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INNOSMART® DNEX

Automated Plasmid Preparation Workstation

Automated Plasmid Preparation Workstation

INNOSMART® DNEX

Intelligent operation of DNA extraction in liquid operation process

- Reduces workforce significantly while increasing throughput to meet the efficiency demands in new drug R&D, thus reducing comprehensive costs concerning fixed assets, personnel and time.
- Achieves intensive use of equipment, minimizing space requirements. Standardized systems and processes facilitate flexible equipment deployment.
- Replaces manual operations with automation, addressing issues of stability, uniformity, and reproducibility, enabling standardized operational procedures. It also helps popularize the standardized methods across different locations.
- Ensures the biological safety of samples, environment and operators during the process.
- Strictly prevents sample confusion and cross-contamination.
- Integrates various equipment including single-channel pipetting module, centrifuge, shaking module and decapper device to achieve full-process DNA extraction.
- Integrates with upstream and downstream automation systems.

1 Small volume pipetting component

Enables precise pipetting and transfer of magnetic beads, RNase and final products

Inverted mixing component 2

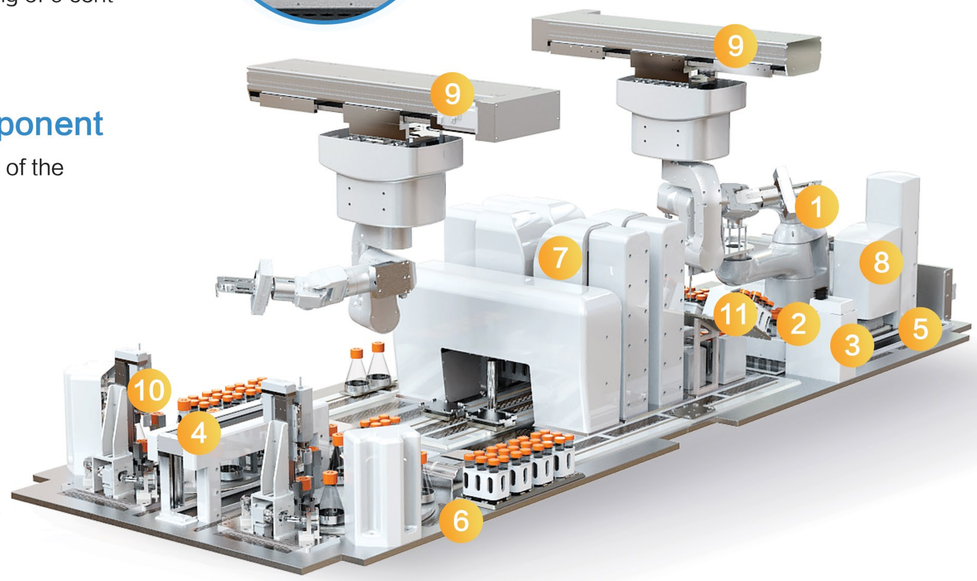
Supports 180° inverted mixing of 6 centrifuge tubes

3 Bottom code scanning component

Supports scanning the code at the bottom of the cryotube rack

4 Loading and unloading table of shaker flask

Compatible with loading and unloading of consumables while ensuring the sterility and safety of the consumables



6 Centrifuge

Meets the centrifugal separation needs of centrifuge tubes

7 Centrifuge tube capping device

6-Channel automatic capping and decapping module for 50mL centrifuge tubes

5 Loading and unloading table of consumables

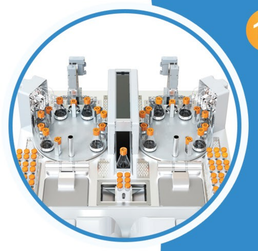
Transfer speed: ⩾50mm/s
Number of consumables: 5
Number of sensors equipped: 2
Compatible with centrifuge tube carrier, cryotube carrier, 96-well plate, 1000 μL-tip box

8 Cryotube capping device

8-Channel capping and decapping module for 1mL cryotube
Matches Thermo 1mL cryotube
Matches 96-well cryotube rack
Single capping or decapping in less than 5s

9 Robot transfer component

Efficient transfer of materials inthe shaker flask area, centrifuge tube area and small volumepipetting area



