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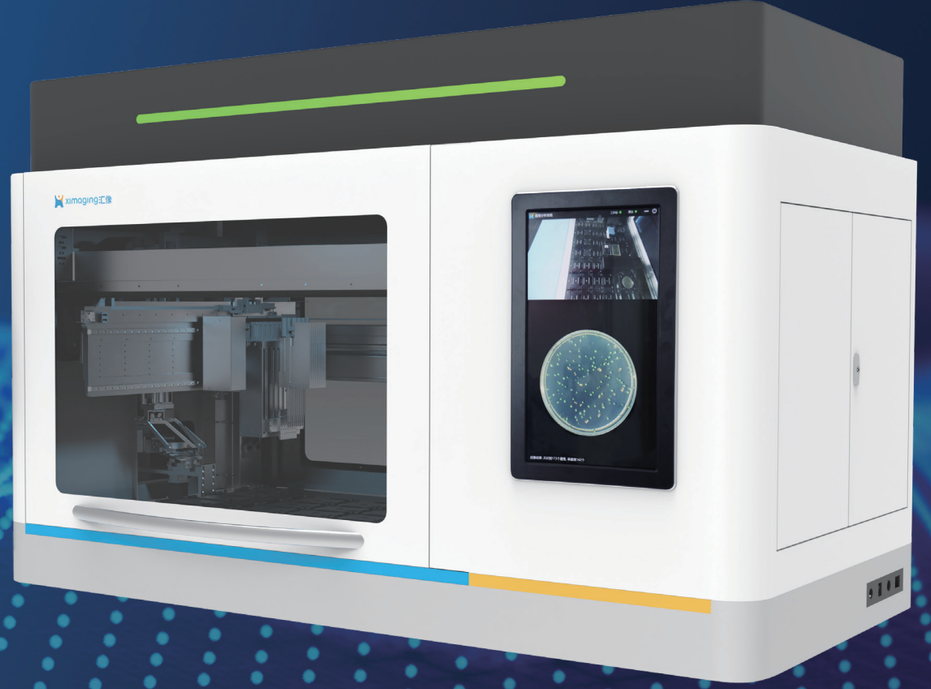
HedylaX

Intelligent Microbial Colony Picker Workstation

HedylaX, the picking tips will not be contaminated
The full-featured functions for colony picker and inoculation



XImaging

XImaging is an artificial intelligence company which bases on robotics and robot visual identity technology as a core technology. XImaging devotes to intelligent laboratory automatic system and solution for life science, pharmaceutical, clinical diagnosis and testing industries. XImaging originated from AI and SciX and it also has the artistic conception that science beauty is achieved by AI.

XImaging is a global leader of AI robot scientist. XImaging is also one of the earliest company which transfers the robot scientist from knowledge concept into reality.

XImaging has established AI and Digital Product R&D Center, Automatic Product R&D Center, Applied Product R&D Center and solutions. XImaging can supply full service to customers from technology, products and solutions .

XImaging owns the value of simplicity, honest, altruism and open mind of innovation, concentration, win-win. XImaging devotes to establish the symbiosis and prosperity of cooperative partner system with customers. XImaging insists on original aspiration and mission that science beauty is achieved by AI. XImaging devotes to a great company which has social responsibilities and can be trusted by cooperators and customers.

XImaging AI scientist will go into every laboratory to assist the scientist to accomplish different kind of scientific research activities such as pharmaceutical research, biological manufacture, energy chemicals and disease diagnosis etc. XImaging will promote the development of knowledge visualizaton and innovation intelligentization. XImaging will energize the development of global science and technology, science industry.

Our Mission

XImaging shall be the global leading supply of life science automation and intelligent solution. XImaging wishes everyone can enjoy a healthy, safe and high quality life in the world. XImaging promises to supply high standard technologies, products and services to the world.

