AlphaTool Automated pipetting robot

Smart Fast Prolongable

Traditional manual pipetting has limitations on sample volume and is prone to relatively large errors. Laboratory automation can free up both hands, reduce errors, and enhance the efficiency and accuracy of pipetting tasks. MGI AlphaTool is a high-precision desktop-level automated pipetting robot that offers a range of liquid handling functions, including pipetting, dispensing, aliquoting, mixing, gradient dilution, and reagent preparation. With both single-channel and 8-channel pipettes, it is compatible with various samples and consumables, providing exceptional cost-effectiveness. It is the ideal choice for optimizing laboratory automation.

Rapid pipetting

It can fill a 96-well plate in as fast as 22 seconds, equipped with both single-channel and 8-channel pipettes, meeting precise pipetting needs ranging from 1 to 1000 μL.

Flexible configuration

12 plate positions, modular hardware, flexible and customizable tabletop

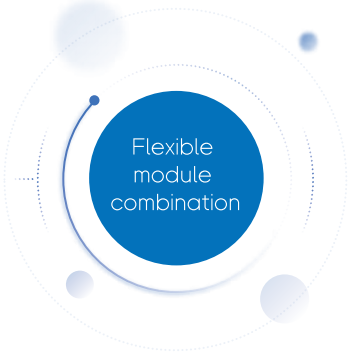
User friendly

The visual interface is simple and easy to understand. One-click to complete a variety of complex experimental processes via the customized script editing.

High compatibility

Compatible with many reagents and consumables on the market and compatible with standard SBS utensils. Standard API interface that supports being integrated as a unit of work.

- The use of air displacement pipetting technology, rather than system liquid as a medium, effectively avoids cross-contamination
- It covers both single-channel and eight-channel pipettes, capable of precise pipetting ranging from 1μL to 1000μL.
- The 96-well plate can be filled within 22 seconds
- Pipetting Precision: 1μL CV≤5%

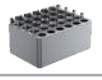


- It has 12 plates, plus a waste container, compatible with ANSI/SBS standard labware
- With 4 module power interfaces, easy integration
- Functional modules that can be integrated on demand, and multiple platform configurations can provide powerful and personalized solutions for laboratories

◎ Function module and its parameters

Item NO.	Function modules			Parameter
Standard configuration		Single Channel Electronic Pipette	1-Channel pipettes enable highly accurate pipetting, optimized for automation.	Pipetting range: 1~1000μL; Pipetting Precision: 1μL≤5%
Standard configuration		8 Channel Electronic Pipette (fixed spacing)	8-Channel Electronic Pipettes automate liquid handling and pipetting for most daily wetlab applications. Best for medium- to high-throughput workflows.	Pipetting range: 1~200μL; Pipetting Precision: 1μL≤5%
960-001320-00		Test tube opening and covering module	For opening and closing the lid of test tubes	Vacuum blood collection tubes, threaded tubes, cryopreservation tubes, etc. (Special sample tubes can be customized)
960-001317-00		Gripper Module	The AlphaTool Gripper attaches to the gantry and is capable of moving labware across the deck and on or off modules such as the Magnetic Block or Thermocycler. It can also access the additional slots to the side of the main deck to replenish tips or labware. The gripper can be used with any pipette configuration.	Swivel gripper
960-001336-00		Thermocycler Module	Is a fully automated on-deck thermocycler, providing hands-free PCR in a 96-well plate format.	Temperature range: 4°C~99°C Communication interface:USB, RJ45
960-001313-00		Heater-Shaker Module	The AlphaTool Heater-Shaker Module, compatible with both the robots, provides on-deck heating and orbital shaking of microplates. The module can be heated to 90℃, and can shake samples from 100 to 1800 rpm. It is compatible with a number of deep-well and 96-well plates. The Heater-Shaker can be used simultaneously with other AlphaTool modules.	Temperature range: room temperature ~90°C Shaker frequency: 100rpm~1800rpm Shaker time: adjustable Shaker level: 0 ~ 10 adjustable Incubation temperature range: room temperature ~95°C (room temperature when not heated) Incubation time: adjustable For SBS compliant microporous plates
960-001314-00		Temperature Module	Is a fully automated thermoelectric module and integrated for use with the AlphaTool platform. It is used to achieve temperature changes ranging from 4 to 95°C for various applications.	1, Temperature range: 2-95℃ (Among them: cooling temperature: 2-8℃, heating temperature: room temperature -95℃) 2, Applicable to microplate in accordance with SBS standard.
960-001312-00		Magnetic Module	AlphaTool Magnetic Block is a 96-well magnetic well plate holder containing static ring magnets, specifically designed for use with the AlphaTool Robot. Use it with the Gripper and skirted 96-well PCR or deep-well plates to facilitate quick and efficient separation using magnetic beads.	Matching deep welll plate, PCR plate and other types of microhole plate； Magnetic range: above 2600 gauss
960-001310-00		HEPA Module	The AlphaTool HEPA Module removes 99.9% of 0.3 um DNA-containing particulates and biological contaminants like bacteria, fungi, and other microorganisms from the air, creating a clean work environment. The AlphaTool HEPA Module utilizes a replaceable HEPA filter. It is manufactured to fit tightly to the top of your AlphaTool and filter the room air, maintaining a clean bench environment for the samples on the deck.	The filtration efficiency of 0.3μm diameter particles is not less than 99.9%

