

Galatek

# LIQUID HANDLING WORKSTATION

## Galatek G-Jumbo Professional Liquid Handling Workstation



### Flexible 8-channel

Satisfying all application scenarios  
of liquid handling  
Building a smart and collaborative  
laboratory ecology

Platform  
-based

Multi-  
module

Full-  
featured

Custom-  
tailored

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# Galatek G-Jumbo Professional Liquid Handling Workstation

Galatek focuses on the research and development of robotics and artificial intelligence technology and deeply integrates it into industrial applications, providing advanced intelligent automation products and solutions for customers. The self-developed 8-channel liquid handling workstation Galatek G-Jumbo is equipped with 8 independent 1000 $\mu$ L pipetting channels, features independent and adjustable pipetting spacing and pipetting volume. It is compatible with all kinds of sample, reagent consumables and functional modules, and can be freely configured according to different application scenarios and integrated on demand. It features a special and powerful robotic arm expansion ability to support parallel processing of plate handling and pipetting, and can connect and integrate multiple devices to ensure that it fulfills the needs of various complex laboratory automation scenarios. This workstation is widely used in the fields of bio-pharmaceuticals, life sciences, and clinical diagnostics to continuously optimize experimental reliability and automated uptime, greatly improving efficiency.

## Flexible pipetting module

8 channels of independent and adjustable spacing and liquid level detection  
Fast and high-precision pipetting  
Pipetting range of 2 $\mu$ L-1000 $\mu$ L

## Upgradeable to dual robotic arms

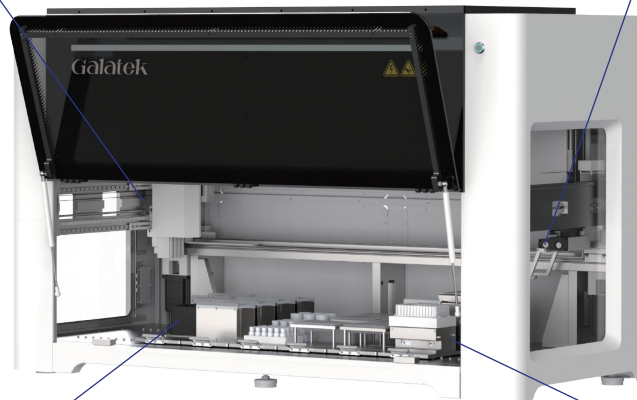
Optional plate handling robotic arm to meet the needs of automation equipments of experimental analysis

## Free configuration for working area

Compatible with different sample tubes: Support blood sampling tube, centrifuge tube, sample tube, etc. Compatible with different consumables: Support deep well plate, cell plate, pipetting tip, etc.

## Personalized module integration

Optional modules for shaking, magnetic stand, barcode scanning, temperature control, etc. One platform, unlimited combinations



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## USAGE SCENARIOS

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General Liquid Handling

PCR Setup

NGS Library Preparation

Blood Dispensing

ELISA Detection

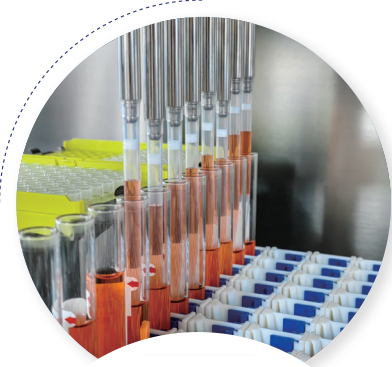
Organoid Culture

High-throughput Drug Screening

Cell Plating and Media Replacement

Plasmid Construction

Enzyme Activity Screening



## Flexible Pipetting Channel

- Adjustable channel spacing from 9 mm-18 mm for fast pipetting from tube to plate
- Each channel can independently detect the liquid level and simultaneously aspirate liquid up to different heights
- Independent Z-axis, enabling convenient realization of functions such as cherry picking and pooling



## Highly Open Software

- Built-in multiple pipetting modes, drag-and-drop process editing
- Graphical worktable design, free to set the deck layout
- Convenient program management design, one-click to start running
- Supports the upgraded functions such as Liquid Class setting, Work List import, CSV import, etc.

