

Automated Medium Preparator & Dispenser



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1. MDP-12/MDP-30 Automated Culture Media Preparator



Product Description

High-quality media is the core of all kinds of biological culture in today's laboratories. Many follow-ups work depends directly on the quality of the medium. An efficient preparation process is also important, which not only reduces laboratory labor costs, but also frees researchers from tedious and repetitive tasks. The MDP preparator Automated Media Reader is flexible – ready to allow you to quickly sterilize and prepare high quality media. This minimizes the space required to store the finished petri dish, eliminates the management of the petri dish storage, and ensures high quality media uniformity. It can quickly and gently sterilize the medium and accurately monitor and control the time, temperature, pressure and other parameters in the sterilization process, so as to ensure that all sterilized products have the same high quality, its intuitive graphical interface and The programming function makes it easy for everyone to operate the instrument.

MDP preparator can be quickly prepared for sterilization, placed in a sterilizer, and filled with water in a “water jacket system” (sleeve water between the sterilizer and the sterilizer cavity for efficient heat transfer), added to the medium Raw materials, ready to start the sterilization process. The medium can be suspended and dissolved directly in MDP preparator. Strong magnetic stirring ensures uniformity of mixing in the inner chamber and prevents condensation. The medium can be pre-dissolved in WATER BATH mode prior to sterilization. At the same time, an intuitive graphical interface makes it easy to operate without specially trained personnel. Users can customize multiple sterilization procedures, such as sterilization temperature, time, and dispensing temperature.

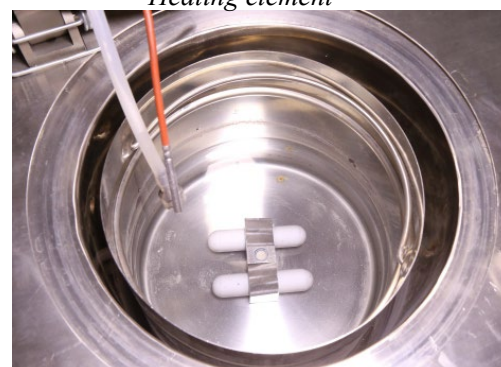
Operating mode

It has 2 main working modes and 2 additional modes to choose from, and the parameters can be set by yourself.

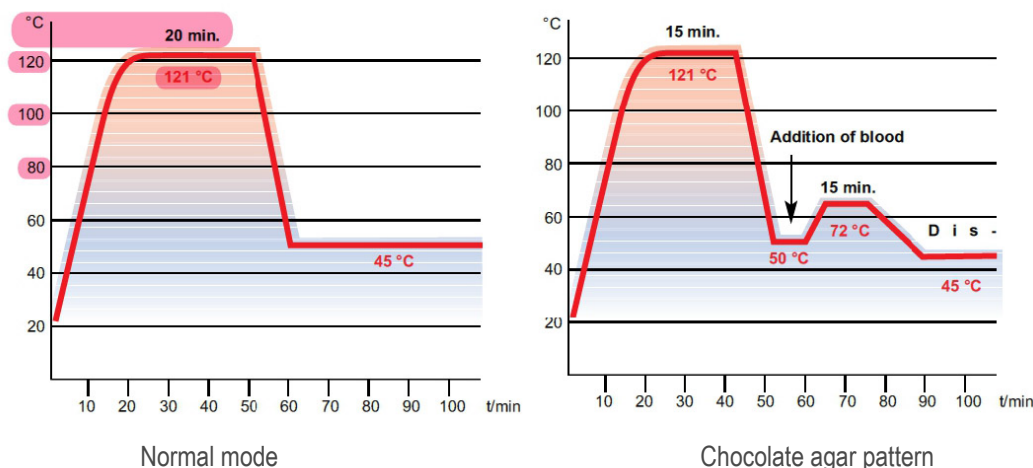
1. Standard mode: Prepare standard medium, or high sensitivity medium. Sterilization temperature/time and dispensing time can be set.