◎ Standard complete machine and adapter

Item NO.	Picture	Product Name	Materials included/needed
960-001238-00		AlphaTool Automated piptting robot	Standard :1+ 8-channel pipette *1, basic Hepa*1, (Exhaust fan), waste tip container , UV lamp
962-000064-00		PCR Plate Adapter A (bottom with groove, metal)	Use with full-skirt, half-skirt, or no skirt PCR plates
962-000065-00		PCR Plate Adapter B (bottom with slot, plastic mold opening)	Use with full-skirt, half-skirt, or no skirt PCR plates
962-000073-00		12EP tube, 9 rows of 8- tubes	Use with 1.5ml/2ml centrifuge tubes and 8-tubes
962-000074-00		24EP tube, four rows of 8- tubes	Use with 1.5ml/2ml centrifuge tubes 1.5ml/2ml and 8-tubes
962-000068-00		24-well reagent bottle base (with reagent tank)	Use with 1.5ml/2ml centrifuge tubes and 50m1/100ml reagent tanks
962-000069-00		Reagent bottle base	Use with 1.5ml/2ml centrifuge tubes and 25ml reagent tanks
962-000070-00		Centrifugal tube seat	Use with 1.5ml centrifuge tubes
962-000071-00		24 well cooling adapter block	Use with 2ml cryopreservation tubes
962-000072-00		5ml EP tube rack	Use with 5ml centrifuge tubes

◎ Consumable list

Article number	name	Product description
1000004644	1.3ml U-shaped bottom deep well plate	2 pieces/bag
1000008088	2.2 mL 96-well V Bottom deep well plate	6 plates/pack, 10 pack/ case
091-000165-00	Full skirt PCR plate	10 pieces/pack
962-000076-00	50uL black tips with filter element	96 pieces/box, 50 boxes/each
962-000077-00	50uL clear, tips with filter element	96 pieces/box, 50 boxes/each
962-000078-00	200uL Black tips with filter element	96 pieces/box, 50 boxes/each
962-000079-00	200uL Transparent tips with filter element	96 pieces/box, 50 boxes/each
962-000080-00	1000uL Black tips with filter element	96 pieces/box, 50 boxes/each
962-000081-00	1000uL Transparent tips with filter element	96 pieces/box, 50 boxes/each
091-000487-00	100ml reagent tank (sterilized)	1 piece/pack
091-000488-00	50ml reagent tank (sterilized)	1 piece/pack

- Simple and easy to understand, visual interface, with easy-to-use and customizable preset modes
- Provide customized development value-added services to further enhance the flexibility of experimental analysis

- Support integration with consumable stacks, nucleic acid quantification equipment, sealing and tearing machines and other instruments to achieve full automated process coverage and sample throughput expansion
- Multiple devices can be cascaded to improve design redundancy and fault tolerance
- Can be used as a liquid transfering workstation for TLA protocol, achieving full-process automation of the TLA solution.

◎ Specification parameter

Pipette property	1μL ±10% CV≤5.0% 1000μL ±1% CV≤0.5%
Positioning accuracy of mechanical arm	≤±0.1mm
Overall dimensions (L * W * H)	620*600*700 mm
Weight	36 Kg
Power	200 VA
Rated voltage	AC100V-240V
Voltage frequency	50/60 Hz
Fuse (A)	F10AL 250 V

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