NAYO

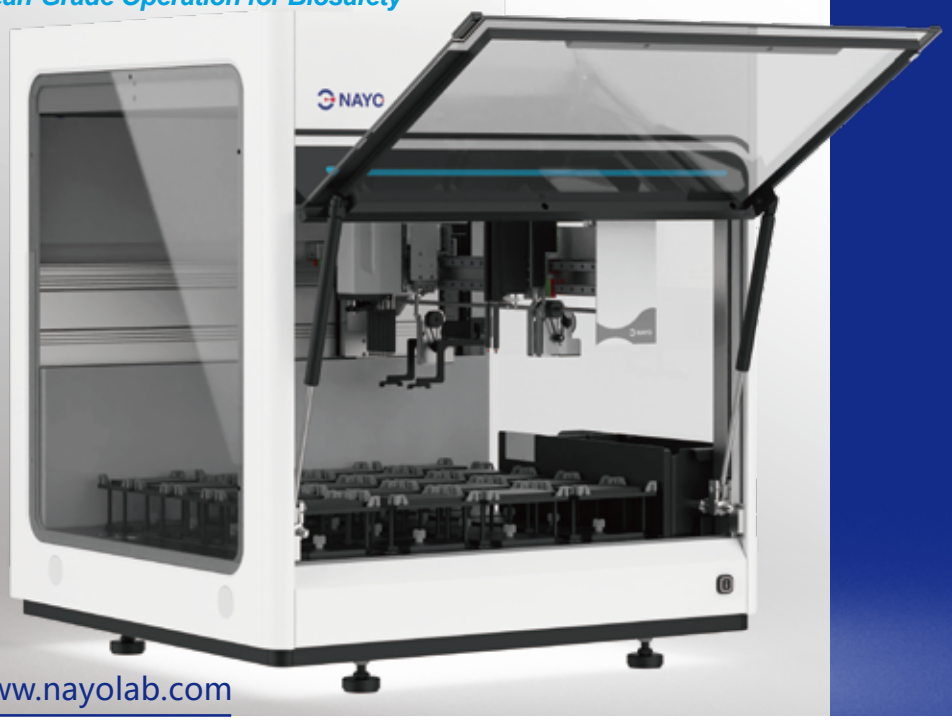
By Precision, For Simplicity

A8 MINI

A8 pro

Automated Liquid Handling Workstation

- *Scalable Deck for Unlimited Potential*
- *Dual-Arm Coordination for Enhanced Efficiency*
- *Clean-Grade Operation for Biosafety*



- www.nayolab.com

A8 pro
Flexible Expansion for Demanding Long Workflows

Scalable Deck for Unlimited Potential:

Featuring X-axis scalable design, it effortlessly handles high-throughput, multi-step, long-duration workflows, enabling a smooth transition from daily tasks to continuous operation.

Dual-Arm Coordination for Enhanced Efficiency:

Supports dual-arm coordinated operation to perform multiple tasks concurrently, significantly reducing cycle times and boosting overall experimental throughput.

Clean-Grade Operation for Biosafety:

Optional HEPA filtration and UV sterilization modules provide a clean and secure environment for sensitive applications including cell culture, sterile sample processing, and pathogen detection.

Product Overview

The A8 pro is a flexibly scalable, professional-grade liquid handling platform. It supports configurations with either a single arm or dual arms, offering over 24 optional combination setups:

- Pipetting Modules: single-channel, dual-channel, flexible 4-channel, flexible 8-channel, flexible 12-channel, fixed 8-channel, and fixed 24-channel

- Extended Modules: Configurable with adaptive force gripper module and tube rotation and gripper module