Heating element



Magnetic bar



2. Chocolate Agar Mode: A special 2-step preparation procedure for preparing complex media. After one sterilization, nutrients such as blood may be added through the feeding port, and then the temperature is raised twice.
3. Water bath mode: Dissolve the medium at 30 – 80 °C before formal sterilization. Glassware can be placed in the sterilizer and the liquid in the glassware can be heated in a water bath.
4. Sterilization mode: When the sterilization mode is enabled, it can be used as a common table sterilizer to sterilize a small number of test tubes, flasks and other glassware.

Medium sterilization

MDP preparator ensures fast and gentle preparation of standard and highly sensitive media. The efficient heating and cooling system plus uniform agitation minimizes the thermal stress on the medium and ensures the nutrient of the medium.

Highly safe operation

Before the start of sterilization, there will be a program to automatically check the air tightness of the whole system, for example, whether the sealing ring of the lid is intact, which can prevent the medium from suddenly leaking during the sterilization process and cause pressure relief.

The MDP preparator is equipped with 4 independent temperature/pressure detectors to ensure a high level of safety for the user and the working environment. It is equipped with an independent over-voltage safety protection device to automatically relieve pressure when the electronic detection system fails.

Rapid heating

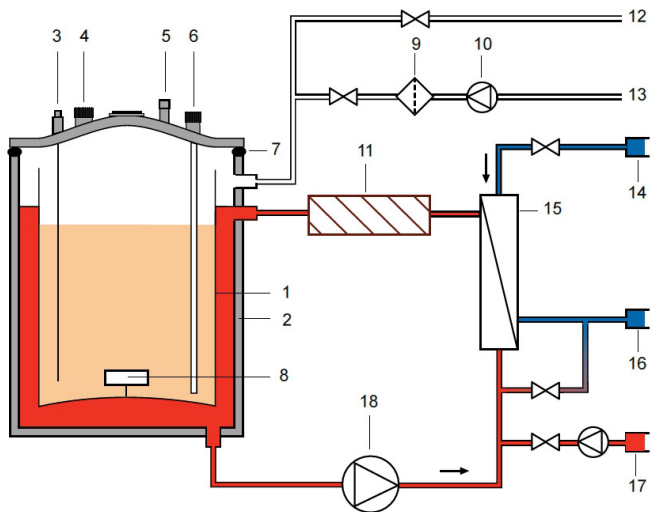
Efficient heating elements ensure rapid heating of the medium. This can reduce thermal stress and ensure the nutrient of the medium. The temperature and pressure controlled exhaust system ensures vapor saturation in the chamber, ensuring complete sterilization of the medium.

Reliable sterilization

Equipped with a powerful magnetic stirrer, the mixing speed and direction can be adjusted to ensure that the medium with different consistency can be stirred evenly. The Pt-1000 temperature probe and various operating parameters controlled by the microprocessor ensure complete and reliable sterilization results.

Rapid cooling

The rapid cooling system uses an efficient plate heat exchanger. The cooling water system and the sterilization chamber are internally isolated, which prevents the cooling water from contaminating the medium. The built-in pressure maintenance system prevents the boiling of the medium due to pressure drop during the cooling process, resulting in a fast and gentle cooling.



- | | |
|-----------------------------|------------------------|
| 1 Media cuvette | 2 Sterilization vessel |
| 3 Temperature probe | 4 Adding port |
| 5 Overpressure safety valve | 6 Dispense port |
| 7 Lid seal | 8 Magnetic stirrer bar |
| 9 Filter (0.25um) | 10 Pressure pump |
| 11 Flow heater | 12 Air outlet |
| 13 Air inlet | 14 Cooling water inlet |
| 15 Heat exchanger | 16 Water outlet |
| 17 Coupling water inlet | 18 Circulation pump |

Simple dispensing

The large auxiliary material addition port can easily and safely add various additives such as antibiotics, blood, growth factors and the like. The automatic simultaneous sterilization process of the dispensing port eliminates the risk of media contamination during the dispensing process. Special cavity design and dispensing system minimizes “residual” and maximizes lab costs. MDP preparator can be quickly and easily connected to a fully automated media plate dispenser or a manual dispensing peristaltic pump. It can also be applied to containers of various other shapes, such as squares, flasks or flasks.

