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INNOSMART® SFS-Plus

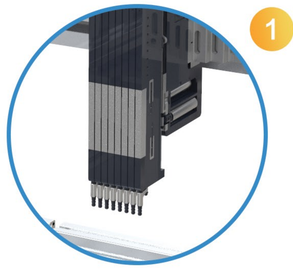
Smart Fluid Station

Smart Fluid Station

INNOSMART® SFS-Plus

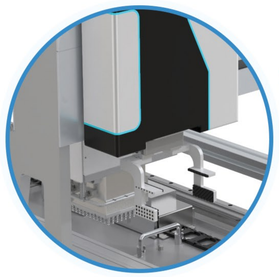
The INNOSMART® SFS-Plus is an intelligent fluid handling system that efficiently performs high-throughput liquid pipetting, liquid distribution, and liquid pumping operations.
The system comes with dozens of typical process standard libraries.

- Integration:Integrate 4+4-channel pipetting, 96-channel pipetting, pumping, centrifuge, metal bath, PCR, microplate reader, vacuum filtration, decapper, shaker(with temperature control) and other process units.
- Tips: Compatible with 10 μ L,50 μ L, 100 μ L, 300 μ L, 1000 μ L filter tips, sterile/enzyme free/pyrogen free.
- Graphical: Graphical process editing tool, full-process simulation verification technology.
- Laminar flow(optional): A-level laminar flow environmental protection to ensure the safety of experiment.
- Process Edition: Flexible process editing, and agile process change. Full process verification by simulation.
- International Standard: 21 CFR Part 11.
- Exception Handling: Smart exception handling.



1 Pipetting Module

- 8 single-channel pipettes, 8 independent channels' Z-axis motion.
- Independent spacing control between channels. Automatic liquid detection, tracking and pipetting. Automatic and precise pipetting with high-speed planar motors.
- 96 standard pipetting modules, overall fast pipetting.
- Optional 4/8/48/96 standard pipetting modules.



2 Consumable Transfer Module

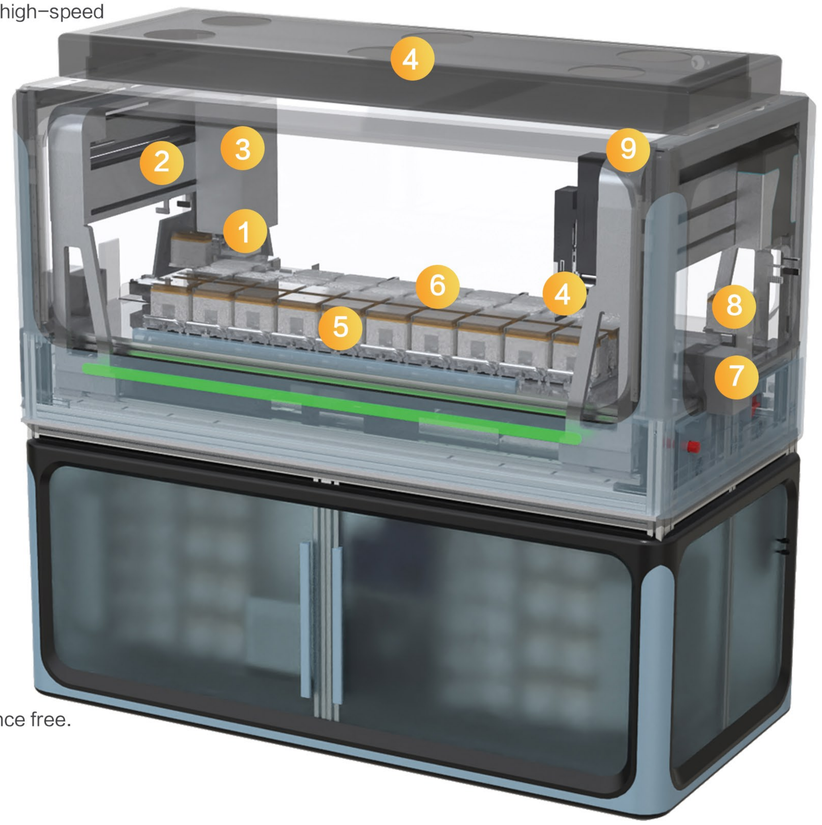
- Dual robotic grippers for 360° operation.
- Highly efficient consumable transfer with storage units, incubators, analytical workstations, etc.

3 Solid-state Pipetting Module

- High precision of 1~1000μL pipetting.
- Solid-state module(not syringe), maintenance free.

