

QuEChERS Sample Preparation

AUTOMATED SYSTEM

Fully automated laboratory analysis from sample to result — ensuring more efficient, accurate, and reliable testing



01

TRUE WALKAUTOMATION

Improved efficiency through complete end-to-end automation from sample weighing to clean extract injection.

02

REDUCED HUMAN ERROR

Increased data accuracy by eliminating manual handling steps that introduce variability and contamination risk.

03

FULLY TRACEABLE PROCESS

Enhanced data reliability with complete audit trail logging every step of the sample preparation workflow.

04

FLEXIBLE MODULE DESIGN

Modular configuration adapts to diverse matrices including vegetables, tea, grains, soil, and biological samples.

KEY CAPABILITIES

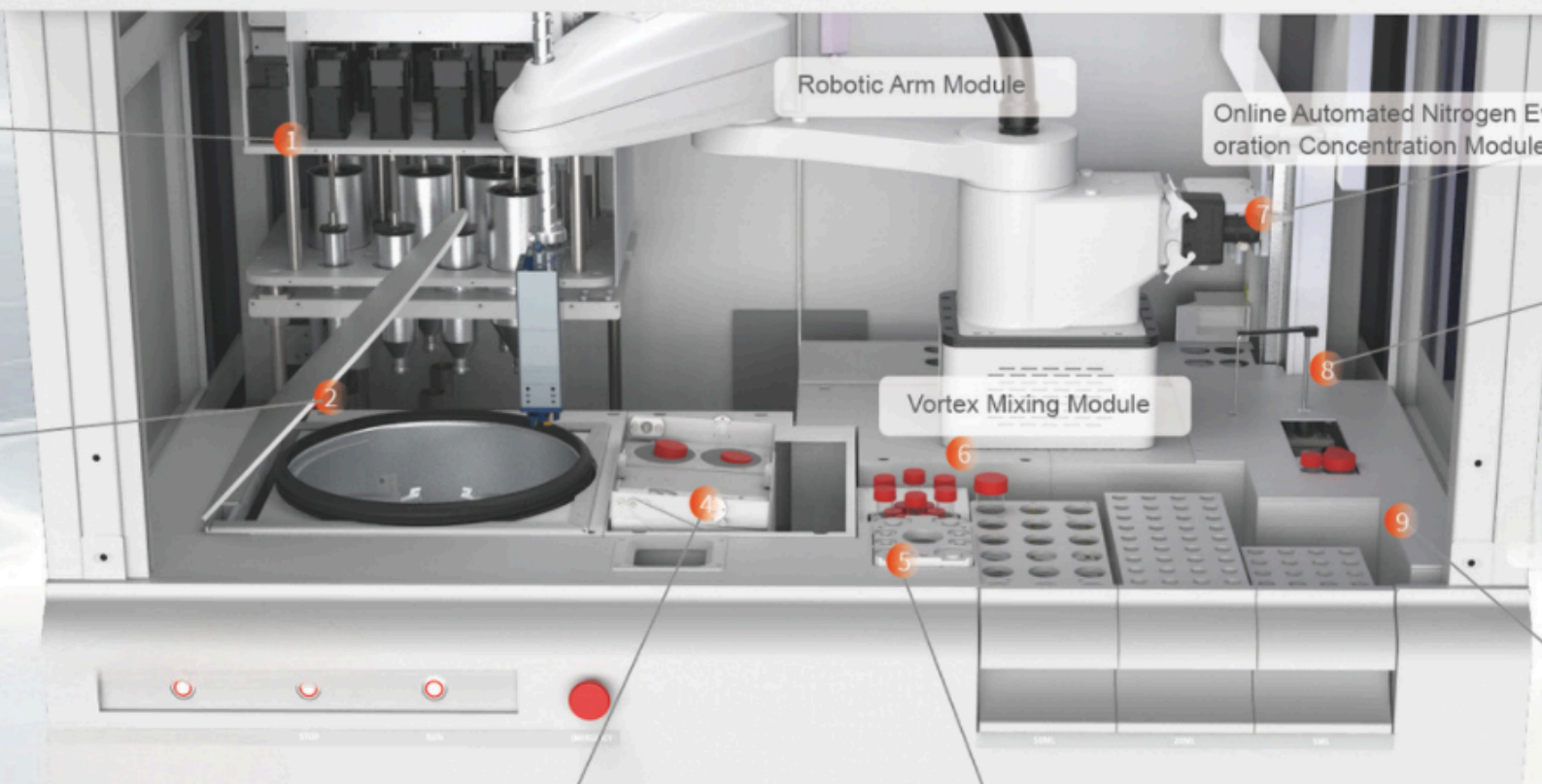
- Automated weighing, extraction, cleanup and concentration
- Compatible with GC-MS/MS and LC-MS/MS analytical systems
- Independent precise addition of up to ten powder types
- Online automated filtration before MS injection