Sterilization data record

MDP preparator provides tools that are needed for data logging, including sterilization parameters, work status, etc., to support long-term data storage.

Cleaning and maintenance

The built-in cleaning program automatically sterilizes chambers, pipes and valves. High temperature interlayer water can be discharged at the end of the process to dissolve and eliminate residual media. This allows all pipes and components in the entire machine to be sterilized, providing a good environment for the next use.

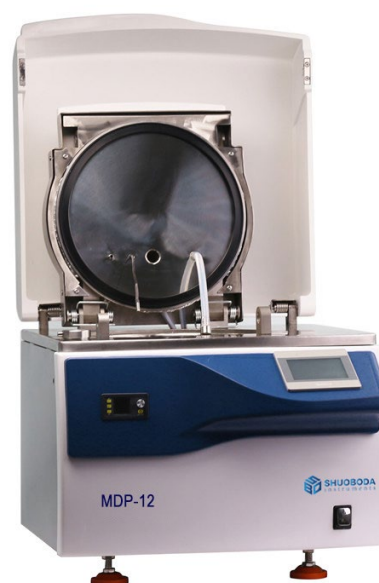
Safety

- Unique lid lock design, dual control of temperature and pressure.
- When temperature higher than 80°C and pressure higher than 50 mbar, the outer cover cannot be opened and automatically locked;
- When temperature higher than 50°C and pressure higher than 50 mbar, the upper cover cannot be opened, and the automatic lock ensures that the cover will not accidentally open during operation;
- Over-temperature protection 130°C, when the temperature exceeds the set temperature by 2.5°C, it will automatically warn, and the power will be cut off automatically if the temperature exceeds the temperature. The open pressure is 1.7bar safely and the built-in safety alarm will not accidentally hurt the operator.
- Pressure container certificated.



Technical parameters

Model	MDP-12	MDP-30
Capacity	12L, cavity 18L	30L, cavity 45L
Cavity size	300mmx260mm (D*H)	300mmX640mm
Bucket size	260mmx222mm (D*H)	260mmX 600mm
Sterilization temp.	70 ° C -130 ° C, design temp. 140 ° C	70 ° C -130 ° C, design temp. 140 ° C
Dispensing temp.	25 ° C -80 ° C	25 ° C -80 ° C
Water bath temp.	30 ° C -80 ° C	30 ° C -80 ° C
Max working pressure	2.5 bar	2.5bar
Design pressure	4 bar	4bar
Cavity sterilized water	Deionized pure water Auto water supplement (pressure not less than 1bar) high and low water level alarm	
Cooling water port	2", diameter 12 pagoda joint	
Circulating water	Tap water (pressure not less than 1bar)	
Drainage port	2", diameter 12 pagoda joint	
Temperature accuracy	0.1 ° C	0.1 ° C
Temperature offset	0.5 ° C	0.5 ° C
Time setting accuracy	1 minute	1 minute
Sterilization pot material	1.4301/1.4305 similar to SS316	1.4301/1.4305 similar to SS316
Dispense port	2 pcs, can adapt to a variety of sub-assembly requirements one of which can also be used for aseptic addition of materials	
Dispensing hose	ID 6mm, thickness 2mm	ID 6mm, thickness 2mm
Material feeding port	Diameter 32mm	Diameter 32mm
Stirring	powerful magnetic stirring 120 to 240 rpm adjustable	powerful magnetic stirring 0 to 120 rpm adjustable
Pressure supplement	Complementary pressure water cooling system, maintain tank pressure when rapidly temperature cool down	
Heating power	3.6 KW	6.6 KW
Power supply	AC 220-240V, 50/60Hz, 20A	AC 3p 380-420V, 50/60Hz, 32A
Dimensions	550*700*545 (L*W*H) mm	550*700*975 (L*W*H) mm
Packing size	1170*870*810 (L*W*H) mm	1170*870*1230 (L*W*H) mm
Weight	111 kg / 160kg	135kg / 175kg