4 Top Module

- Easy-cleaning flat structure.
- Precise motion with dual planar motors.
- Optional laminar flow hood.



5 Benchtop Component

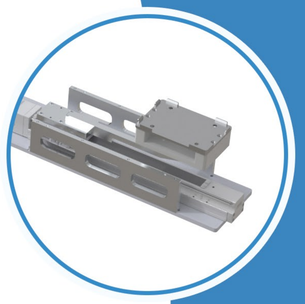
- Dual robotic grippers for flexible consumable transfer.
- Holder Number: 44.

6 Metal Bath Array

- Metal bath array to meet large-scale temperature control needs.

7 Waste Module

- 2 waste solid material storages, unmanned for long periods of time



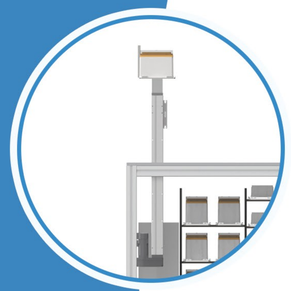
8 Sample Channel

- The process continuously enters and exits the sample channel, seamlessly connecting to auto mated equipment.

9 Equipment Front Door

- Safe operation with nitrogen gas spring-assisted front door.

Tank Module



1 Vertical Conveyor Channel

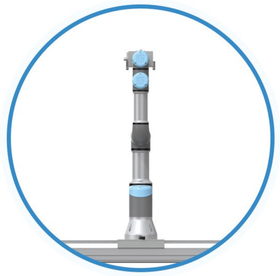
· Dual-channel consumable transfer between deck module and tank module, high-speed sample transfer and consumables loading.

2 Waste Module

· 2 waste solid material storages, unmanned for long periods of time.

3 Consumable Storage

· 80 material storage locations, unmanned operation for long periods of time.

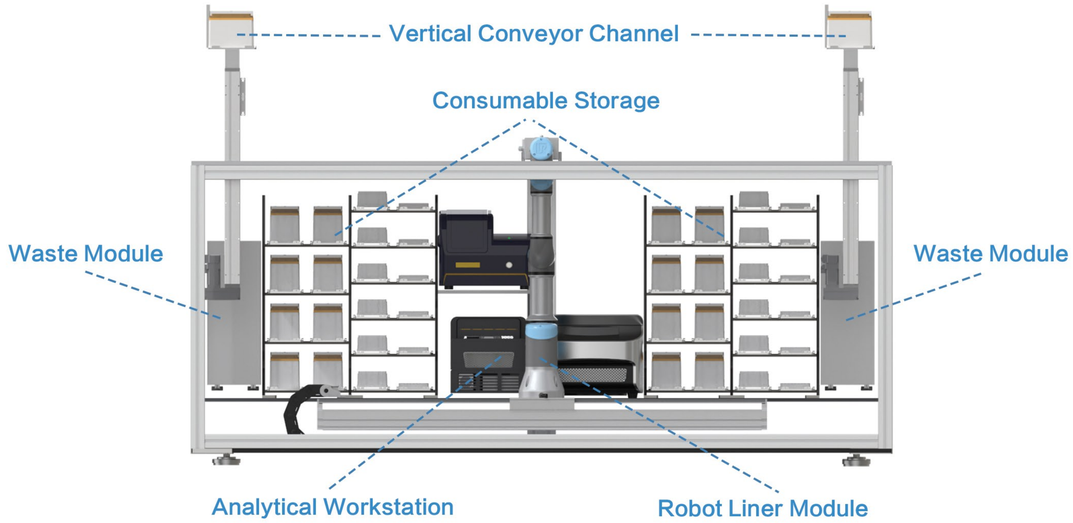


4 Robot Liner Module

· Highly efficient consumable transfer with storage units, incubators, analytical workstations, etc.

5 Analytical Workstation

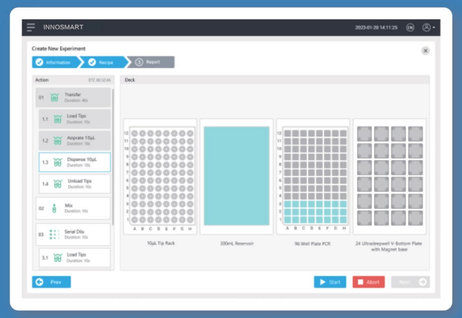
· Optional centrifuge,sealer, peeler, PCR, microplate reader, spectrophotometer, imager, counter and magnetic bead-based purification unit.