10 Shaker flask decapping, pumping, oscillating components

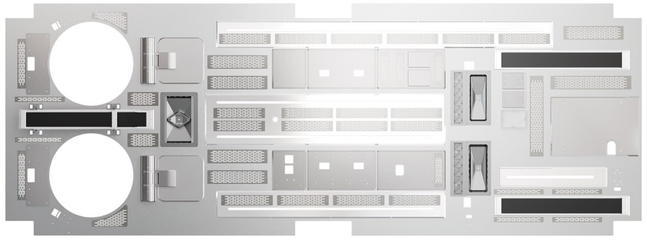
Simultaneously performs shaker flask decapping, pumping and oscillating, making efficient use of space

11 Temporary storage positions for consumables

Each temporary storage position can accommodate centrifuge tube carriers, deep well plates, Thermo tube carriers and pipette tip boxes.

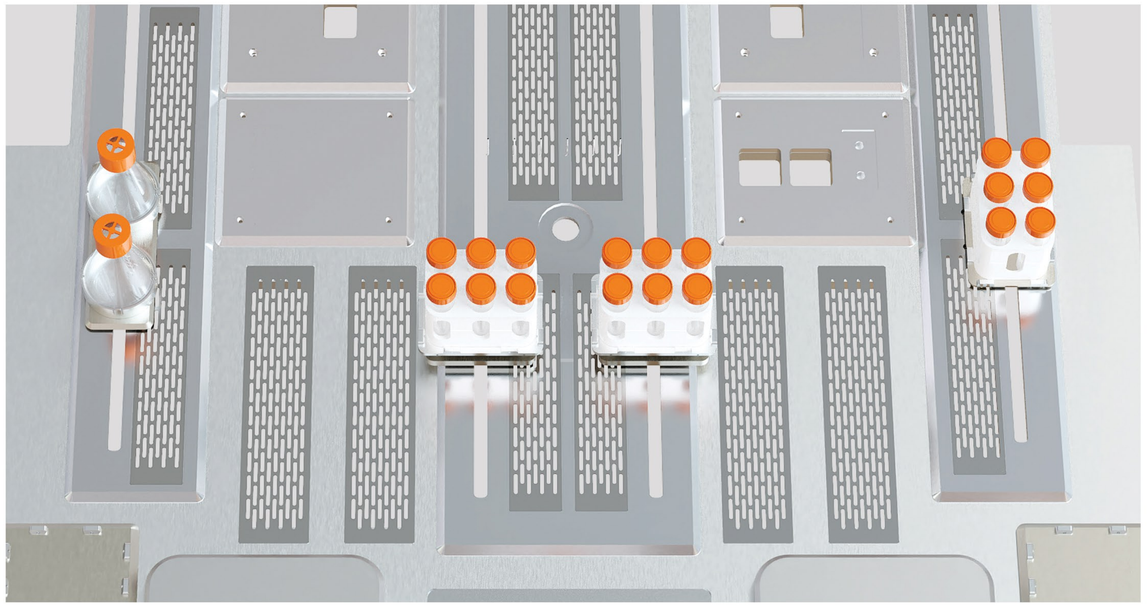
Laminar Flow Structure

FIFO laminar flow to prevent cross-contamination and residues of samples



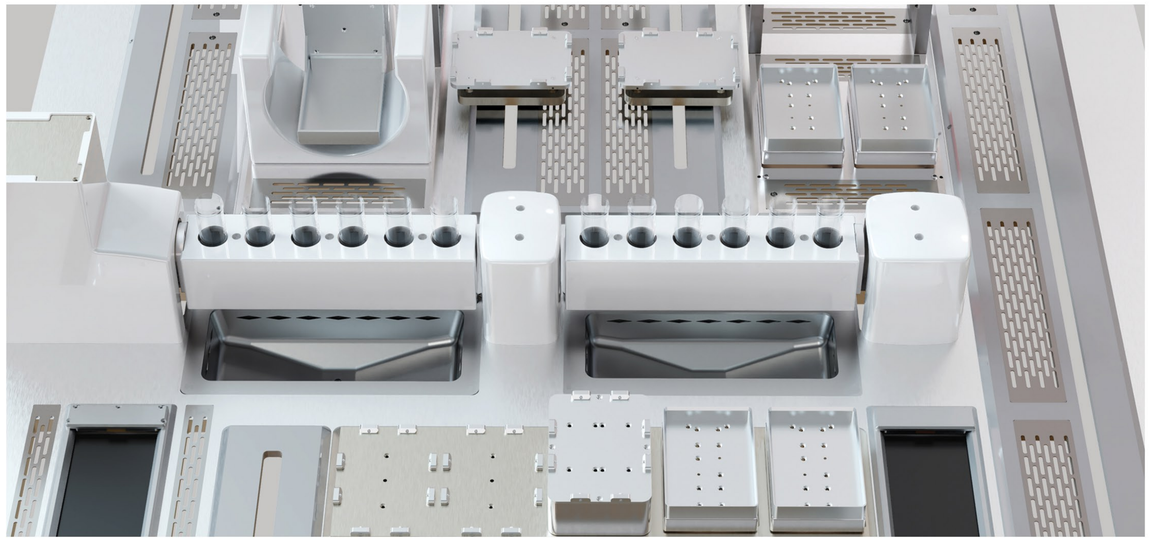
Transit conveyor component (orifice plate cleaning function)

