PRODUCTIVITY TO THE POWER OF TWO

QSight® LC/MS/MS System
with Dual Source and StayClean™ Technology

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Lab Productivity Times Two

When analyzing food and environmental samples, laboratories often need multiple system to get the qualitative and quantitative information on contaminants. But this can result in duplicated sample preparation processes, increased cost of ownership – and suboptimal lab efficiency.

The unique Dual Source configuration of the PerkinElmer QSight® LC/MS/MS System enables high-throughput labs to collect data in two complementary modes (ESI and APCI), maximizing the output from a single injection.

And when Dual Source and StayClean™ Technologies combine, source cleaning and maintenance are dramatically reduced, which translates into higher productivity and ROI. Plus, easy-to-learn PerkinElmer Simplicity™ 3Q Software streamlines the complete LC/MS/MS workflow – from validated method development to data reporting.

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The Perfect System for the Work You Do

The **QSight LC/MS/MS System** combined with the **QSight LX50 UHPLC System** provides the capability and confidence you need to analyze some of the most complex food, and environmental samples.
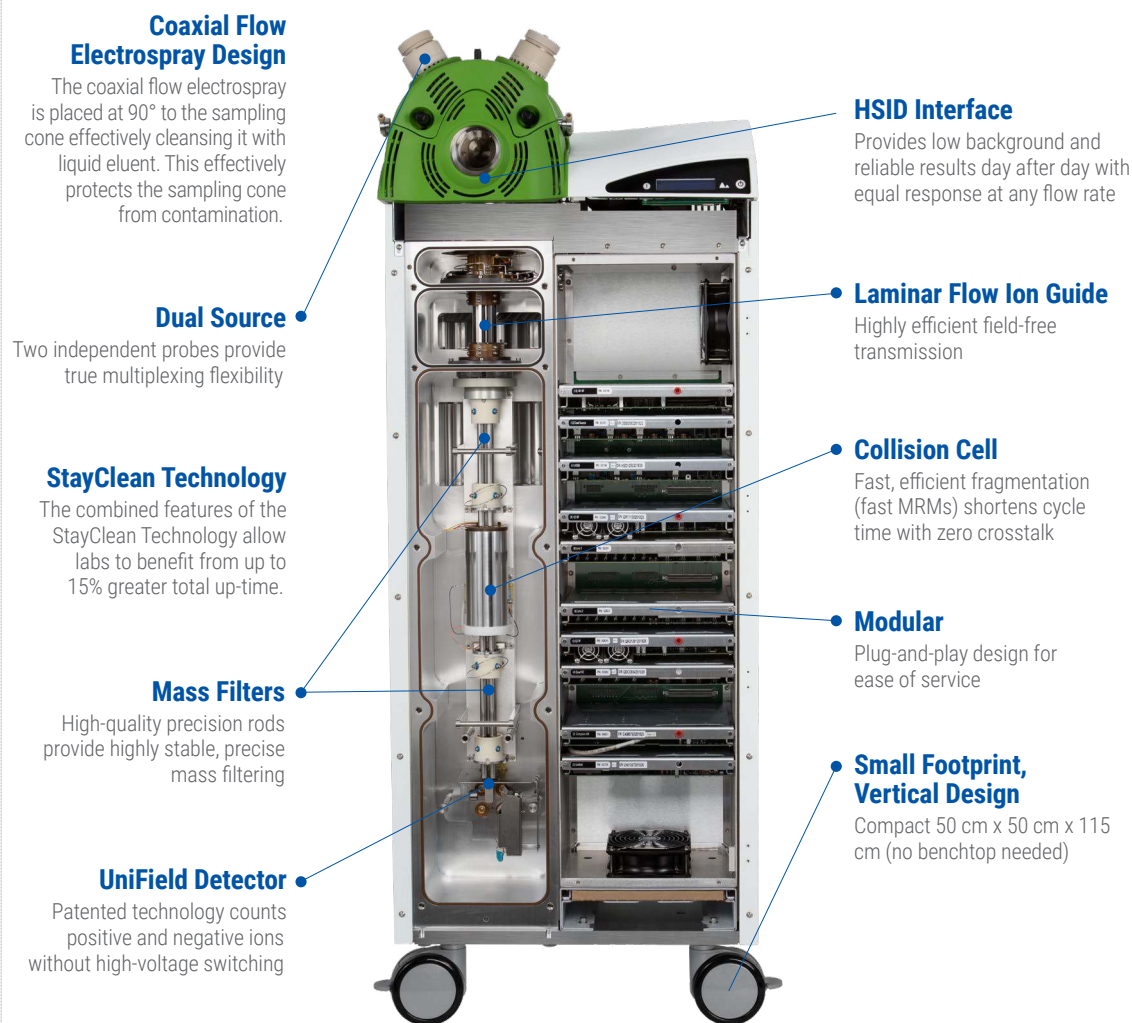
Futureproof Your Lab

