High Throughput, Consistent, Reproducible Results for Potency and Pesticide Analysis in Cannabis

FMS
Fluid Management Systems

PLE®

Fast, Automated Pressurized Liquid Extraction

Fast, Automated Extraction of Cannabis

Integrated Sample Extraction and Cleanup ready for the Analysis of Potency and Pesticides in Cannabis

A single module PLE sending the extract directly to a SuperVap® Concentrator

- *One extraction method for all matrices*

- *High Speed*

- *Modular and expandable from 1 to 8*

- *Process 1 to 8 samples in 10 to 15 min*

- *Extraction cell size 5 to 200 ml*

- *Real time plot of temperature and pressure*

- *Reduced Solvent Consumption*

- *Works efficiently on all Sample Matrices*

- *Lower Energy Consumption*

- *InCell Sample Cleanup*

The PLE is modular and expandable. An example of a PLE 4 module system for extracting 4 samples simultaneously. The PLE can be expanded up to 8 modules for extracting up to 8 samples in parallel.

Consistent, Reproducible Results

The PLE system is a high-speed pressurized liquid extraction system designed to perform sample extraction of multiple samples for the analysis of pesticides and potency in cannabis simultaneously. The PLE system delivers high recoveries and excellent precision for all analytes in minutes instead of hours. Inexpensive stainless steel extraction cells with end cap filtration keep operational costs at a minimum. Reusable end cap filtration increases productivity and saves valuable time. Combining InCell cleanup removes extra manual cleanup steps required by other techniques increasing throughput while reducing human error.

HIGH SPEED

- **Extracts for Potency Analysis**
- Up to 32 extracts per hour
- Up to 256 extracts per 8 hour shift
- **Extracts for Pesticide Analysis**
- Up to 24 samples per hour
- Up to 196 samples per 8 hour Shift

Modular, Expandable and Affordable from 1 to 8 modules
The modular design of the PLE system allows you to purchase a one, two up to eight sample system to fit your budget. The system can be expanded from a one to eight sample system as your work load grows.

Reduce Solvent Waste
The PLE system reduces solvent waste by using solvents more efficiently. Cut solvent consumption in half.

Increase Productivity
The entire extraction and cleanup is performed in minutes. Traditional methods can take hours.

Reduce Operating Costs
Rapid extraction and clean-up, along with reduced solvent use and waste, reduces operating costs by as much as 70 percent.

5 to 250 mL Extraction Cell Sizes
The PLE system offers 5-200 mL low cost stainless steel extraction cells with Teflon endcap filtration. This wide range of extraction cell volumes allows the use of the same unit for all sample sizes, even in the same run.

Eliminate cross contamination
Low-cost stainless steel extraction cells and Teflon filtration endcaps ensure trouble-free extraction and eliminate the risk of cross contamination.

Sample Extraction and Cleanup in one step
The PLE uses incell cleanup and performs the entire sample extraction and cleanup in one step with increased speed and reduced cost. Eliminating additional manual cleanup steps. Just inject the sample extract.

Automatic Operation and Documentation
Real-time software allows eight channels of pressure and eight channels of temperature data to be plotted simultaneously. Allows automatic documentation of all extraction data.

One Extraction Method for All Matrices
A single extraction method is used for Potency extractions for all sample types. A single extraction and cleanup method is used for all Pesticide extractions for all sample types. Eliminating the need to develop and validate several extraction protocols.

Workflow Comparison

SONICATION EXTRACTION OF CANNABINOIDS WORKFLOW

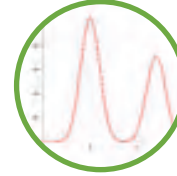| 2 MINUTES	2 MINUTES	30 MINUTES	10 MINUTES	=	44 MINUTES
Weigh the Sample	Load the Sample into the Sonication Vessel or Vial for Manual Shaking	Cannabinoid Extraction	Extract Filtration		Sample Prep Total Time Ready for Injection

PLE EXTRACTION OF CANNABINOIDS WORKFLOW

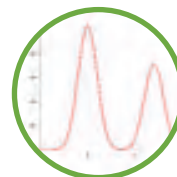| 2 MINUTES	2 MINUTES	2 MINUTES	=	6 MINUTES
Weigh the Sample	Load the Sample into the Extraction Cell	Cannabinoid Extraction		Sample Prep Total Time Ready for Injection
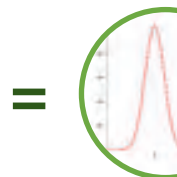
ECONOMICAL EXTRACTION CELLS

5ml to 200ml

QUECHERS EXTRACTION OF PESTICIDES WORKFLOW

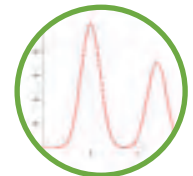| 2 MINUTES	5 MINUTES	30 MINUTES	10 MINUTES	10 MINUTES	=	52 MINUTES
Weigh the Sample	Load the Sample into the Vessel add H2O and Acidified ACN	Shake Vessel	Add Quechers salt, shake and centrifuge	Extract Filtration		Sample Prep Total Time Ready for Injection

PLE EXTRACTION AND INCELL CLEANUP FOR PESTICIDES WORKFLOW

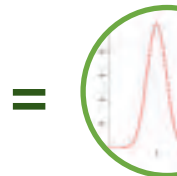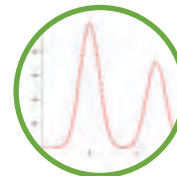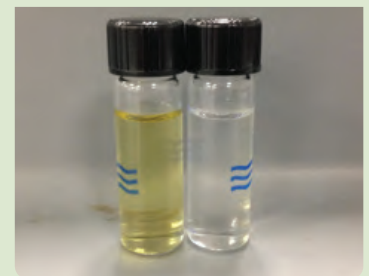| 2 MINUTES	2 MINUTES	6 MINUTES	=	10 MINUTES
Weigh the Sample	Load the XtractClean™ and Sample into the Extraction Cell	Pesticide Extraction and In Cell Cleanup		Sample Prep Total Time Ready for Injection

EXTRACTION AFTER INCELL CLEANUP

Contact Quantum Analytics today: LQA@LQA.com or 650-312-0900