Specifications

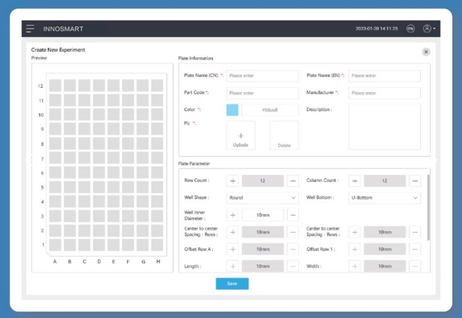
Specifications	Model	**INNOSMART® SFS-Plus**
	INNOVEL Tips	1μL, 10μL, 50μL, 300μL, 300 μL(extended), 1,000μL
		Compatible with USP Class VI and ANSI, DNase/RNase free, nonpyrogenic, and sterilized by gamma irradiation
		Glass tips for acidic or alkaline corrosive liquid and organic solvent
	Pipetting Volume	1~1,000μL
	Pipetting Precision	≤5% (1~10μL) , ≤3% (10~50μL) , ≤1.5% (50~300μL) , ≤0.5% (300~1,000μL)
	Independent and adjustable channel spacing, and independent Z-axis motion	
	Intelligent analytics of tip-loading force and loading effectiveness	
	Automatic liquid detection and tracking	
	X-Y Axis Motion	800mm/s Maximum Speed , within 0.01mm repeated motion precision
	Z Axis Motion	300mm/s Maximum Speed , within 0.02mm repeated motion precision
	Dust-free and lubricant-free motion system	
	Holder Number	44
	Consumable Storage Number	80
	Industrial-grade built-in controller, and 15-inch touchscreen display	
	Graphical workflow editing software	
	Standard lab software communication interface	
	Optional Units	Centrifuge,sealer, peeler, PCR, microplate reader, spectrophotometer, imager, counter, magnetic bead-based purification unit and 4/8/48/96 standard pipetting modules
	UV disinfection and optional laminar flow	

Integrated Software System



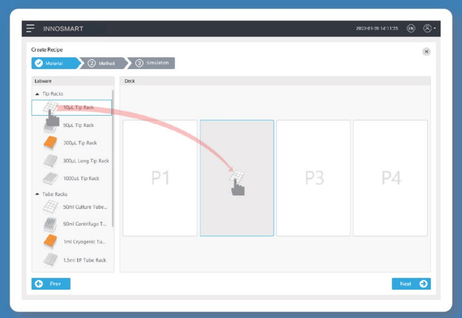
Workflow Editing

- Standard process library
- Graphical process editing and optimization
- Real-time process monitoring and control
- Agile evolution of new processes based on templates



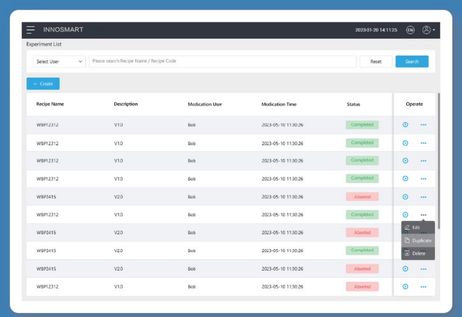
Equipment Monitoring and Operation

- Fluid material feeding
- Solid consumable feeding
- Consumable status management
- Historical liquid handling data
- Historical sample transfer data
- Module motion monitoring



Equipment Calibration(Manual)

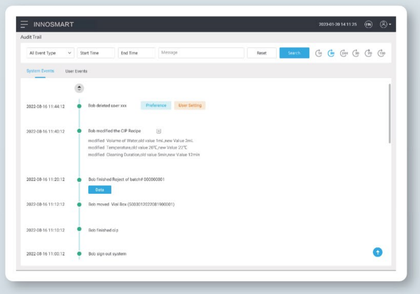
- Fluid unit calibration
- Motion unit calibration
- Agile process test



Data Storage

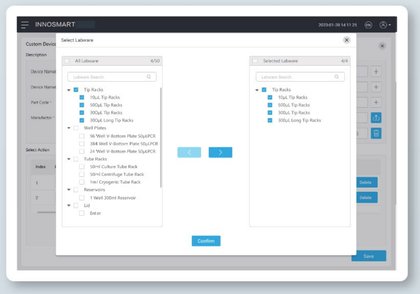
- Analytical sample data
- Operation data

Without laminar flow :79 x 39 x 70in (200 x 99 x 178cm)
With laminar flow :79 x 39 x 79in (200 x 99 x 200cm)



Log Notification

- Login Notification
- Consumable loading information
- Operation event information
- Equipment warning information
- Equipment error information



System Setting

- Personnel access control
- System parameter configuration