The robust, powerful **QSight 420 LC/MS/MS system** delivers the sensitivity and throughput that commercial testing labs, global food manufacturers and exporters, and highly regulated labs need to meet the most stringent requirements.

Your Lab Workhorse

When uncompromising – and accessible – high performance is needed, the **QSight 210/220 LC/MS/MS system** provides sensitivity with high throughput for confident quantitation in commercial testing, food manufacturing, cannabis analysis, and environmental quality control.

Extraordinary Performance for Everyday Analysis

For routine analysis of everyday samples in simpler matrices, the **QSight 110 LC/MS/MS system** delivers rugged high performance, linearity, and sensitivity in an affordable, compact footprint.

Coaxial Flow Electrospray Design
The coaxial flow electrospray is placed at 90° to the sampling cone effectively cleansing it with liquid eluent. This effectively protects the sampling cone from contamination.

Dual Source
Two independent probes provide true multiplexing flexibility

StayClean Technology
The combined features of the StayClean Technology allow labs to benefit from up to 15% greater total up-time.

Mass Filters
High-quality precision rods provide highly stable, precise mass filtering

UniField Detector
Patented technology counts positive and negative ions without high-voltage switching

HSID Interface
Provides low background and reliable results day after day with equal response at any flow rate

Laminar Flow Ion Guide
Highly efficient field-free transmission

Collision Cell
Fast, efficient fragmentation (fast MRMs) shortens cycle time with zero crosstalk

Modular
Plug-and-play design for ease of service

Small Footprint, Vertical Design
Compact 50 cm x 50 cm x 115 cm (no benchtop needed)
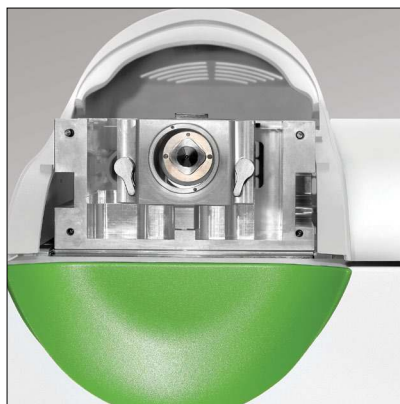
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See What's Below The Surface

From food to environmental testing, the robust and reliable QSight LC/MS/MS System consistently delivers the throughput and productivity you need in your analytical testing lab.

Two Sources Are Better Than One

The system features a **Dual Source configuration** that can be set in electrospray ionization (ESI) or atmospheric pressure chemical ionization (APCI) modes, allowing for combinations such as ESI/ESI, ESI/APCI, and APCI/APCI, with the same or opposite polarities and with rapid and automated probe switching. Our dual-source technology offers data collection in two complementary modes, providing the capability to analyze a broad range of polar and nonpolar molecules by QSight instrument alone. These two independent ion inlets enable multiplexing capability and provide significant advantages in rapid method development.

High Sensitivity, Even Higher Productivity

Achieve more productivity leveraging the **StayClean™ Technology** – The StayClean™ Technology helps reduce the matrix-induced contamination and minimizes the need for time-consuming maintenance.

The combined features of the StayClean Technology allow labs to benefit from up to 15% greater total up-time, equivalent to adding about 35 days of lab time each year!

The StayClean Technology features three elements:

1. Coaxial flow electrospray design

2. Hot-Surface-Induced Desolvation (HSID™) System

3. Laminar Flow Ion Guides™

The Most Efficient Desolvation Process

The coaxial flow **electrospray design** prevents dispersion of like charge species in front of the sampling orifice, which creates more effective ion sampling and leads to greater sensitivity. With no cross-flow, turbulent formation is minimized, and ion fluctuation is reduced.

