

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	IEC-61010-1, UL, CE, CSA, CCC
Near Infrared Laser Classification	Class 1 (eye-safe), 200 nm tunable range, 0.1 nm repeatability
21 CFR Part 11 Compliance	Yes; documentation available upon request
Measurement Mode	At-line with manual pipetting and cleaning protocol
Sample Volume	15 µL
Measurement Time	< 3 min time-to-result
Analyte Coverage	<ul style="list-style-type: none"> • 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.

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.