As the transit conveyor of transfer components, it contains two double-actor linear motors and two single-actor linear motors



Magnetic beads DNA adsorption component

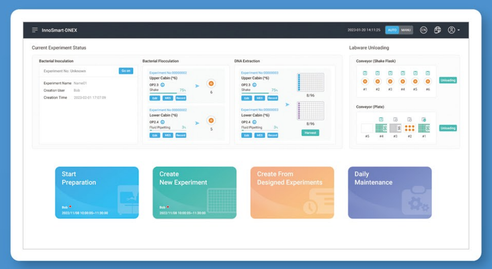
Enables the function of magnetic beads to adsorb DNA



Pipetting transfer table (integrated with a magnetic bead shaking component)

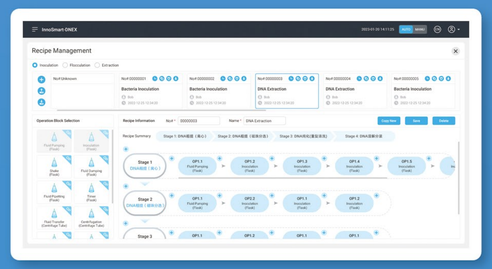
Enables the reciprocating movement of materials in the pipetting area and centrifuge tube operating area

Comprehensive Software System



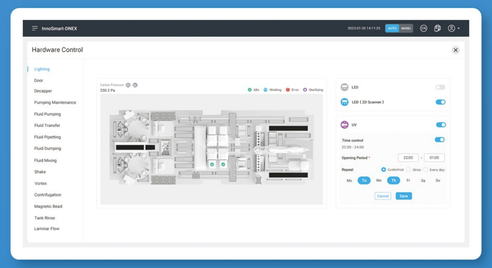
Equipment Operation Monitoring and Control

- Historical data of sample liquid operation
- Historical data of sample oscillating operation
- Historical data of sample test status
- Historical data of sample transfer operation
- Materials status management in each position
- Operating status monitoring of each components
- Solid consumables loading management
- Liquid materials loading management



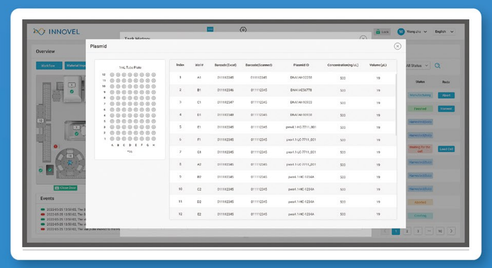
Process Flow Editing

- Full-process process editing and management
- Standardized process templates
- Real-time process control and adjustments