From the coaxial flow region, samples pass the Hot-Surface-Induced Desolvation (HSID™) System. The 350° heated inner surface and a laminar flow of gas shield ions and solvated species from striking the HSID walls, acting as constant cleaning mechanisms. Additionally, solvated species gain energy from the hot gas and become desolvated. This enables enhanced uniform response across the entire mass range with no lens optimization.
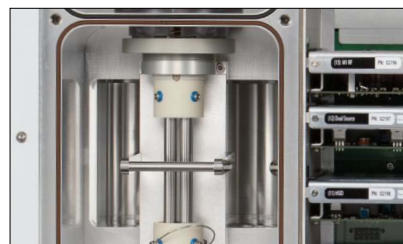
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See What's Below The Surface *continued...*

Go with the Flow

Ions are transferred from the HSID interface to the system's **Laminar Flow Ion Guide™**, then moved to the analyzing region by a flow of background gas – no axial electrical fields are necessary. This means the system is not susceptible to field fluctuations and delivers consistently high levels of performance. Instrument drift and frequent re-optimization and cleaning are eliminated, for better productivity.
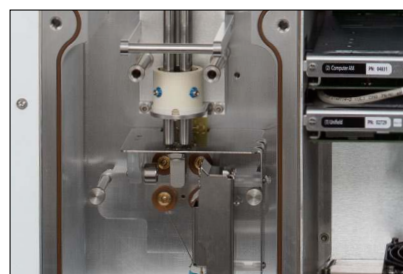

Innovation for Higher Performance

The patented **High-Performance Mass Filter** is the first of its kind, providing high resolution without sacrificing transmission. You get better selectivity better signal-to-noise ratio with no compromise in sensitivity.

Fast, Efficient Fragmentation

The QSight triple quad **collision cell** is designed for fast and efficient fragmentation. Its special design helps create a high field at entrance and a low field at exit, facilitating ion movement quickly by field gradient. This rapid movement shortens cycle time (fast MRMs) without signal loss and with nearly zero crosstalk, high sensitivity.

See How Easy It Is to Switch

With its high-energy dynode to attract positive ions, the QSight system's **UniField Detector™** causes positive ions to collide with the dynode to form electrons (which cascade into the detector) while negative ions are detected as usual for pulse counting. What you get is near-simultaneous detection of positive and negative ions without the need for high-voltage switching. Polarity switching happens in microseconds, limited only by the ion source and ion path polarity switching – not by the detector. The fast polarity switching results in larger number of analysis in a single run.

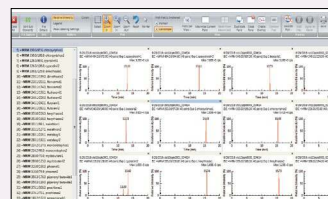PerkinElmer®
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Software That Drives Lab Efficiency

From method development to results processing, you need software that supports and drives lab efficiency. Simplicity 3Q Software enables intuitive, straightforward operation, with wizards guiding you through the workflow.

The comprehensive Simplicity 3Q software suite modules include:

Simplicity 3Q Acquire Software
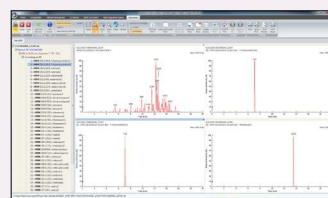
Simultaneous review of several analyte MRMs.

Real-time acquisition of more than one thousand MRMs and simultaneous display of large numbers of transitions, making it the ideal choice for high-throughput laboratories.

Simplicity 3Q Quant Software

Intuitive result table display focuses on results needed for a quantitation workflow.

The go-to software for rapid MRM method development, data analysis, and reporting, perfect for autopopulation in data acquisition files, for an exceptionally smooth, streamlined workflow. Simple-to-use data processing modules enable you to visualize all the key data parameters, chromatogram integration, sample accuracy, and important calibration curves on a single screen.

Simplicity 3Q View Software

Displays and processes live or post-acquired data.

Delivers flexible multianalyte viewing, overlay plotting, and signal-to-noise analysis and ion source controls that support the system's dual-source technology, for high throughput, accelerated compound development, and easy system optimization. It also provides total ion currents (TICs) and extracting ion currents (XICs) for data exploration and evaluation, including background subtraction and signal to noise.

Simplicity 3Q Software Compliance

Simplicity 3Q Software streamlines regulated laboratory compliance activities, incorporating e-signature, user management, role management, project management, file versioning and approve/review features to support 21 CFR Part 11 and ISO 17025 regulations in one, easy-to-use platform. Additionally, managers can customize user access directly in the Simplicity 3Q Software environment, mitigating many unnecessary IT challenges.

