocol
<b>Sample Volume</b>	15 µL
<b>Measurement Time</b>	< 3 min time-to-result
<b>Analyte Coverage</b>	<ul style="list-style-type: none"> <li>• Pre-loaded library includes ~30 excipients featuring validated analytes (buffer components, tonicity agents, antioxidants, stabilizers &amp; surfactants)</li> <li>• Custom analytes and protein product added by user (non-validated)</li> </ul>
<b>Accuracy</b>	±5% of known concentration; analyte and mixture-dependent
<b>Precision</b>	±1% error measurement-to-measurement
<b>Operational Temperature Range</b>	20°C-25°C ambient
<b>Operational Humidity Limit</b>	65% relative non-condensing
<b>Altitude</b>	<2000m

Note: Specifications may be subject to change at any time.  
 For integration in 21 CFR Part 11 or GMP process, please contact Nirrin for more info.

Application notes demonstrating typical performance for mAb protein and excipient quantitation are in preparation. Contact [info@nirrin.tech](mailto:info@nirrin.tech) to discuss the platform, applications, or analytes of interest.