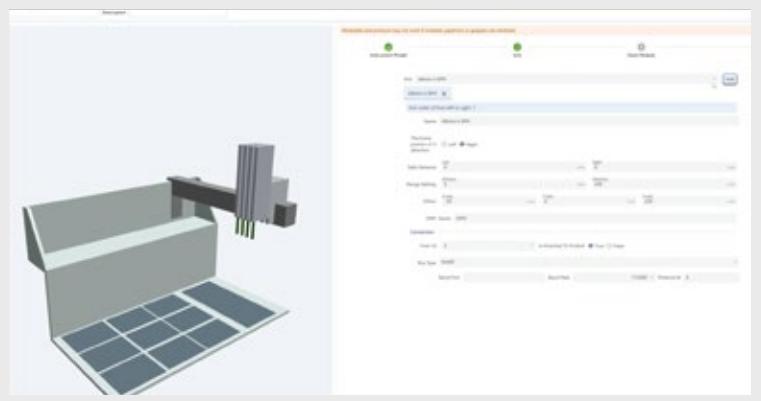
- Multi-Function Arm (MFA): Support the combined use of one fixed 8-channel / fixed 24-channel pipetting module, flexible-channel pipetting modules, and extended modules

With a deck capacity of up to 60 SBS-compatible slots, it can integrate multiple functional modules simultaneously to meet the demands of long and complex experimental workflows.

By integrating third-party device, the A8 pro enables complete end-to-end automation from sample preparation to result analysis, delivering a highly reliable and scalable automation solution for R&D and testing laboratories.

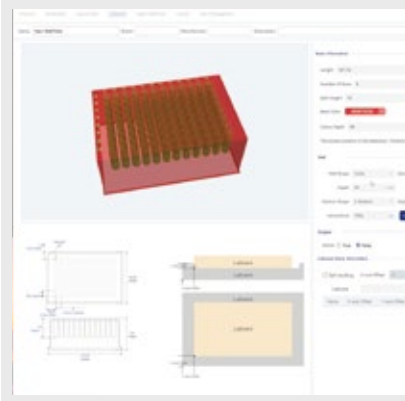
Intuitive Software

Low-Barrier Interface with No Special Training Needed



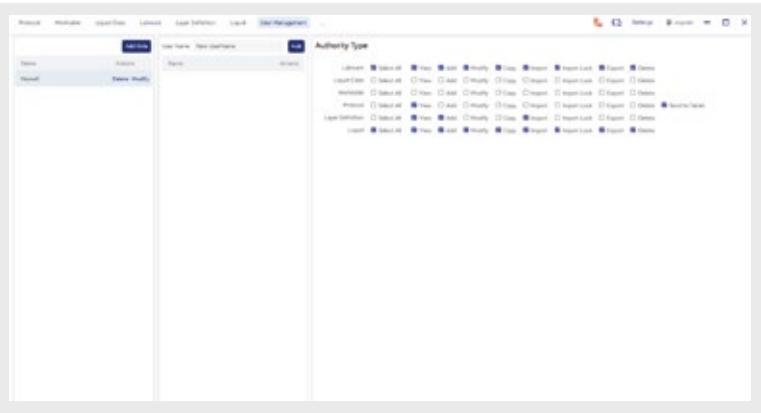
1.Drag-to-Build Experiment & Smart Logical Commands
Users with no programming background can quickly build complex protocols through an intuitive graphical interface by dragging and dropping pre-configured command blocks (e.g., aspirate, dispense, mix, incubate).

Smart logic commands support performing advanced tasks (e.g., parameterized variables), allowing a single protocol template to adapt to daily fluctuations in experimental scale, greatly improving efficiency.

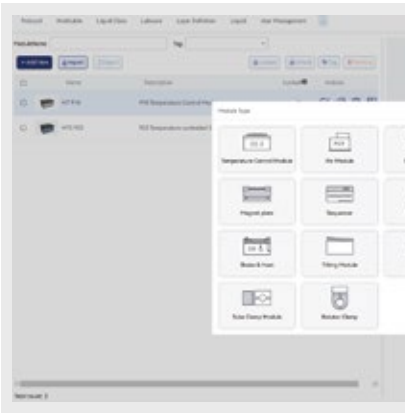


2.Open 3D Labware Library
True-to-Scale Visualization: Include accu
labware, supporting 360° rotation and zoom
protocols.