High-tech Enterprise

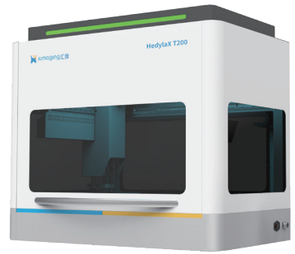
SMEs

Customers' Trust

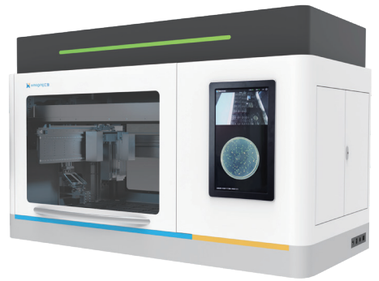
HedylaX Intelligent Microbial Colony Picker Workstation

High Price-performance ratio, Reducing Human Resources, Process Traceablility

HedylaX Intelligent Microbial Colonies Picker Workstation has integrated XImaging visual identity, fluid treatment technology with automatic control technology. It can accomplish the colonies picking and inoculation automatic process through automatic imaging, intelligent identity and automatic control. There are different kinds of inoculation including agar to liquid inoculation, agar to agar inoculation, liquid to agar inoculation and liquid to liquid inoculation. The price performance ratio of the system is high and it is scalable for throughput. The aim is to solve the low efficiency of colonies picking by operators, unstable and no traceability etc.



HedylaX T200



HedylaX T800

HedylaX will solve your questions which are caused by traditional manual colony picker.

Product Application

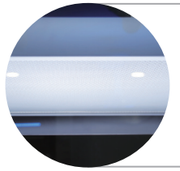
Synthetic Biology
- Enzyme Restrict / Ligate
- Transform / Plating
- Colony Picker Identification

Industrial Microbial Breeding
- Nature Breeding
- Mutation Breeding
- Cross-breeding
- Genetic Engineering Breeding

Library Screening and Management
- Re-arraying
- Replication

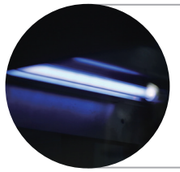
Pathogen Microbial Test
- Food
- Pharmaceutical / Cosmetics
- Clinical
- Animal/ Vegetation Quarantine

Function Module



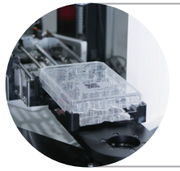
Laminar Flow Hood

The air flow goes down and it will generate local cleaning area. (Class B)



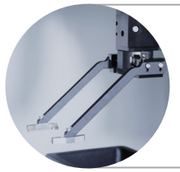
Ultraviolet Lamp

To disinfect interior surface of equipment



Consumable Stack

It can be connected with the workstation directly and the maximum scalable SBS is 240.

