

Quadra4

Liquid Handling Workstation

- A flexible and rugged fixed-head workstation ideal for automated pipetting across a wide range of production and R&D workflows.
- Highly precise and consistent liquid handling results for 96, 384 ANSI microplates
- Wide spectrum flow-rate with the sensitivity and utility to handle a wide range of aqueous and organic solutions within the same workflow
- Process logs for assay validation and QC with full barcode support for LIMS integration
- Intuitive and flexible Graphical User Interface (GUI) for setup and monitoring workflows.



TOMTEC Quadra4

With over 40 years of experience in automated liquid handling, the Tomtec Quadra4 is the latest incarnation of a best in class rugged, cost effective liquid handling workstation for life science work-flows. Whether you are doing in-vitro research, developing new molecular entities, conducting solid-phase extraction or serial-dilution - the Quadra4 will accelerate your process and time to discovery for your most challenging problems. The workstation is engineered around a reliable fixed-head air displacement syringe design, which services a six station shuttle. The six stations can support a wide range of accessories for automating complex work-loads like solid phase extraction (SPE) and an optional plate-stacker can be used to queue up to 50 assays. This innovative, fully automated workstation delivers unprecedented speed, flexibility and precision with the lowest cost of ownership of any liquid handling workstation in only 30" of bench space.

The Quadra4 base feature set

Each Quadra4 system is custom crafted in our Connecticut facility, to your exact needs. Our field engineers work with your research team to understand your work-flows and expectations, and then recommend the best possible solution at the best possible price. Once your new unit is received, our engineers come back and install, test and train your team on how to get the most value from your Tomtec investment.

With both air displacement pipetting or positive displacement design available, in conjunction with an indexing microplate stage, the Quadra4 allows the support of complex pipette work-loads found on workstations that cost five-times its price. In addition, the optional automated plate stackers provide true walk away assay automation. The following list provides a high level overview of capabilities and features.

Bioanalytical Applications

- 450ul tips with a cannula to access deep well plates
- Aqueous, to organic, to aqueous, without a tip change
- Manual or automated vacuum box options
- Stacker in-feed/out-feed for microplates and reservoirs provides walk away automation
- Six station shuttle to support multiple microplates and reservoirs
- SPE Liquid/Liquid extraction, optional positive pressure SPE
- Ultrasonic tip washing

General Capabilities

- Flexibility to support 96 well pipetting with either 450ul, 250ul, 50ul, or 20ul clear plastic tips
- Automated serial dilution with either 8 or 12 tips
- Pipette multiple reagents, within the same tip, using air gap separation to accelerate work-flows
- Non contact dispensing
- Reformat 96 to 384 and/or 1536 well assays

Precise Assay Automation

- Precision 96 well positive displacement pipetting at 60ul to 0.5ul @ $\pm 2.5\%$
- Precision 384 well positive displacement pipetting at 60ul to 0.5ul @ $\pm 2.5\%$
- Automated 96 to 384 to 1536 reformatting

Full custom configurations

Tomtec, Inc is a full service US manufacturer with in-house CAD, tool & die design manufacturing and engineering support. This allows us to quickly design develop and deploy custom manufactured component and/or fixtures to meet your demanding workflow needs.

Quadra Product line accessories

Tomtec offers a wide range of accessories and options for the Quadra4. This includes hot/cold plates with precision temperature control, programmable shaker nest, ultrasonic bath, storing reservoir, contaminated tip removal fixture, alignment block, among others.

Example Configurations by Application

	Pipette Head Configuration	Quadra4 Hardware Options		Station Accessories
High Throughput Screening for NME	<ul style="list-style-type: none"> • 96 channel DMV pipette head • 384 channel 60µL Stainless steel pipette head 	<ul style="list-style-type: none"> • Quadra indexing stage for Serial dilution & Reformatting with Individual Tip Loader • Bi Directional Stacker with temp. control for continuous runs • Enhanced Pneumatic Control System 	<ul style="list-style-type: none"> • N₇ Blow-through with vacuum control • Thermal lamination unit to seal assays • Sample Identification Module Barcode Reader for LIMS integration • Automated vacuum filtration 	<ul style="list-style-type: none"> • Temperature controlled heating station • Shaker Nest Assembly • Constant Level Re-circulating Reservoir System - Includes: Reservoir, Peristaltic Pump, and Tubing Kit.
Solid Phase Extraction	<ul style="list-style-type: none"> • 96 channel 4S0µL pipette head • 96 channel DMV pipette head 	<ul style="list-style-type: none"> • Quadra indexing stage for Serial dilution & Reformatting with Individual Tip Loader Enhanced Pneumatic Control System • Auto Regulated Vacuum Trap 	<ul style="list-style-type: none"> • Automated Filtration System • Sample Identification Module • Barcode Reader for LIMS integration • Bi Directional Stacker for continuous runs 	<ul style="list-style-type: none"> • Ultrasonic tip wash System • Shaker Nest Assembly • Heat/Chill Nest (Peltier) • Positive Pressure SPE
Sandwich ELISA	<ul style="list-style-type: none"> • 96 channel 4S0µL pipette head 	<ul style="list-style-type: none"> • Quadra indexing stage for Serial dilution & Reformatting with Individual Tip Loader • Enhanced Pneumatic Control System 	<ul style="list-style-type: none"> • Sample Identification Module • Barcode Reader for LIMS integration 	<ul style="list-style-type: none"> • Ultrasonic tip wash System • Shaker Nest Assembly • 3 - Heat/Chill Nest (Peltier)
Genomics - Sample preparation and PCR	<ul style="list-style-type: none"> • 96 channel 4S0µL pipette head 	<ul style="list-style-type: none"> • Enhanced Pneumatic Control System • Sample Identification Module • Barcode Reader for LIMS integration • Auto-Mag (Magnetic Plate Nest) 96 Well 		<ul style="list-style-type: none"> • 3 stainless steel Coated Aluminum Reservoir • Ultrasonic tip wash System • Shaker Nest Assembly • Heat/Chill Nest (Peltier)
Drug testing (metabolites - NIDA-5)	<ul style="list-style-type: none"> • 96 channel 60µL stainless steel pipette head 	<ul style="list-style-type: none"> • Quadra indexing stage for Serial dilution & Reformatting with Individual Tip Loader • Enhanced Pneumatic Control System • Sample Identification Module • Barcode Reader for LIMS integration 		<ul style="list-style-type: none"> • Ultrasonic tip wash System • Constant Level Re-circulating Reservoir System - • Includes: Reservoir, Peristaltic Pump, and Tubing Kit. • Shaker Nest Assembly

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