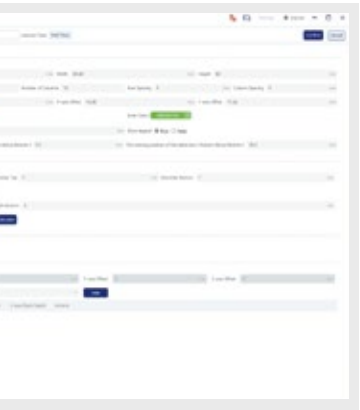
Parametric Customization: Users can qu
by entering key dimensions (e.g., well heig
non-standard or novel consumables.



4.Flexible User Rights Management
With user management, you can set up different privileges to accounts and roles to meet all role-based requirements.



5.Powerful Third-Party Device I
Open communication interfaces e
with third-party device including m
thermal cyclers, creating end-to-e
workflows.



rate 3D models of a wide range of
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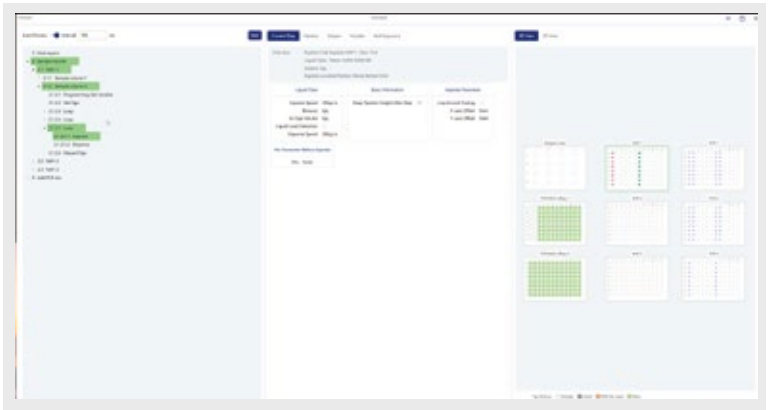
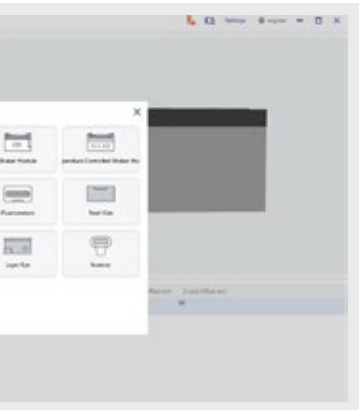
ht, diameter), easily adapting to



3.Run Simulation & Visualization
Clear 2D and 3D run visualization (with adjustable speed) reduces setup time by allowing you to optimize assays from your desktop computer before they occupy the real instrument. This saves you tips, labware, and expensive reagents, and of course, precious instrument time.



ntegration Capabilities
enable seamless integration
nicroplate readers and
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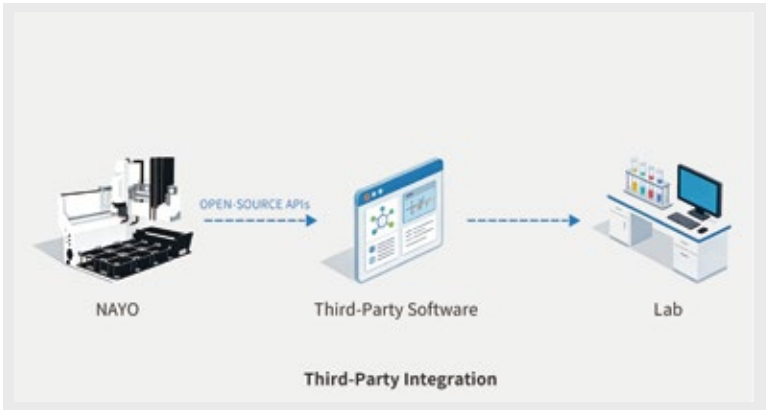


6.Remote Control & Open-Source APIs
Supports remote monitoring and control via network API, and can be easily integrated with laboratory information management systems, laying the groundwork for a smart, unattended modern laboratory.

Core Technology

A8 pro integrates core technologies engineered for complex, long-duration workflows, delivering precision, stability, and efficiency in multi-module coordination and extended operation.