## Product Features

### Diversified liquid handling modes backed by professional capability

- Support whole-plate replication or dispensing, compatible with loading slots and 96-well plates
- Liquid transfer from any tubes, plate wells
- Accurately perform gradient dilution by row or column
- Easy to realize the functions of one aspiration with one dispensation, one aspiration with multiple dispensation, "pooling" and "cherry picking"
- Support Liquid Class settings such as Air Gap, aspiration delay
- Easy to realize

### Special expansion ability for the robotic arm to support parallel processing

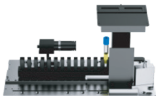
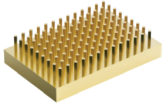
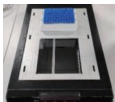
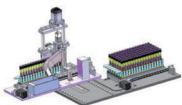
- According to the different application requirements, a platform can be equipped with up to two robotic arms, including robotic arm for pipetting and handling plate
- The integrated pipetting robotic arm adopts pressure detection to ensure stability and efficiency
- Plate handling robotic arm allows 360° rotation to access the whole deck, transferring consumables among different functional areas

### Capable of integrating multiple modules, freely configuring workspace

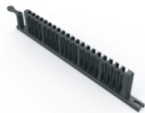
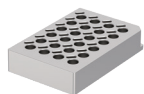
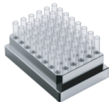
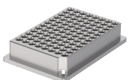
- Compatible with all kinds of consumables including SBS plates, sample tubes, loading slots, and tips, support multiple application scenarios
- Multiple functional modules are available, including modules of temperature control, shaking, temperature control shaking, magnetic stand, barcode scanning etc., which can be integrated and customized on demand
- Freely replaceable carriers support operating platform reconfiguration
- 40 standard SBS plate positions to satisfy different throughput requirements



## Functional Modules

| Photo                                                                               | Name                                                        | Functions                                                                                                                           | Parameters                                                                                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | PCR machine                                                 | Used for enzymatic reactions and PCR reactions in experiments                                                                       | Temperature range: 4°C to 99°C                                                                                                                                 |
|    | Blood separation module                                     | Used to identify and separate complex blood components                                                                              | Blood component dispensing features an ultra-high definition CCD camera to achieve accurate stratification definition of the liquid in the tube                |
|    | Magnetic stand                                              | Used for magnetic bead separation during experiments                                                                                | Match SBS well plates                                                                                                                                          |
|    | Heating and shaking module                                  | Used for magnetic bead separation during experiments                                                                                | Temperature range: RT to 99°C<br>Shaking speed: 50 rpm-2000 rpm                                                                                                |
|  | Temperature control module                                  | To provide shaking and heating function, suitable for SBS microwell plates                                                          | Normal temperature control range: 4°C~90°C, extreme temperature control range: 0°C~110°C                                                                       |
|  | Positive pressure module                                    | Used for solid phase extraction in the sample pretreatment step                                                                     | Precise regulation of pressure and flow for fast SPE. Software controls the flow rate automatically, eliminating the impact of human factors on SPE extraction |
|  | HEPA module                                                 | Basic safety module of the protective barrier for laboratory biosafety                                                              | Support positive or negative pressure, depending on demand                                                                                                     |
|  | 2D code scanning at the bottom of the cryopreservation tube | Used for automatic scanning and identification of the 2D code at the bottom of the whole plate tube in the SBS cryopreservation box | Adaptable to 8*12 or 10*10 cryopreservation box, compatible with various tubes                                                                                 |
|  | Cryopreservation tube capping & uncapping module            | Used for fast and automatic capping and uncapping of the whole plate tube in the SBS cryopreservation box                           | Uncapping time of 96 samples is less than 20 seconds                                                                                                           |
|  | Blood sampling tube uncapping module                        | Automatic uncapping and cap dropping of blood sampling tubes                                                                        | Uncapping speed less than 3 seconds per tube                                                                                                                   |

