automated liquid handling platform with eight channels

The automated liquid handling platform is a fully automated liquid handling system with a high degree of modularity and scalability, enabling flexible configuration of different functional modules to suit various liquid handling needs.

Automated Liquid Handling Platform

Main Features

1. Multi-functional pipetting module: Choose between 2-channel flexible or 8-channel fixed pipetting for a wide range of sample volumes and throughput needs.
2. High safety design: Pressure-sensitive liquid level detection monitors fluid in real time—prevents overflow and operational errors; transfer monitoring mechanism prevents accidents during plate transfer.
3. Fully automated operation: Integrates heating, oscillation, temperature control, and more for complete automation and minimal manual intervention.
4. Compact design: Small footprint fits easily into biosafety cabinets—saves bench space and maintains lab cleanliness/safety.

5. Rich function module support: Heating, oscillation, temperature control, magnetic separation modules for diverse liquid handling tasks (mixing, temp control, separation).
6. Air displacement principle: Ensures precise aspiration/dispensing for accurate liquid distribution across volumes and viscosities.
7. Pressure-sensing liquid level detection: Advanced real-time monitoring prevents overflow and misuse during pipetting.

System Advantages

1. Flexible expansion: Modular design lets you add/remove function modules as needed (distribution, mixing, temp control, separation).
2. Efficient automation: Reduces manual work, improves consistency, lowers errors/deviations.
3. Space-saving & safe: Compact form factor for biosafety cabinet placement—maximizes space and operational safety.
4. Improved repeatability: Automated, standardized operation ensures consistent and reliable experimental results.
5. User-friendly interface: Intuitive controls and simple module configuration—no programming required.

Working Principle

1. Air displacement pipetting: Servo-controlled piston changes air pressure for precise liquid aspiration/dispensing.
2. Pressure-sensing detection: Real-time liquid level monitoring ensures safe, accurate handling.
3. Modular scheduling: Dynamic module addition/removal (temp, oscillation, magnetic separation) optimizes workflow.
4. High-precision pipetting: Servo motor guarantees accurate liquid distribution.

Application Areas

1. Life science research: PCR prep, DNA/RNA extraction, cell culture automation.
2. Drug screening: Compound addition, gradient dilution, dose-response curves.
3. Clinical testing: Automated sample and liquid distribution for consistent results.
4. Immunology research: Automated ELISA, antibody screening, dilutions.
5. Environmental & food safety: Microbial/toxicological testing, precise liquid handling.
6. Chemical analysis: Sample addition, mixing, reactant distribution for efficient/stable reactions.

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Model	**AH8M**
Pipetting range	10uL to 1000uL
Accuracy	2uL less than 5%, 200uL less than 0.75%
Volume increment	0.1uL
Technical principles	air displacement type
Functional Modules	Heating, oscillation, temperature control, oscillation temperature control, magnetic module
Number of plate positions	11
Safety protection	can be placed in a safety cabinet
Robot arm	8-Channel Pipette Module, Flexible 2-Channel Pipette Module, Grab Wrench
Robot arm accuracy	±0.1 mm on X,Y,Z axes
External dimensions	675mmx510mmx610mm

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Model	**AH8M**
Weight	42kg
Liquid level detection	pressure sensitive
Powwer supply	100Vac to 240Vac, 50/60Hz