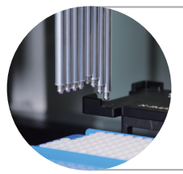


Gripper

To open or close the cover and transfer of different kind of consumables

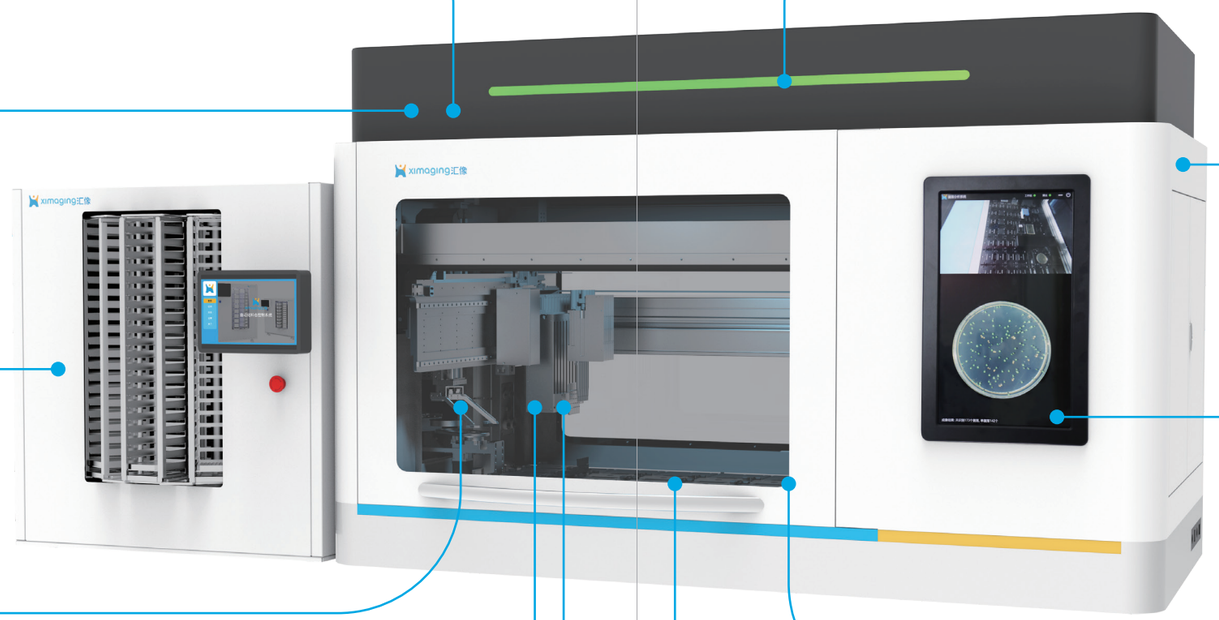
Ultrasonic Detection

To detect the height of agar, precise colony picker and inoculation



Separate 8 Channels

Each channel can seperately accomplish aspiration, dispensing, colony picker, oscillation, plating etc.



Status Indicator

The equipment operation status can be shown for long distance.

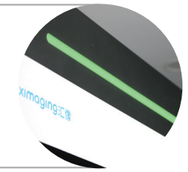
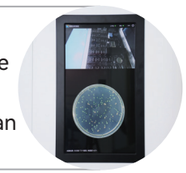


Image Module

25 million pixels industry camera
Accurate colony analysis and localization, resistant to back-ground interference.

Touch Panel

The operation process can be shown dynamically.
Image analysis and results can be shown in real-time.



Safety Lock

The operation will be stopped when the door is opened.

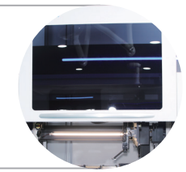


Table Top

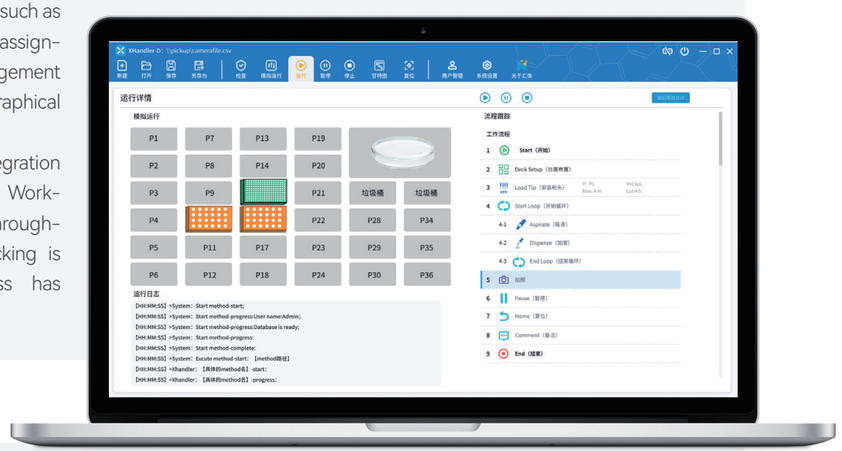
30 plate holders, it is compatible with SBS hole plate, disposable Petri dish, reagent tank, picking tip case, recovery case

Software Function

Software system of HedylaX has divided into two parts, one is workstation software and the other is EDGE central software.

- AI identification is the core of workstation software. The single colony will be identified according to the size of colony, color and proximity. The accuracy of picking can not only be improved, but also the result of plating can be assured through the help of supersonic detection.
  Different actions of picking and inoculation will be supported by workstation. The picking and inoculation can be traced. The parameters of consumable, fluid and colonies can also be defined and this supplies good foundation for high throughput and automation.
- The EDGE central software integrates the Intelligent Microbial Colony Workstation and consumable stack. The application workflow can be edited through a drag-and-drop program.

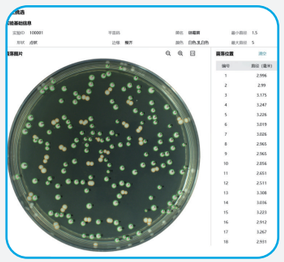
The central software has the functions such as equipment management, label print, assignment management and data management etc. It is easy to rapidly use by graphical interface.
Through the central software integration between Intelligent Microbial Colony Workstation and consumable stack, the throughput and traceability of colonies picking is improved. The experiment process has accomplished automatically.