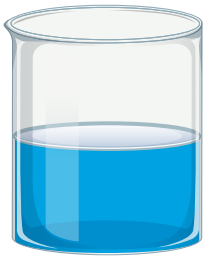
1.High-Precision Pipetting & Liquid Level Detection

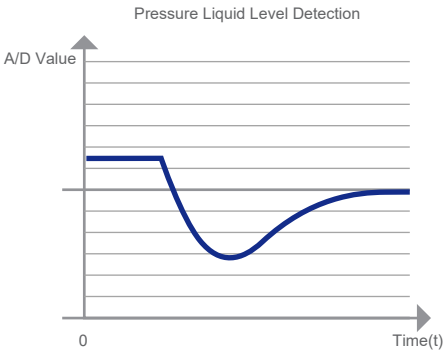
- **Precision Pipetting Ensures Reliable Results:**

Utilizes high-precision servo motors and air displacement technology, with a pipetting range of 1–1000 µL.

- **Pressure Liquid Level Detection (pLLD) Prevents Dry-Aspiration:**

Flexible pipettes use internal pressure sensors to detect liquid in labware. Sensors in the pipettes detect pressure changes relative to ambient pressure. This method is suitable for both polar and non-polar (organic) liquids, effectively preventing dry-aspiration or over-insertion of the tip.

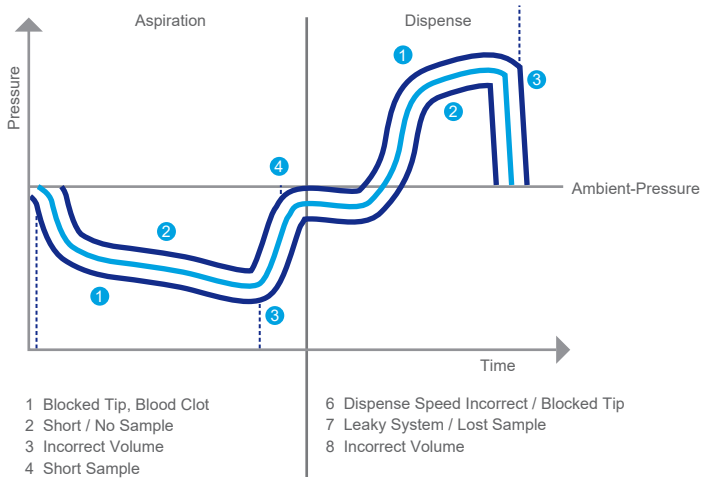




3.Flexible Pipetting Capabilities

- **Asymmetric, Variable Span Aspiration Technology:**

During sample transfers, parameters may be set up for real-time monitoring of each independent pipetting channel during the aspiration and dispensing steps.

