



Arogi Healthcare
Helping Lives

Liquid Handling System



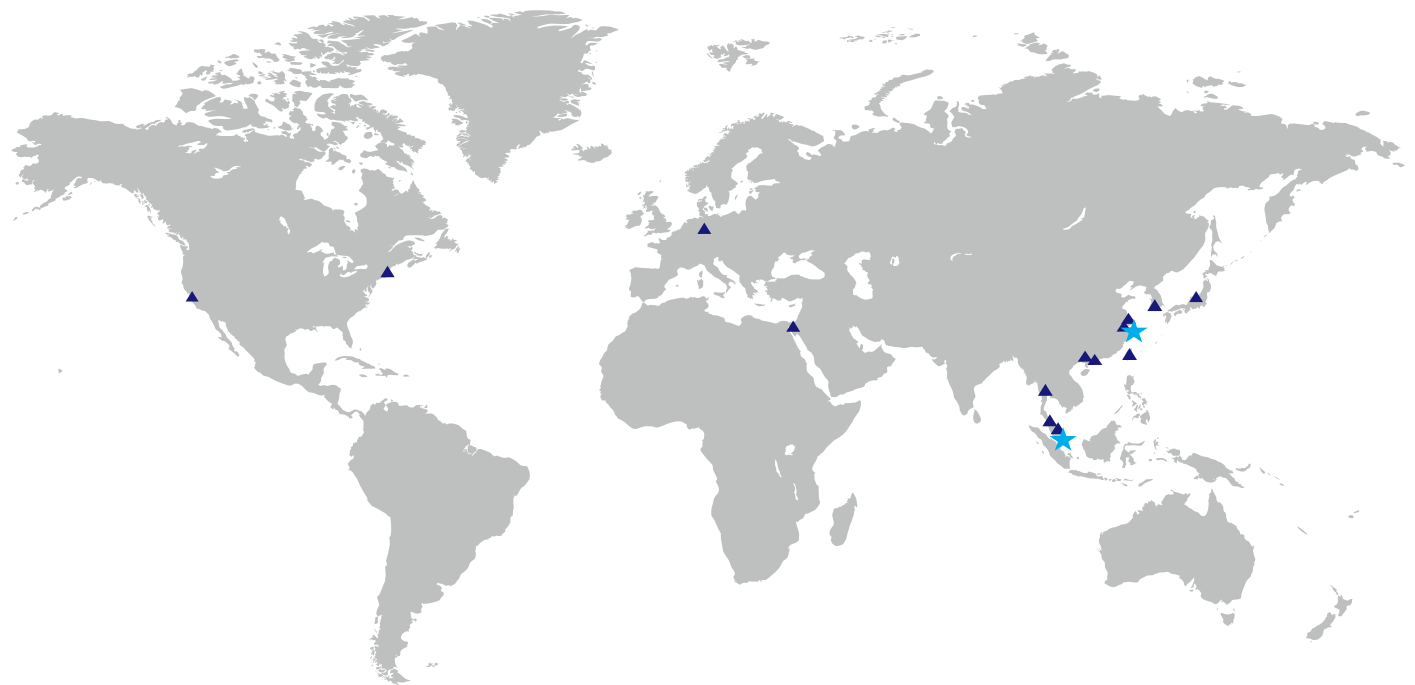
Introduction

Arogi Healthcare (Shanghai) Co., Ltd is a wholly-owned subsidiary of Akribis Systems Pte Ltd. Based on direct drive technologies from Akribis, Arogi develops critical components and entire system of liquid handling and processing system, providing professional automatic equipment for bioscience, disease diagnosis and research in biomedical industry.

The logo consists of triangles and water droplets. Three triangles outside represent simple structures and liable equipment, and three water droplets inside represent liquid handling and processing solutions as Arogi's core business.

With offices in Singapore, China, USA, Germany, Japan, Korea, Malaysia, Thailand, and Israel, Arogi is able to provide liquid handling solutions and customized efficient automatic systems to global customers.