Flexible Definition
- Experiment Process Flexible Combination
- Different parameters can be defined.
- Colonies / Consumable / Fluid
- To include all picking activities: Selection / Puncture
- To include all inoculation activities: Plating / Channel aspiration, dispensing/Oscillation

Information Traceability
- Operation Record
- Colony Identification Record
- Picking and Inoculation Record

Compatiblity/ Scalability
- Batches Operation
- Automated Integration
- Alarm Pretreatment



AI/Manual Picking
- To identify single colony and position according to colony morphology
- To support colony after identification
- Manual picking
- To calculate the position of colony spreading inoculation automatically

Features

Different Kinds of Strains
Bacteria, actinomyces, filamentous fungi, yeast etc.

Picking Accuracy
≥ 98%, over 1mm diameter colonies

Different Kinds of Picking
Selection and Puncture on the surface of the agar

Different Kinds of Inoculation
Plating, oscillation, aspiration/ dispensing

Disposable Sterile Picking Tips
To reduce contamination, good plating result, it can accomplish hollow square and Z shaped plating.

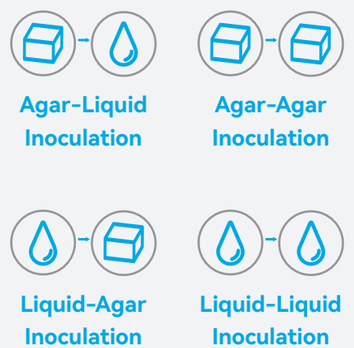
Consumables
Disposable Petri dish, different SBS, picking tip cases, reagent tank

Information Traceability
Label Print, barcode scanning, dynamic monitoring camera

High Throughput
Consumable stack can be connected directly. Maximum scalable SBS is 240.

