

System Specifications

Automation	
Sample Types	QuEChERS extractions for pesticide residue samples according to either AOAC Method 2007.01 or EN Method 15622.2008
Sample Capacity	Automation of up to 40 QuEChERS samples
Sample Vials	The AutoMate-Q40 only supports 50 mL polypropylene conical centrifuge tubes purchased from Teledyne Tekmar
Extract Cleanup Vials	The AutoMate-Q40 only supports 15 mL polypropylene conical centrifuge tubes purchased from Teledyne Tekmar
Final Extract Vials	The AutoMate-Q40 only supports 15 mL polypropylene conical centrifuge tubes purchased from Teledyne Tekmar
Vial Transport Device	X, Y, Z robotic arm including vial gripping assembly
Vial Transport Device Positioning	X, Y, Z robotic arm is accurate to within +/- 1 mm

General Specifications	
Dimensions	44" H x 64"W x 27" D (111.76 cm x 162.56 cm x 68.58 cm)
Power Requirements	575 Watts, 100/115 VAC, 50/60 Hz, 5 Amps 575 Watts, 230 VAC, 50/60 Hz, 2.5 Amps
Environmental Specifications	Operating temperature: 10 ° to 30 °C; storage temperature: - 20 ° to 60 °C; relative humidity: 10% to 90%
Corrosion Resistance	The side panels, back panel and deck are corrosion resistant
Certifications	CE

Standard Injection	
Standard Injection System	Up to 3 standard injection vessels utilizing a 9-port valve and 250 µL syringe drive
Capacity	Each standard vessel can be individually dosed in increments of 25 µL up to 250 µL per vessel
Precision	< 5% RSD measured by weight (n=10)
Accuracy	+/- 10%
Consumption	25 µL per 25 µL injection
Standard Vessels	Three 15 mL standard vessels, UV-protected for added standard stability
Preservative	The third internal standard vessel can be configured for preservative dosing to the final extract vial in 25 mL increments up to 250 mL

Solvent Delivery	
Solvent Delivery	Up to 3 solvents can be employed utilizing a 9-port valve and 27 mL syringe drive. The solvent tray can accommodate two 4 L jugs, or up to three 1 L jugs and a 1 L waste jug.
Solvent Delivery Volume	Solvents can be delivered in 0.1 mL increment volumes between 0 mL to 25 mL
Solvent Delivery Precision	< 1% RSD (n=25 @ 10 mL delivery volume measured by weight)
Solvent Delivery Accuracy	+/- 2%
Solvent & Standards Flowpath	1/8" & 1/16" (0.3175 cm & 0.15875 cm) Teflon™ tubing for solvent and standard delivery

Pneumatic Specifications	
Pneumatic Pathway	1/4" & 1/8" (0.635 cm & 0.3175 cm) Polyurethane
Air Supply	House Air or Compressor; Incoming Pressure: 100-125 psi, (125 psi max)

From Homogenate to Final Extract...

System Specifications Cont'd

Sample Transfer	
Sample Transfer Precision	< 1% RSD (n=10 @ 6 mL & 8 mL delivery volume measured by weight)
Sample Transfer Accuracy	+/- 2%
Sample Transfer Flowpath	Disposable 1 mL conductive pipette tips. (NOTE: The AutoMate-Q40 only supports pipette tips supplied by Teledyne Tekmar)
Vial Vision (Patent Pending)	The AutoMate-Q40 is equipped with VialVision to determine the amount of solvent that is available for removal from the vial
Vial Vision Accuracy (Patent Pending)	The VialVision™ system is accurate with +/- 20%

System Control	
Instrument Control	TekTouch™ software is installed on the onboard computer
Language	TekTouch™ can easily be translated into any language via text file modification
Method Storage	Infinite method storage including preprogrammed methods
Method Scheduling	Samples can be run from any position in the sample sequence. Samples are parallel processed as defined by the schedule. Up to three standards can be added to any user-specified position.
System History	The system records a complete history of all sample, schedule and method information
Revision Control	The system records and saves changes to methods, schedules and configurations

Mechanism	
Sample Vortexing	Samples are vortexed at 3000 RPM
Sample Vortexing Time	Samples can be vortexed between 0 – 30 minutes
Solid Dispenser Volume	Single dosage volumes variable between a minimum volume of 3.20 cc and a maximum volume of 8.19 cc (with the standard AOAC & EN salt mixture densities this is approximately 4-9 grams). Each sample can receive between 0 to 3 doses.
Solid Dispenser Hopper	The salt dispenser is designed to hold 2 kg of salts as specified in the AOAC Method 2007.01 or EN Method 15622. Salts are stored in the hopper under a dry air blanket to prevent the adsorption of water. (All salts used in the dispenser must be purchased from Teledyne Tekmar.)
Solid Dispense Precision	< 5% RSD (n=20 @ 7.5 g)
Solid Dispense Accuracy	+/- 5%
Sample Shaking	Samples shake at 420 oscillations per minute
Sample Shaking Time	Samples can shake between 0 – 30 minutes
Centrifuge	The four position centrifuge is capable of spinning either two 50 mL or two 15 mL vials. (The centrifuge requires the use of a counterbalance to allow a single sample to be centrifuged.)
Centrifuge Pull	Samples experience a minimum of 1500 Relative Centrifugal Force (RCF)
Centrifuge Time	Samples can be centrifuged between 0 – 60 minutes