Worldwide Offices



★ Headquarters(Singapore)

▲ Regional sales office

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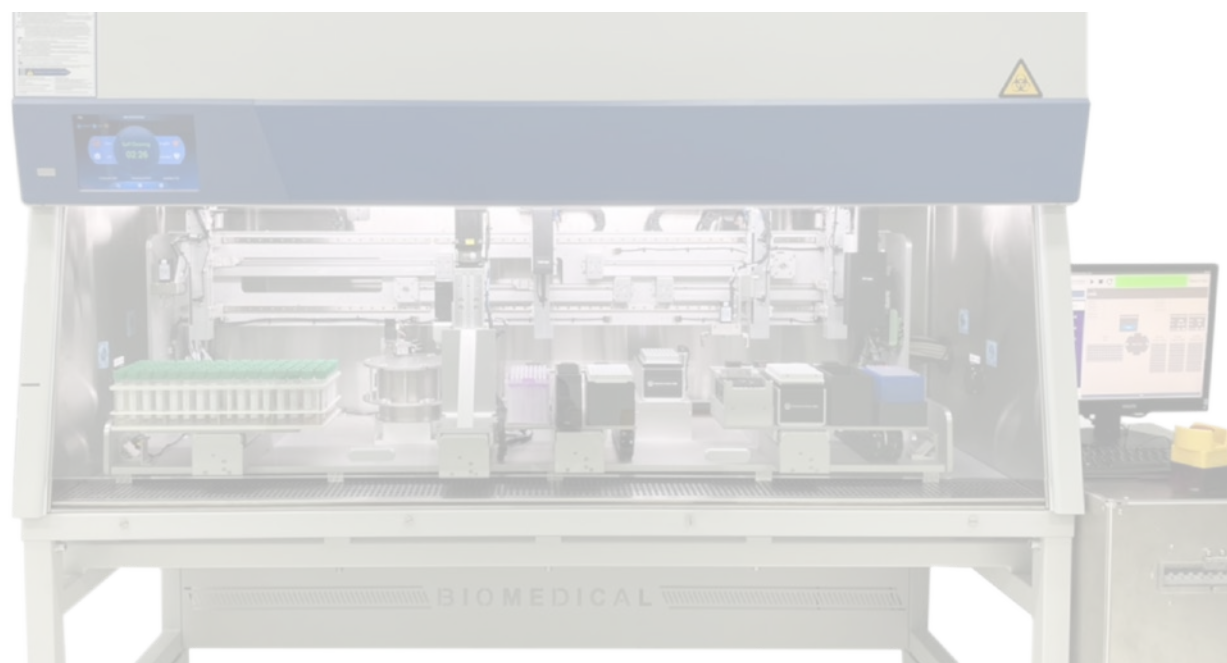
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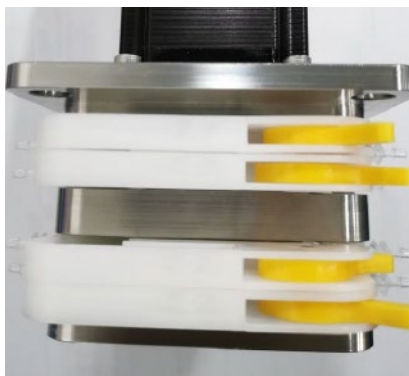
◈ Liquid Dispensing Method