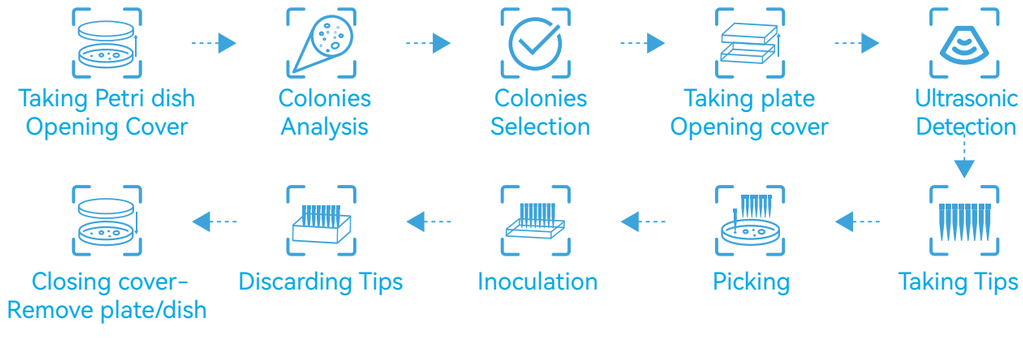
Applicable to Multiple Strains

Comprehensive Inoculation



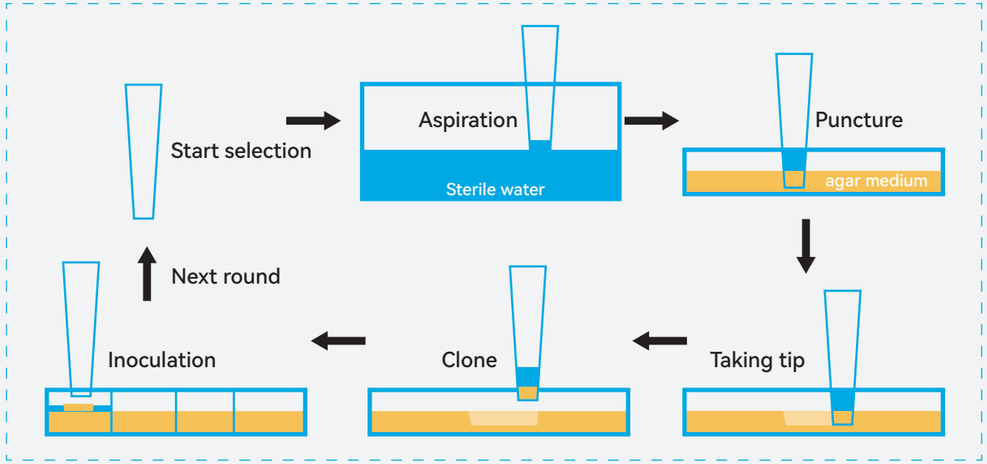
Application Process

Source Container	Picking Type	Target Container	Inoculation Type	Inoculation Plate
Petri dish	Selection	Single well Plate with 24 sections(Agar)	Hollow Square Plating	2/1
		Single well Plate with 48 sections(Agar)	Hollow Square Plating	2/1
		96-well Plate (Liquid)	aspiration/dispensing	2/1
	Puncture	96 deep-well Plate (Liquid)	Dispensing	2/1
		12-well Plate (Agar)	Dispensing	2/1
		24-well Plate (Agar)	Dispensing	2/1
		24 deep-well Plate (Agar)	Dispensing	2/1
Single well Plate	Selection	96-well PCR Plate	Oscillation	1
12-well Plate	Puncture	96 deep-well Plate (Liquid)	Dispensing	1
24-well Plate	Puncture	96 deep-well Plate (Liquid)	Dispensing	1
96-well Plate	aspiration	96-well Plate (Liquid)	Dispensing	1
		24-well Plate (Liquid)	Dispensing	1
		12-well Plate (Liquid)	Dispensing	1

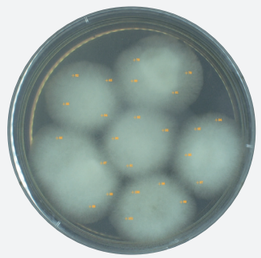


Technical Analysis

Filamentous fungi Picking Process



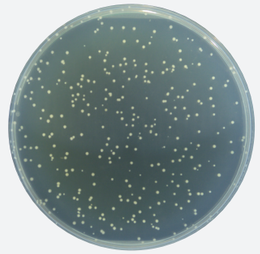
Filamentous fungi Picking Inoculation Effect



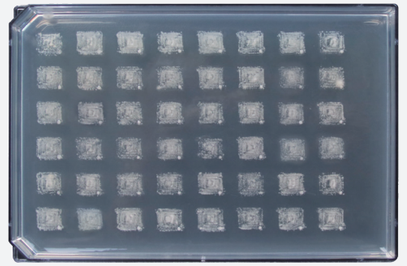
Petri dish

After Liquid Inoculation Culture

Yeast Picking Inoculation Effect



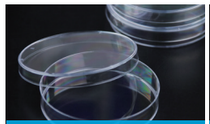
Picking Inoculation

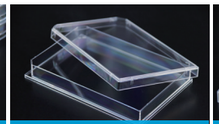


After Plating Inoculation Culture

Consumables/Accessories

Source Containers


Petri dish

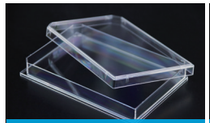

Single well plate

12-well plate

24-well plate

96-well plate

Target Containers


Single well plate

12-well plate

24-well plate

48-well plate

96-well plate

96-well PCR plate

24 deep-well plate

96 deep-well plate

Consumables

Picking Tips

Plating Tips

Accessories

Petri dish positioning board

Standard holder for frame

Standard holder for frame

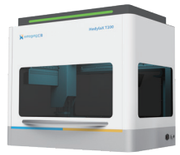
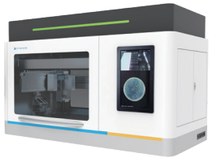
Recycle case

Others

Reagent case

To be continued

Instruments Parameters

Type	T200	T800
Product Photograph		
Dimension	1210mm×750mm×1310mm	1890mm×995mm×1250mm
Weight	130kg	200kg
Power	1.5KW	3.5KW
Efficiency	200 clone/h	800 clone/h
Accuracy	≥98% (The diameter of colony is over 1mm.)	≥98% (The diameter of colony is over 1mm.)
Channel	Single channel	Separate 8 channels
Holders on tabletop	18	30
Height detection	Support	Support
Image system	White-light, 25million pixels HD camera	White-light, 25million pixels HD camera
Colonies identification	AI identification, according to status, colour, proximity etc.	AI identification, according to status, colour, proximity etc.
Manual colonies picking	Support	Support
Antibacterial tools	Disposable sterile picking tips	Disposable sterile picking tips
Pipetting	Support	Support
Picking	Selection / Puncture	Selection / Puncture
Inoculation	Plating/aspiration, dispensing/oscillation	Plating/aspiration, dispensing/oscillation
Picking database	Support, searchable, exportable	Support, searchable, exportable
Petri dish automatic transfer	Support	Support
Consumable stack	Not support	Support to connect directly
Automatic integration	Support	Support