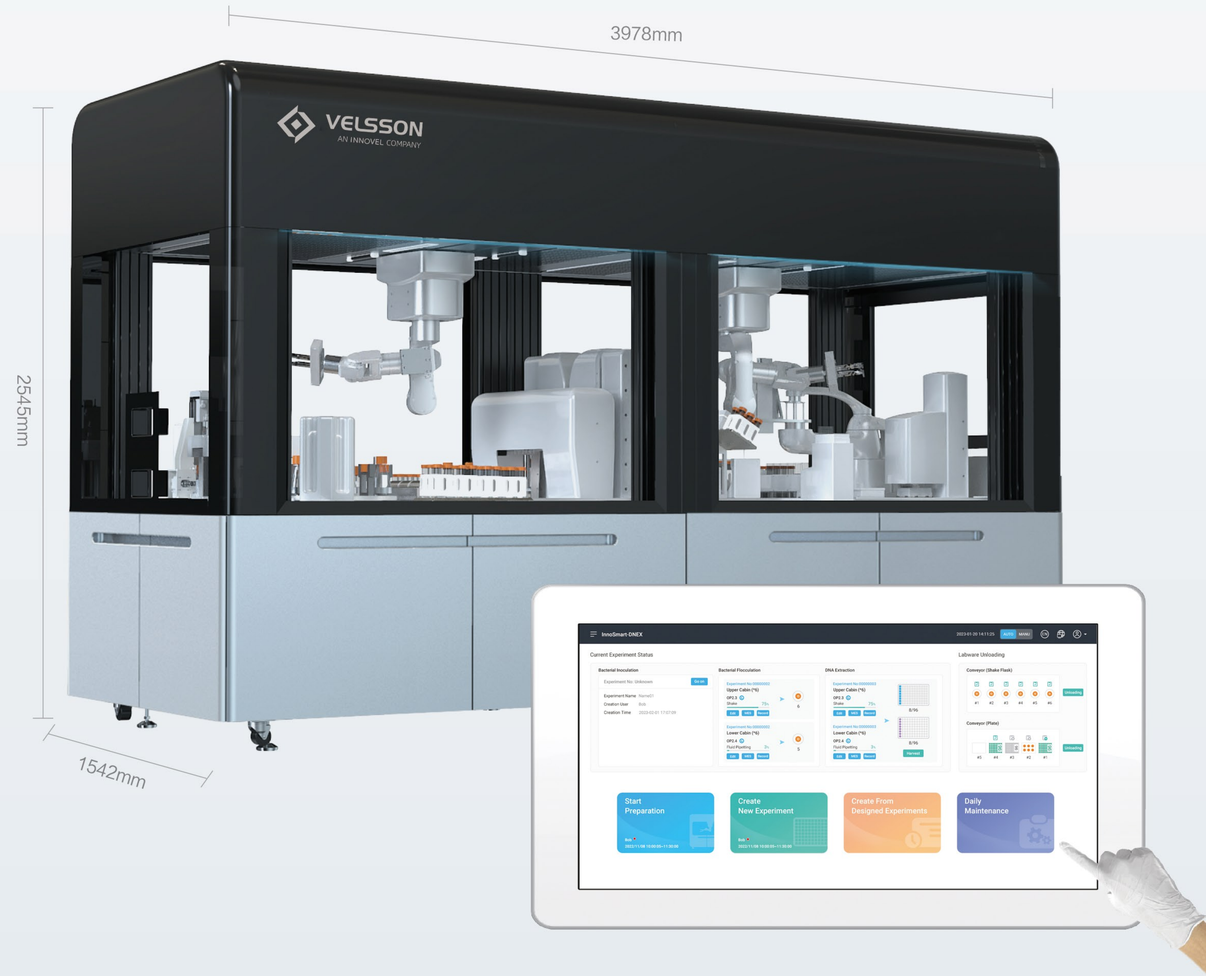
Equipment Testing (Manual mode)

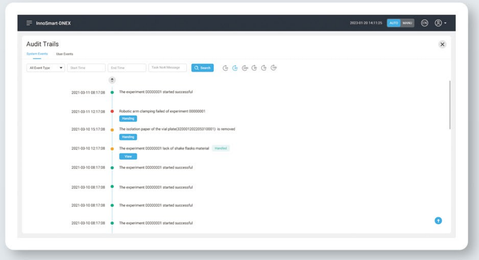
- Calibration of various motion modules within the system
- Calibration of various liquid units within the system
- A guide for sample pipetting process



Data Storage

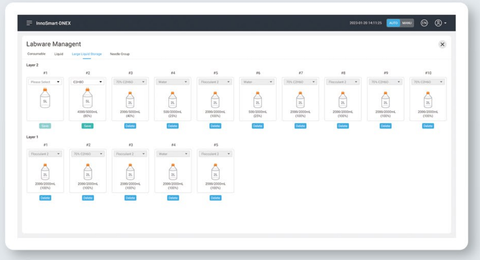
- Sample test data storage





Log Prompt

- Login information of operators
- Material loading information
- Equipment failure information
- Equipment alarm information
- Equipment operation information



System Settings

- Personnel permission settings
- Configuration of system module parameters
- Configuration of liquid pipeline types
- Configuration of liquid capacities