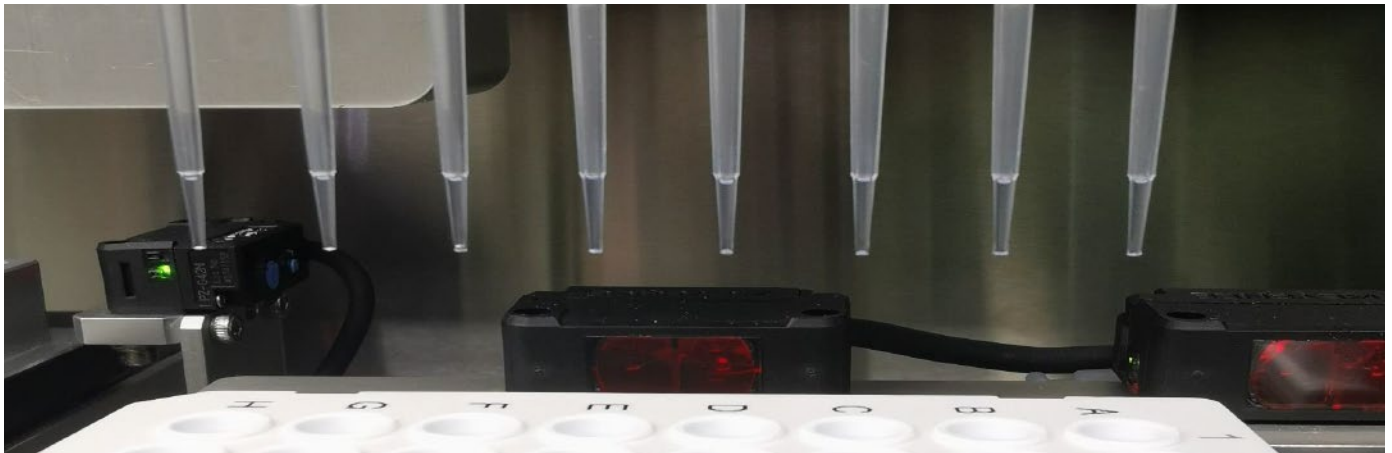


Standard Control Pump & Independent Control Pump

The **peristaltic pump** is ISO 13485 certified. The tested flow rate is 0.33 $\mu\text{l}/\text{min}$ to 39.57 ml/min, within 2% accuracy.

Independent Control Pump consists of 2-, 3-, 4- pump head. Different pump head can be independently controlled at different speed to achieve the required liquid volume. The stainless steel roller make the motion stable and reliable.





Microsyringe (0.25-10 μ l)

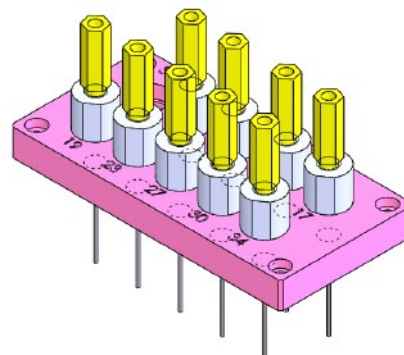
- Direct drive to dispense liquid droplet by using microsyringe
- Surface tension and camera monitoring to ensure 100% liquid dispense
- Reagent cooling at 4 °C
- CV < 10%

Syringe Pump (50-5000 μ l)

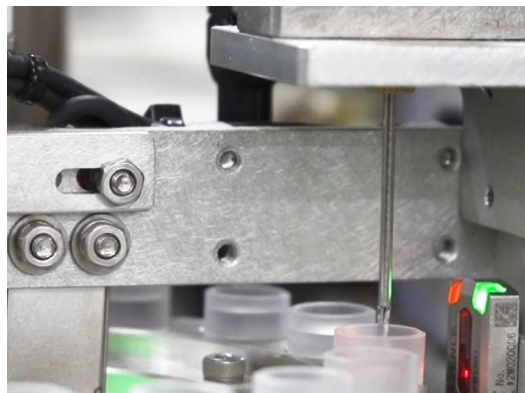
Glass material syringe can avoid corrosion caused by reagents. The communication between pumps uses the RS232 or RS485 daisy chain to keep the wire connections neat.