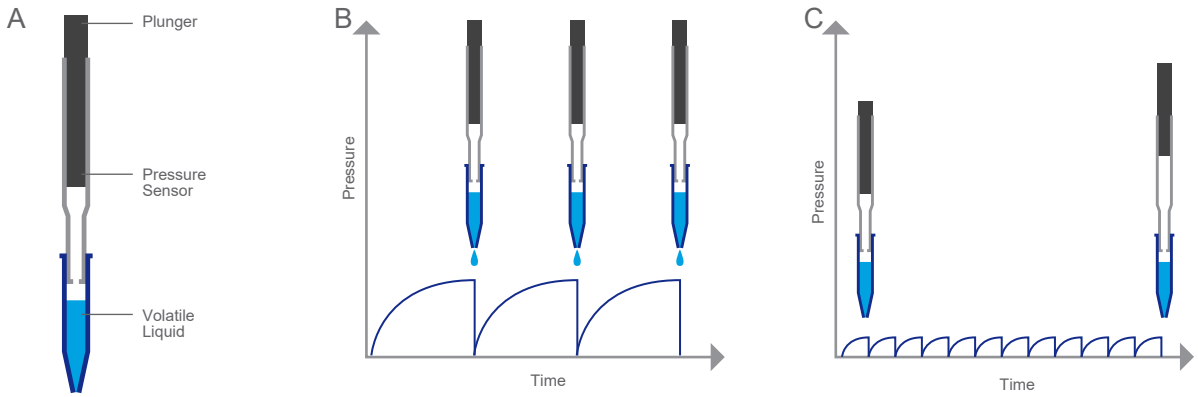


2.Active Safety Controls

- **Droplet Prevention Control (DPC) Reduce Cross-Risk:**

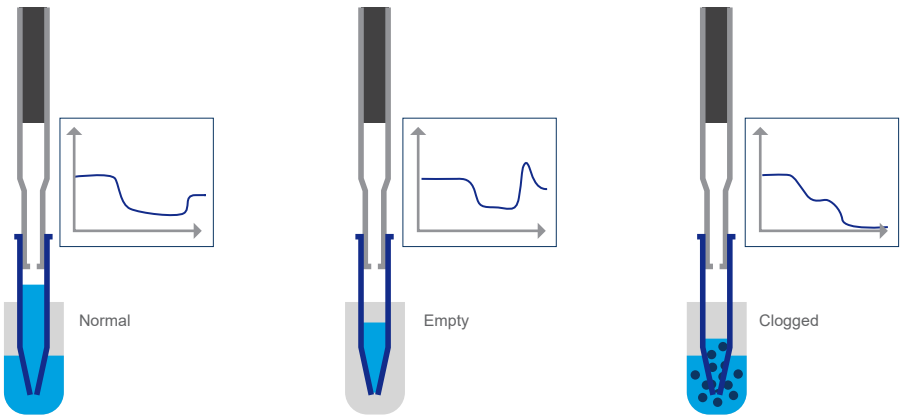
DPC detects and compensates for pressure changes in real time for each pipetting channel that are caused by the high vapor pressure of volatile organics.

DPC compensates for pressure changes to ensure that volatile liquids do not produce dripping.



- **Force Feedback Technology Provides Real-Time Alerts:**

Smart obstacle detection during liquid handling triggers real-time alerts, ensuring seamless experimental workflows with enhanced reliability.



Hardware

The A8 pro supports configurations with either a single or dual arms. Based on this, users can flexibly select from fixed 8/24-channel pipetting heads, various flexible-channel pipetting modules, an adaptive force gripper, and a tube rotation and gripping module. This freedom of combination allows for optimal experimental workflow and path.

1. Pipetting Modules

Fixed-Channel & Flexible-Channel Pipetting Heads

- **Pipetting range:** 1-1000 μL
- Innovative improvements in the sealing design giving the cartridge head all for over 300,000 uses before needing replacement.

Single-channel

Fixed 8-channel

Fixed 24-channel

2. Adaptive Force Gripper

Accurate force-controlled gripper:

Gripper force ranging from 1 to 16N supports the transfer of various consumables.

Configurable finger directions:

Capable of accessing peripheral devices to enable a huge array of process automation possibilities.

Gripper Module

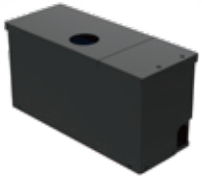
3. Tube Rotation and Gripping Module

Flexible Compatibility:

Adaptable to a full range of consumables including blood collection tubes and centrifuge tubes, covering various labware needs in your laboratory.

Intelligent Collaboration:

Seamlessly integrated with pipetting modules, delivering high-speed performance in any workflows; equipped with a built-in torque sensor that provides gentle, controlled force to ensure safe and secure handling.



Layer Eye

Scalable Deck Layout: Supports up to 60 deck slots and can accommodate 6 different functional modules concurrently to meet the requirements of long automated workflows.

3. On-Deck Modules

TCM

Temperature Control Module (TCM)

Temperature Control Module **(TCM)** incorporates advanced heating and cooling technology to deliver a wide working range from 0°C to 120°C, ensuring precise and controllable temperatures for your experimental processes. It supports SBS-size microplates (1–384 wells), 1.5/2 mL centrifuge tubes, reservoir plates, and other common consumables. With a small footprint optimized for high-density deck layouts, the module maximizes workspace efficiency without compromising performance. The compact design features internal **PCBA** integration, eliminating the need for additional control units, and ensures stable operation.

