

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 μ 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

Technology	High precision tunable laser spectroscopy (HPTLS) [™]
Instrument Control	Embedded 10.1" touchscreen (1280 × 800)
Dimensions (L × W × H)	13.6"L × 9.8"W × 10.4"H (34.5 cm L × 24.8 cm W × 26.5 cm H)
Weight	23 lbs (10.4 kg)
Power Requirements	100–240 VAC, 50-60 Hz (Current 10A @ 100-115VAC and 6A @ 200-240VAC)
Mains Supply Fluctuations	+/- 10%
Overvoltage	Category II
System Warm-up (cold start)	60 minutes
Regulatory Compliance	Meets IEC/UL/CSA-61010-1, CE, RoHS Standards
Near Infrared Laser Classification	Class 1 (eye-safe), 200 nm tunable range, 0.1 nm repeatability
Measurement Mode	At-line with manual pipetting and cleaning protocol
Sample Volume	15 µL
Measurement Time	< 3 min time-to-result
Analyte Coverage	• Pre-loaded library includes ~30 excipients featuring validated analytes (buffer components, tonicity agents, antioxidants, stabilizers & surfactants) • Custom analytes and protein product added by user (non-validated)
Accuracy	±5% of known concentration; analyte and mixture-dependent
Precision	±1% error measurement-to-measurement
Operational Temperature Range	20°C-25°C ambient
Operational Humidity Limit	65% relative non-condensing
Altitude	<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 to discuss the platform, applications, or analytes of interest.