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Connect Data and Automate Workflows

For high-productivity labs performing testing on cannabis and food samples, the QS-Works 420 system delivers a connected suite of technologies that supports your automation and high-throughput requirements.

The holistic laboratory execution system (LES) integrates data across all instruments, enabling you to process more samples per shift while maintaining high data quality. The QS-Works 420 portfolio is designed especially for accredited laboratory environments. Here's a sample workflow for cannabis:

- ONE Pesticide420™ reagent kit
- QSight 420 LC/MS/MS
- Cannabis-specific testing methodology
- JANUS® G3 420 workstation
- Integrated SimplicityLab420™ software for cloud-based data management

See how our technology works together.

SimplicityLab 420™

WEIGHT & SAMPLE ID | SAMPLE ID & WEIGHT | SAMPLE LIST & BATCH INFORMATION | BATCH & QUALITY CONTROL INFORMATION | SAMPLE RESULTS & BATCH INFORMATION | SAMPLE & QC TEST DATA | METRC & COA Report

RECEIVE & WEIGH SAMPLES
Measure cannabis or hemp sample for analysis

SAMPLE PREPARATION
Use the JANUS G3 420 workstation with ONE Pesticide⁴²⁰ reagent kit, vortex, centrifuge, and integrated barcode scanner

INSTRUMENT ANALYSIS
QSight 420 LC/MS/MS system completes the entire pesticide and mycotoxin methods

DATA PROCESSING
Supports compliance and client commission on audit (COA) report

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Mass Spec Portfolio Covering All Your Analytical Needs

If your testing lab is tasked with processing high volumes of samples every day, rely on the QSight LC/MS/MS System to help you achieve your productivity goals, regardless of application. With StayClean Technology on the QSight LC/S/MS System, your lab can benefit from the kind of uptime that drives your lab forward.

FOOD SAFETY

ENVIRONMENTAL SAFETY

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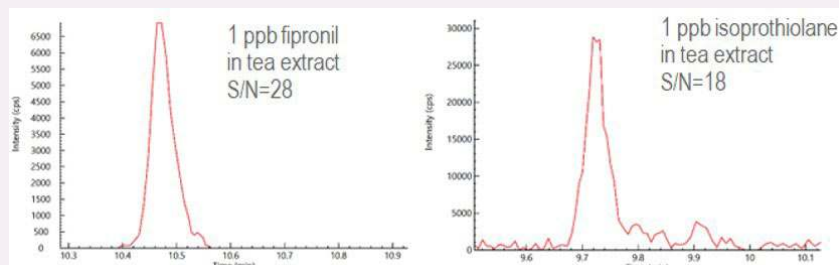*For the Better*

Turning Complexity into Compliance: Food

Our global food supply is regulated by various agencies and standards, which can make it challenging to deliver quality products. To keep up with a complex and constantly changing regulatory environment for manufacturers and commercial testing labs, the QSight LC/MS/MS System proves to be a rugged, reliable solution for addressing food safety applications. With proven performance in multiple matrices, the system allows for ultimate compound diversity coverage on one instrument and minimal matrix-induced contamination.

Ultra Sensitive for Ultra Confidence

Ever decreasing minimum regulatory limits (MRL) provide a challenge to you and your customers. The ultimate sensitivity provided by QSight LC/MS/MS System gives you confidence the pesticide analysis you provide will meet even the toughest regulations in any matrix your customer requires.
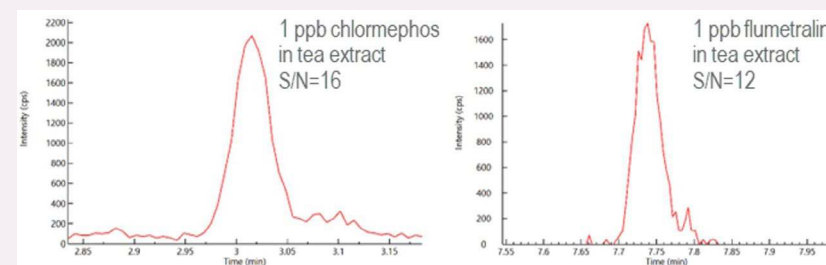
1 ppb fipronil in tea extract S/N=28

1 ppb isoprothiolane in tea extract S/N=18

READ MORE

Increase Productivity with APCI

Dual Source Technology allows you to analyze compounds which would otherwise require an additional instrument. Greater productivity with one instrument reduces pressure on your business and allows you to deliver faster results for your customers. Compounds such as chlormephos and flumetralin can be analyzed with APCI with exceptional sensitivity, meeting EFSA regulatory limits in tea with ease.