- Nitrogen blow-down evaporation with near-dryness detection
- Online solvent exchange for compliance with GB 23200.113
- Intelligent sensors for automated process control
- Seamless downstream connection to analytical instruments

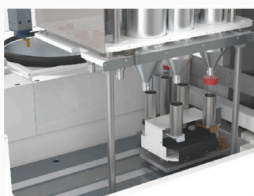
QuEChERS Sample Preparation

AUTOMATED SYSTEM

NWPEC

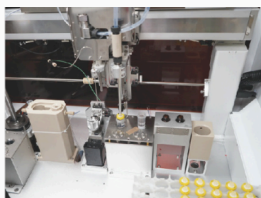


ADVANTAGES



FLEXIBLE POWDER DISPENSING

- Independent, precise addition of up to ten powder types
- Supports mg-level GCB, PSA, C18 sorbent dispensing
- Separate powder addition reduces costs by over 40%
- Ideal for method development and optimization
- Compatible with mixed salt packs and cleanup salts



ONLINE FILTRATION

- Removes particulate impurities before MS injection
- Achieves true end-to-end automated pretreatment
- Seamless connection with LC/MS/MS and GC/MS/MS
- Eliminates manual filtration steps and contamination
- Enables fully automated pesticide residue analysis



NITROGEN EVAPORATION

- Automated solvent exchange per GB 23200.113-2026
- Intelligent sensors determine blowdown status
- Highly sensitive independent sensors per channel
- Concentrates to near-dryness for optimal recovery
- Reconstitution with ethyl acetate for GC analysis

AUTOMATED CONFIGURATIONS

Fully Automated Laboratory Analysis from Sample to Result

QuEChERS Sample Preparation AUTOMATED SYSTEM — GC-MS/MS

QuEChERS Sample Preparation AUTOMATED SYSTEM — LC-MS/MS

True walkaway automation — improved efficiency
Reduced human error — increased data accuracy
Fully traceable process — enhanced data reliability



RELIABLE INSTRUMENT MANUFACTURING & SERVICES

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QuEChERS Sample Preparation System

AUTOMATED SYSTEM

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SOLID DOSING MODULE

Reservoirs	10 independent
Salt Packet Compat.	All major brands
Dosing Precision	≤ 3 mg
Customizable Formulas	4 formulas
Reservoir Capacity	450g / unit
GCB Dosing Acc.	20mg, ≤15% CV

SAMPLE RACK & CAPPING

Sample Capacity	48 × 50mL tubes
Sim. Capping/Decapping	2 tubes (50/15mL)
Autosampler Vials	64 pos. (1.5/2mL)

INTERNAL STANDARD

Reagent Positions	3 × 8mL vials
Dispense Volume	10 µL - 300 µL
Repeat. / Precision	≤ 1% / ≤ 2.5%
Needle Washing	Inner + outer wall
Wash Solvents	2 types

SOLVENT ADDITION

Solvent Types	4 types
Dispense Volume	10 µL - 300 µL
Repeat. / Precision	≤ 1% / ≤ 2.5%
Channels	4 channels
Needle Washing	Inner + outer wall

MIXING MODULES

Shaking Frequency	≥ 900 rpm
Shaking Throughput	4 samples
Vortex Frequency	≥ 2000 rpm
Vortex Throughput	4 samples
Tube Compatibility	50mL / 15mL

PIPETTING MODULE

Pipetting Volume	1 - 8 mL
Prec. / Repeatability	≤ 2.5% / ≤ 1% RSD
Channels	4 channels
Needle Washing	Inner + outer wall

PERFORMANCE HIGHLIGHTS

50+	vet. drug compounds
10000	rpm max centrifugation
48	sample positions (50mL)
10	salt reservoirs
4	pipette & filtration ch.

CENTRIFUGATION

Capacity	8 tubes
Tube Type	50mL / 15mL
Max Speed	10000 rpm
Refrigerated	Std. (≤ 4°C)

NITROGEN EVAPORATION

Channels	8 independent
Heating Temp.	Ambient - 60°C
Indep. Valves	Yes
Near-Dry Detect.	≤ 30 µL
Fume + Exhaust	Yes

FILTRATION MODULE

Filter Positions	60 positions
Filter Type	Syringe filter
Sim. Filtration	4 channels
Clog Detection	Yes
2nd Filtration	Yes

ROBOT & SOFTWARE

Arm Type	SCARA Robot
Interface	Touch-screen
SW Design	Drag-drop modular
Data Mgmt	Multi-level access
Built-in Methods	Std. packages
Vet. Drug SW	Included

DIMENSIONS

Size W×D×H	2100×900×2100mm
Design	Floor-stand, casters

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