Syringe pump module



High precision needles in parallel arrangement

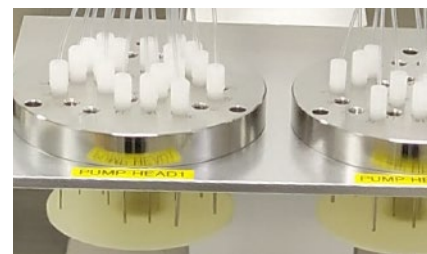


Stainless Steel Needles

- Volume: 10 μ l to 5000 μ l
- Continuous dispense for single or multiple channel
- CV > 2%

Needles Head

- No pipette tips needed
- Independent control of the volume and speed for each channel
- Can use for high viscosity reagent, eg: pure glycerin, lysis buffer and etc
- CV < 2%

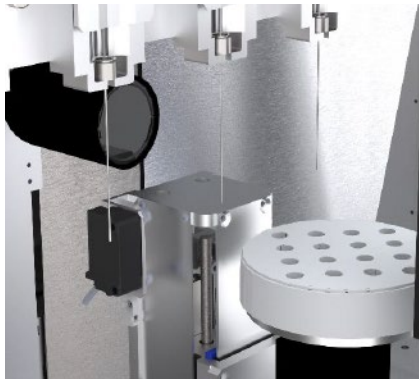


Circular needle head

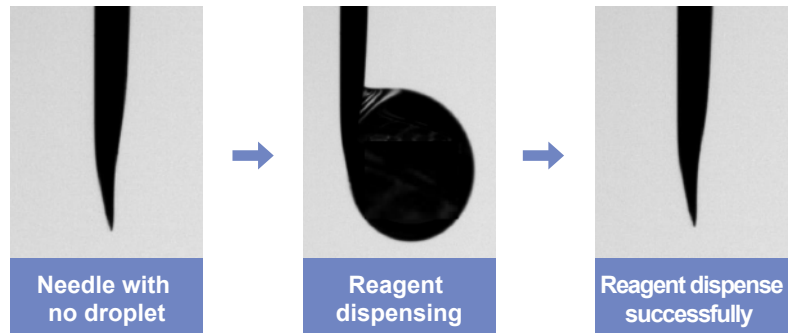


Rectangular needle head

Quality Control Systems



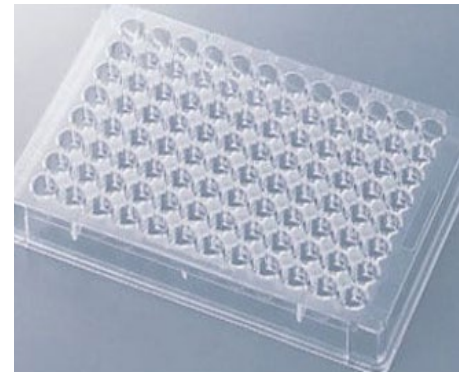
Visual Imaging via Camera



Ultrasonic water surface detection



Canister Sealing



Well plate Sealing

Pick-and-Place Systems



Pick-and-Place Biochip



Pick-and-Place Test tube



Pick-and-Place Well Plate

Customized Solution



Sample Tube Transfer

The tube gripper is able to intelligently detect the presence of samples in the tray positions and recognize the number of input samples.