ASM

HSM

TCS

Shaker Module Series

The series includes three specialized modules:

Automated Shaker Module **(ASM),**
Heater Shaker Module**(HSM),**
Temperature-controlled Shaker Module **(TCS)**

All modules support SBS-size microplates (1–384 wells), 1.5/2 mL centrifuge tubes, reservoir plates, and other common consumables.

The compact design features internal **PCBA** integration, eliminating the need for additional control units. Precise automatic in-situ positioning (± 0.1 mm) and clamping ensure stable, reproducible results.

Designed for Seamless Integration, Ease of Use and High Precision.

- **Stable and Wide Speed Range:** Covering from 0 to 5000 rpm, it effortlessly handles diverse workflows, from gentle homogenization to vigorous shaking, suitable for a wide variety of liquids.

- **Accurate Temperature Control:** The innovative temperature control system enables precise heating and cooling, which is crucial for temperature-sensitive experimental steps.

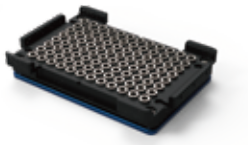
- **Low-Profile Modular Design:** It features a small footprint and a compact form factor, effectively saving valuable laboratory bench space.

- **Easy to Use and Install:** With quick plug-and-play operation, it offers the flexibility to switch rapidly between different workflows, significantly improving experimental efficiency and reliability.

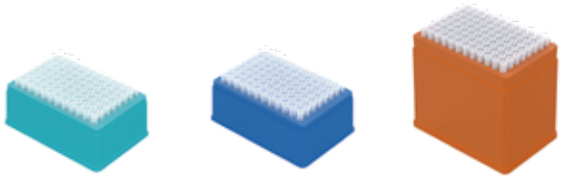
4. Accessories and Consumables

A8 pro Offers standardized carriers and adapters for microplates, deep-well plates, PCR plates, and tubes of various sizes, with compatibility for special application accessories such as magnetic stands.

Temperature Control Adapter: For different kinds of plates.



Magnetic Rack: Used for nucleic acid separation and purification by magnetic bead method, and experimental processes such as nucleic acid sample separation and purification, fragment sorting, etc. during library construction.



Disposable Tips: 50 μL, 250 μL, 1000 μL; available sterilized/non-sterilized, with/without filters.

Application Scenario

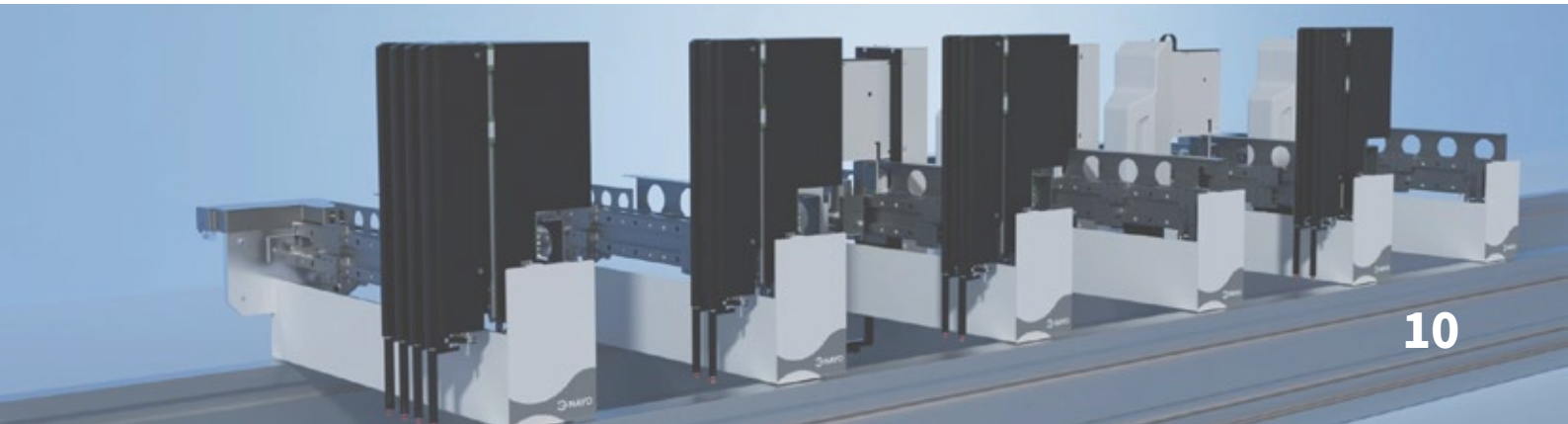
A8 pro is an integrated platform designed to streamline complex, multi-step, and cross-disciplinary workflows. Key applications include:

- **Novel Therapy Development:** Automation of CAR-T cell preparation, viral vector transduction, stem cell culture and differentiation experiments.
- **Multi-Omics Research:** Integrated automated pipelines for nucleic acid extraction, library preparation, and mass spectrometry sample prep.
- **Drug Discovery & Screening:** End-to-end automation from compound management and cell seeding to stimulus addition and endpoint detection.
- **Bioprocess Development:** Media screening, clone evaluation, and parallel operation of micro-scale bioreactors.
- **Diagnostic Reagent Development:** Process assembly and performance validation of multi-analyte detection reagent kits.

Multi-Function Arm Configuration

The A8 pro meets personalized needs through various combinations of arm configurations.

Order No.	Description
A8PS - 80N	Fixed 8-channel pipetting module
A8PS - 81N	Fixed 8-channel & Single-channel pipetting module
A8PS - 82N	Fixed 8-channel & Dual-channel pipetting module
A8PS - 80G	Fixed 8-channel pipetting module & Gripper
A8PS - 81G	Fixed 8-channel & Single-channel pipetting module & Gripper
A8PS - 82G	Fixed 8-channel & Dual-channel pipetting module & Gripper
A8PS - 240N	Fixed 24-channel pipetting module
A8PS - 242N	Fixed 24-channel & Dual-channel pipetting module
A8PS - 244N	Fixed 24-channel & Flexible 4-channel pipetting module
A8PS - 240G	Fixed 24-channel pipetting module & Gripper
A8PS - 242G	Fixed 24-channel & Dual-channel pipetting module & Gripper
A8PS - 244G	Fixed 24-channel & Flexible 4-channel pipetting module & Gripper
A8PS - 01N	Single-channel pipetting module
A8PS - 02N	Dual-channel pipetting module
A8PS - 04N	Flexible 4-channel pipetting module
A8PD-R2P	Dual-channel tube rotation and gripping module
A8PD-R4P	Flexible 4-channel tube rotation and gripper module



Service Commitment
Rapid Response Within 24 Hours

NAYO established a global network of professional services dedicated to providing you with high-quality, standardized technical support and customer service. Our field service engineers are trained by either NAYO service headquarters or by one of our distribution partners.

1) High-Quality Customer Service and Quality Assurance

- **Comprehensive Quality Control:** Through in-house R&D and production, advanced quality control systems, and final factory inspection, we ensure every product meets the highest standards of quality, reliability, and precision.

- **Standardized Installation and Documentation:** All NAYO instruments are installed and validated according to strict operating procedures and **ISO 9001** standards, accompanied by detailed operational documentation to ensure normative deployment and full traceability.

- **Flexible Service Contracts:** We offer tiered service and support contract options, including regular system inspections and preventive maintenance, designed to ensure the long-term stable operation and optimal performance of your automated system.

2) Efficient Technical Support and Training System

We are committed to minimizing system downtime through rapid response and professional guidance, ensuring your productivity.

- **Rapid-Response Network:** Leveraging a global field service and remote support system—including technical support hotlines, remote guidance, and on-site local engineers—we guarantee a swift response to your service requests.