1 ppb chlormephos in tea extract S/N=16

1 ppb flumetralin in tea extract S/N=12

READ MORE

- ▶ INTRODUCTION
- ▶ THE PERFECT SYSTEM FOR THE WORK YOU DO
- ▶ SEE WHAT'S BELOW THE SURFACE
- ▶ SOFTWARE THAT DRIVES LAB EFFICIENCY
- ▶ CONNECT DATA AND AUTOMATE WORKFLOWS
- ▶ MASS SPEC PORTFOLIO COVERING
- ▶ TURNING COMPLEXITY INTO COMPLIANCE: FOOD
- ▶ CONSUMABLES: FROM ANALYSIS TO RESULTS
- ▶ AT YOUR SERVICE
- ▶ CONTACT US

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Turning Complexity into Compliance: Environmental

With billions of chemicals released into the environment each year, it's critical that we understand their impact on humans, animals, and plants. Plus, emerging contaminants – pharmaceutical and personal care products (PPCPs), endocrine disrupter compounds (EDCs), polycyclic aromatic hydrocarbons (PAHs), brominated flame retardants (BFRs), and natural toxins – make analysis even more challenging. Labs are looking for reliable methods to detect and quantify environmental contaminants, and our QSight LC/MS/MS System provides an ideal solution for screening, identification, and quantitation of low-level chemical contaminants in the environment.

Rugged Solutions for PFAS Analysis

Governmental agencies acknowledge the need for continuous monitoring of per- and polyfluoroalkyl substances (PFAS) levels in a variety of samples, calling for a highly sensitive LC/MS/MS system and preparation technique that includes a concentration step. The QSight LC/MS/MS System with HSDI and Dual Source Technologies help reduce matrix-induced contamination with more uptime and productivity for labs analyzing PFAS.

Learn About Improved Throughput for PFAS

CLICK HERE

Learn About Detecting PFAS in Drinking Water

CLICK HERE

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- ▶ INTRODUCTION
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- ▶ SEE WHAT'S BELOW THE SURFACE
- ▶ SOFTWARE THAT DRIVES LAB EFFICIENCY
- ▶ CONNECT DATA AND AUTOMATE WORKFLOWS
- ▶ MASS SPEC PORTFOLIO COVERING
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Consumables:
From Analysis to Results

A seamless supply of high-quality laboratory consumables is vital to ensure optimal performance. Our broad range of validated columns, cartridges, vials, and other required consumables and spares supports your chromatographic separation and mass spectrometry experiments. Our comprehensive portfolio of consumables and accessories is designed to ensure you receive accurate, repeatable results throughout the lifetime of your instrument.

QSight SP50 Online Solid Phase Extraction (SPE) System

QSight SP50 UHPLC and SPE modules allow you to switch from traditional UHPLC analyses to fully automated, online solid-phase extraction and sample preconcentration.

The QSight SP50 automated sample handler – a high-precision UHPLC autosampler – is designed to accurately introduce samples from a variety of vial formats and coordinate the flow switching required for online SPE. The QSight SP50 high-pressure dispenser provides accurate delivery of conditioning, washing, and loading solvents at controlled flow rates and pressures of up to 300 bar. The HPD lets you select up to nine solvents, so you can create the optimal sample preparation method.

Complete the system with the QSight LX50 solvent delivery module and the QSight LX50 column temperature module to create the ultimate high-performance UHPLC-SPE system.

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At Your Service

A true analytical workflow depends on knowledgeable, dedicated support, every step of the way. Maximize your analytical workflow – from beginning to end – with the PerkinElmer portfolio of services.

TRUST IN OUR EXPERTISE

Instrument Services

- Optimize for uptime
- Enhance productivity
- Routine and scheduled maintenance
- Compliance with regulatory standards

Compliance Services

- Instrument qualification
- Data integrity
- Computerized system validation (CSV)

Education Services

- Classroom and online training
- Basic on-site training
- Advanced on-site training

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For more information visit www.perkinelmer.com/QSightLCMSMS

For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

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