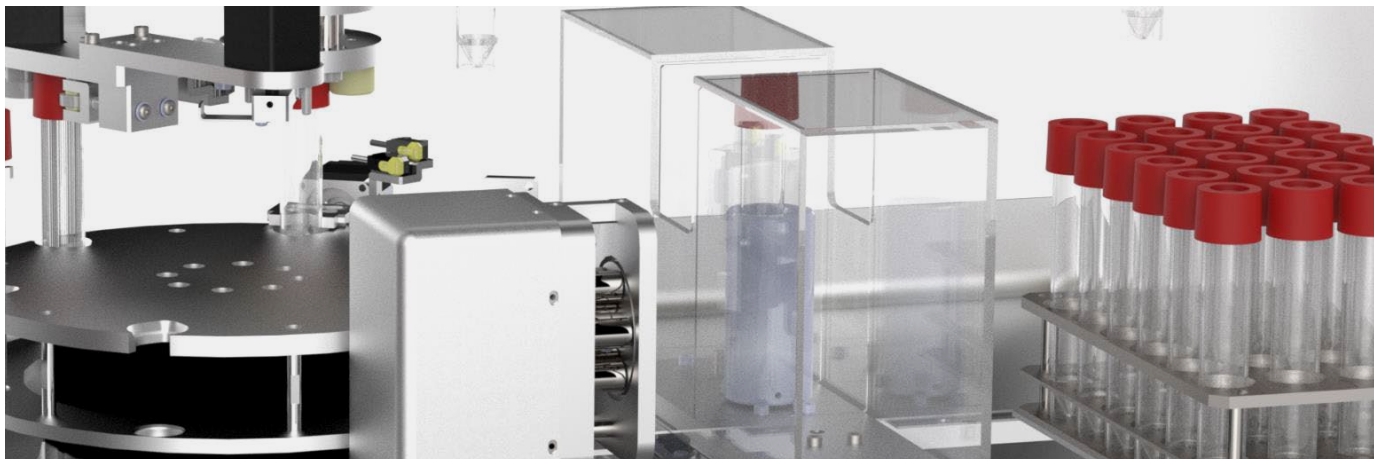
Barcode Scanning

The system can electronically identify each sample, free from human error.



Capping / Uncapping of Sample Tube

Patent pending capping/uncapping technology can run in parallel with the gripper and barcode scanner, making it reliable and fast.



Sample Collecting and Mixing

Sample collection volume can be set within the 50 μl to 1000 μl range, and is achieved without cross contamination. Samples can be mixed using a shaker or by repetitive pipetting.



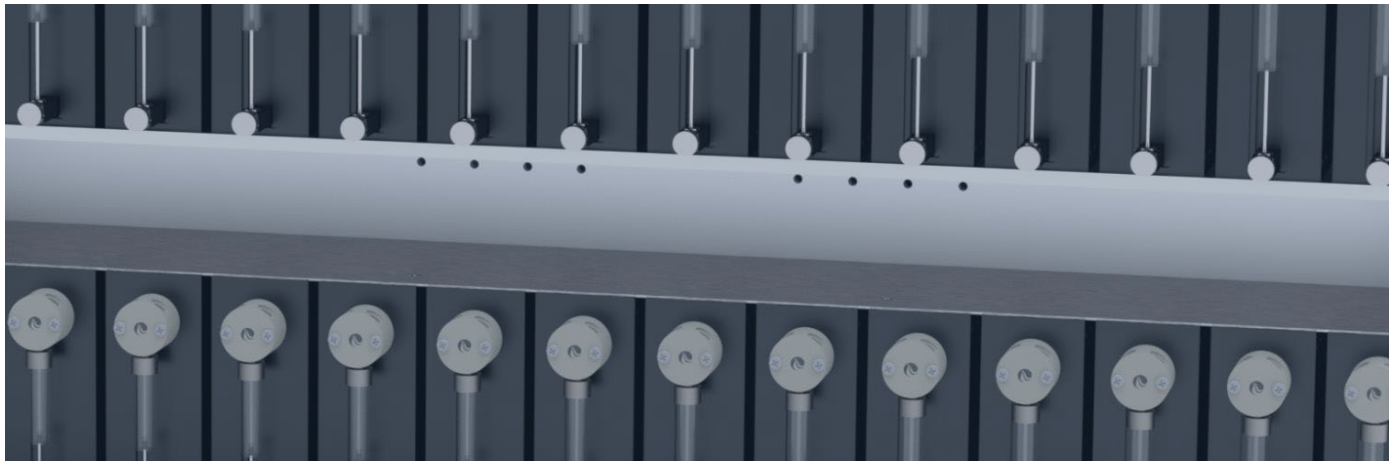
Aspirating on Reagent Surface

Integrated motion control ensures that aspiration follows the liquid surface closely, minimizing reagent loss. Elongated pipette tips are used to prevent cross contamination. Our precise liquid handling provides more accurate and consistent results.