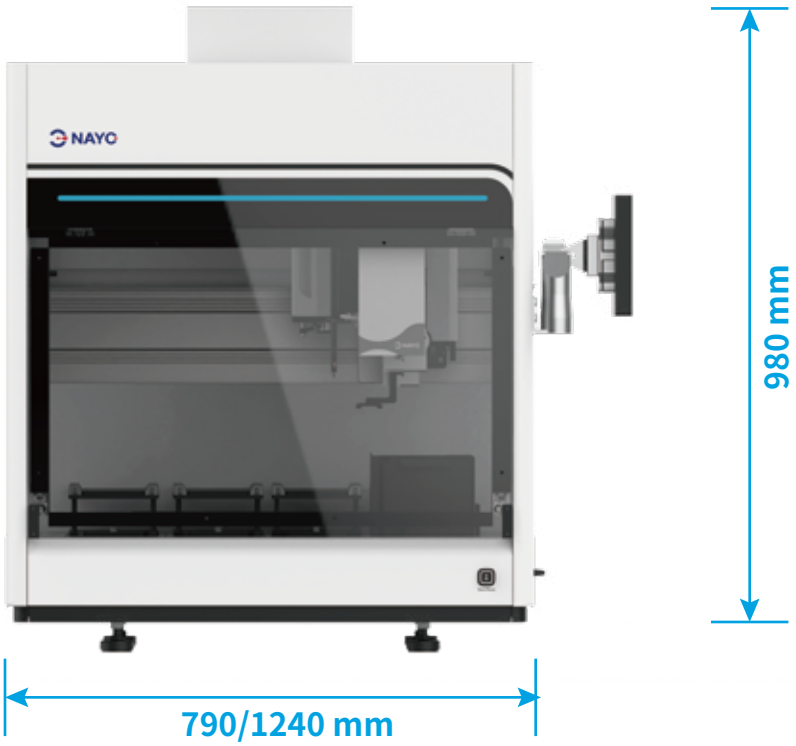
- **Customized Training Programs:** We provide standard training courses and can also customize content based on your specific application needs, available at NAYO training centers or your laboratory premises.

3) In-House Production and Quality Control System

NAYO have a transparent end to end digitalized and traceable process that begins with raw materials, in-process testing, and final product inspections. Core components are manufactured in our own factories, undergoing high-standard parts testing and finished product validation processes.

This vertically integrated model not only guarantees high-quality product delivery but also enables us to respond quickly to market changes and continuously improve quality and reliability through ongoing product iteration.

Specifications



General Specifications

Dimension (L x W x H)	790 mm x 740 mm x 980 mm	1240 mm x 740 mm x 980 mm
Weight	128 kg	215 kg
Deck Capacity	20 SBS/SLAS-compatible slots	35 SBS/SLAS-compatible slots
Network Conditions	C/S, not less than 10 Mbit/s	C/S, not less than 10 Mbit/s

Environmental Conditions

Working Temperature	19℃ - 25 ℃
Relative Humidity	20% - 80%, without condensation
Atmospheric Pressure	80 kPa – 106 kPa

Storage

Storage Temperature	-20℃ - 50℃
Storage Humidity	20% - 80%, without condensation

Power

Voltage	~100-240 VAC
Frequency	50/60Hz

Pipette Specifications

Range 1~1000µL

Tip Capacity	Tested Volume	Accuracy %D	Precision %CV
50 µL	1 µL	10	8
50 µL	2 µL	8	4
50 µL	5 µL	4	4
50 µL	50 µL	1	1
250 µL	50 µL	1	1
250 µL	250 µL	1	1
1000 µL	100 µL	1	1
1000 µL	500 µL	0.5	0.5
1000 µL	1000 µL	0.5	0.5

Range 0.7~300µL

Tip Capacity	Tested Volume	Accuracy %D	Precision %CV
50 µL	0.7 µL	12	10
50 µL	1 µL	8	8
50 µL	10 µL	3	3
50 µL	50 µL	1	1
250 µL	50 µL	1	1
250 µL	100 µL	0.5	0.5
250 µL	250 µL	0.5	0.5
1000 µL	100 µL	1	1
1000 µL	300 µL	1	1

YouTube

Linkedin

Website

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