## Conventional Carriers

| Photo                                                                               | Name                                  | Adaptive Consumables                                                                                                              |
|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
|    | 16-tube carrier                       | Capable of placing 16 tubes, suitable for blood sampling tubes and reagent tubes                                                  |
|    | 20-tube carrier                       | Capable of placing 20 tubes, suitable for blood sampling tubes and reagent tubes                                                  |
|    | 6-tube SBS adapter                    | Capable of placing 6 tubes                                                                                                        |
|    | 12-tube SBS adapter                   | Capable of placing 12 tubes                                                                                                       |
|   | 24-tube SBS adapter                   | Capable of placing 24 tubes, suitable for 1.5mL, 2mL, EP tubes                                                                    |
|  | 48-tube SBS adapter                   | Capable of placing 48 tubes, suitable for 1mL - 4mL sample tubes                                                                  |
|  | SBS well plate carrier                | Capable of placing 1 plate, suitable for SBS standard well plates, such as 96-well/384-well PCR plate                             |
|  | SBS well plate carrier                | Capable of placing 1 plate, suitable for SBS standard well plates, such as deep-well plate, ELISA plate, cell culture plate, etc. |
|  | Tip carrier                           | Capable of placing 1 plate, suitable for SBS standard tip boxes                                                                   |
|  | 5-position conventional carrier plate | Capable of placing 5 plates, suitable for SBS standard well plates, loading slots, and tip boxes                                  |
|  | 8-strip tube adaptor                  | Capable of placing 12 columns, suitable for 0.2mL PCR 8-strip tubes                                                               |
|                                                                                     | Others                                | Support customized carriers based on specific consumables                                                                         |

## Multi-level Liquid Handling Workstations

Suitable for various application scenarios



| Product Model                  |                                                      | Galatek G-Jumbo Professional Liquid Handling Workstation                 |                  |           |
|--------------------------------|------------------------------------------------------|--------------------------------------------------------------------------|------------------|-----------|
| Appearance                     | Dimensions                                           | 1600(W)*780(D)*970(H) mm                                                 |                  |           |
|                                | Weight                                               | 210 kg                                                                   |                  |           |
| Power supply                   | Voltage                                              | 220 VAC                                                                  |                  |           |
|                                | Frequency                                            | 50-60 Hz                                                                 |                  |           |
|                                | Rated power                                          | 320 W                                                                    |                  |           |
| Operating environment          | Temperature                                          | 15°C-32°C                                                                |                  |           |
|                                | Humidity                                             | 30%-80% (No condensation)                                                |                  |           |
| Pipetting environment          | Temperature                                          | 20°C-27°C                                                                |                  |           |
|                                | Humidity                                             | 30%-60% RH (No condensation)                                             |                  |           |
| Pipetting performance          | Pipetting principle                                  | Air displacement principle                                               |                  |           |
|                                | Pipetting range                                      | 1 µL-1,000 µL                                                            |                  |           |
|                                | Pipetting tip type                                   | Flexible 8-channel, the channel spacing is adjustable from 9 mm to 18 mm |                  |           |
|                                | Level detection and following                        | Support                                                                  |                  |           |
|                                | Pipetting precision                                  | Tip size                                                                 | Pipetting volume | Precision |
|                                |                                                      | 10 µL                                                                    | 2 µL             | 5.00 %    |
|                                |                                                      | 10 µL                                                                    | 10 µL            | 3.00 %    |
|                                |                                                      | 200 µL                                                                   | 50 µL            | 2.00 %    |
|                                |                                                      | 1,000 µL                                                                 | 1,000 µL         | 0.75 %    |
| Quantity of SBS plate position |                                                      | 40                                                                       |                  |           |
| Robotic arm                    | Positioning precision                                | X-Y-Z positioning ±0.2 mm                                                |                  |           |
|                                | Maximum number of robotic arms                       | 2                                                                        |                  |           |
|                                | Maximum load of plate handling robotic arm           | 500 g                                                                    |                  |           |
|                                | Maximum rotation angle of plate handling robotic arm | 360°                                                                     |                  |           |

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### Declaration

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