Heating / Cooling

The temperature range is from 4° to 95° , within $\pm 1^\circ$.

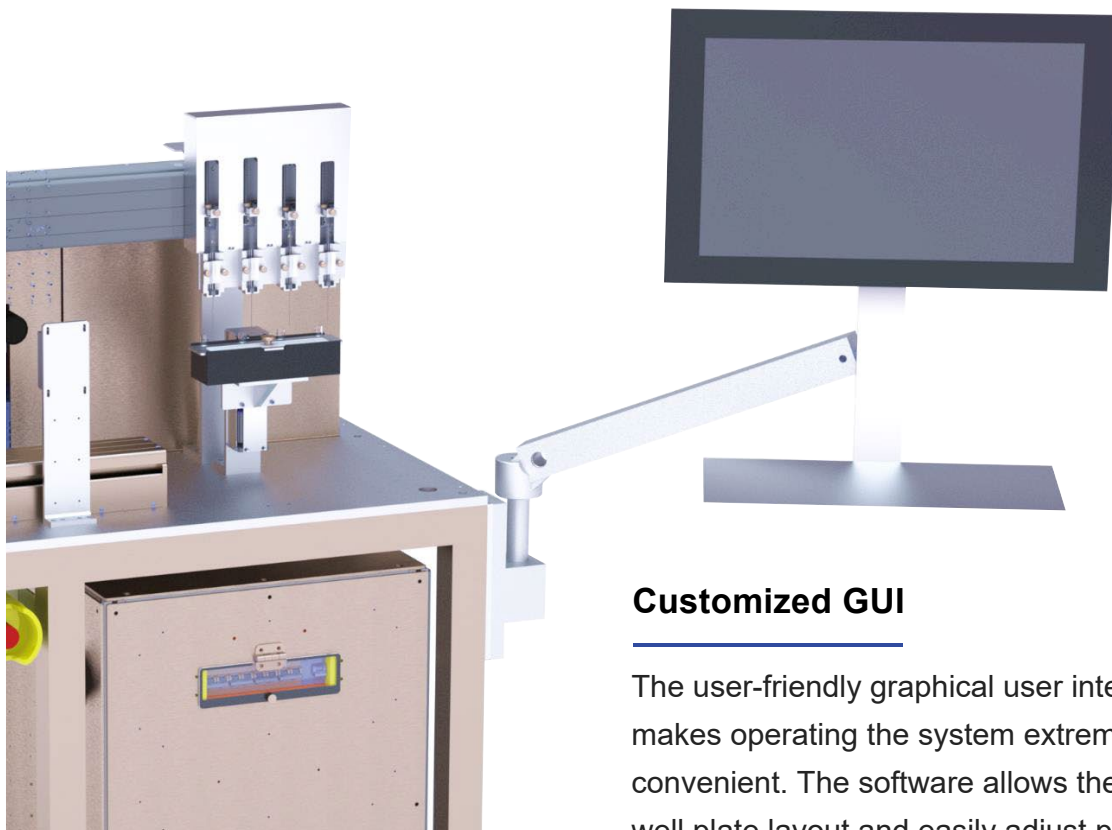




Microsyringe Filling

Small volume microsyringes allow precise aspiration and dispense of liquids. The stainless steel tips can reduce the cost of frequently replacing disposable tips.

The integrated vision system is able to detect the presence of droplets, ensuring reliability and accuracy.



Customized GUI

The user-friendly graphical user interface (GUI) makes operating the system extremely simple and convenient. The software allows the user to review the well plate layout and easily adjust parameters.

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Akribis Systems reserves the right to change the specifications of the product described in this manual without notice at any time.