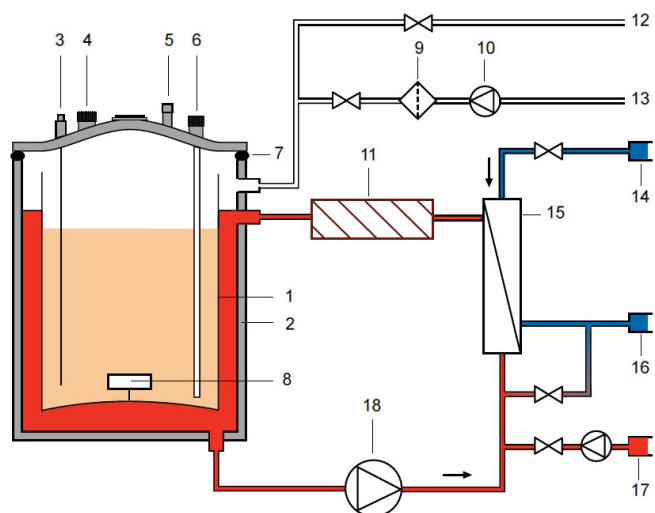


Main function:

- Medium sterilization
- Highly safe operation
- Rapid heating
- Reliable sterilization
- Rapid cooling
- Simple dispensing
- Sterilization data record

Key Components Origin

- Siemens PLC (Germany)
- Solenoid valves (Italy)
- Stirrer motor (Spain or Japan)
- Pressure sensor (Switzerland)
- Stirrer bar (Japan)
- Circulating pump (U.S.)



- 1 Media cuvette
- 2 Sterilization vessel
- 3 Temperature probe
- 4 Adding port
- 5 Overpressure safety valve
- 6 Dispense port
- 7 Lid seal
- 8 Magnetic stirrer bar
- 9 Filter (0.25um)
- 10 Pressure pump
- 11 Flow heater
- 12 Air outlet
- 13 Air inlet
- 14 Cooling water inlet
- 15 Heat exchanger
- 16 Water outlet
- 17 Coupling water inlet
- 18 Circulation pump

Technical parameters:

MODEL	MDP-45
Load capacity	47L, cavity 62L
Cavity size	400 mmx 480mm
Pail size	380mm x 440mm
Sterilization temperature	90-135 °C, design temperature 147 °C
Packing temperature	35-80 °C
Water bath temperature	0-100 °C
Temperature accuracy	0.1 °C
Temperature offset	1 °C
Time setting accuracy	1 minute
Maximum working pressure	2.5bar
Design pressure	3.5bar
Sterilized water in the cavity	deionized pure water, can automatically enter the water (pressure not less than 1bar), and alarm for high and low water levels
Cooling water interface	2 points inner wire diameter 12 pagoda joint
Circulating water	the pressure is not less than 1bar tap water
Drainage interface	2 points inner wire diameter 12 pagoda joint
Sterilizer material	S31603
Packing ports	two, which can adapt to various packing requirements, and one of them can also be used for aseptic addition of materials

Dispensing hose	inner diameter 6mm, thickness 2mm
Material adding port	diameter 32mm
Stirring	strong magnetic stirring, the speed is 0-240rpm, adjustable
Cooling system	supplementary pressure water cooling system can maintain the cavity pressure during rapid cooling
Safety measures	Unique cover lock design, dual control of temperature and pressure. If the temperature is greater than 80°C and the pressure is greater than 50mbar, the outer cover cannot be opened and it will automatically lock; if the pressure is greater than 50mbar, the upper cover cannot be opened and it will automatically lock to ensure that the cover will not be opened accidentally during operation; over-temperature protection is 130 ° C, if the temperature exceeds the set temperature 2.5 °C automatic warning, over-temperature automatic power-off; safety valve opening pressure 1.7bar, built-in safety valve will not accidentally injure the operator.
Temperature sensor	flexible PT-100 temperature probe in the medium preparation chamber and place it anywhere in the chamber
Heating power	15KW
Power requirements	3×380-420V, 50/60Hz, 40A
Dimensions	height 920mmx length 670mmx width 790mm
Net weight	160kg

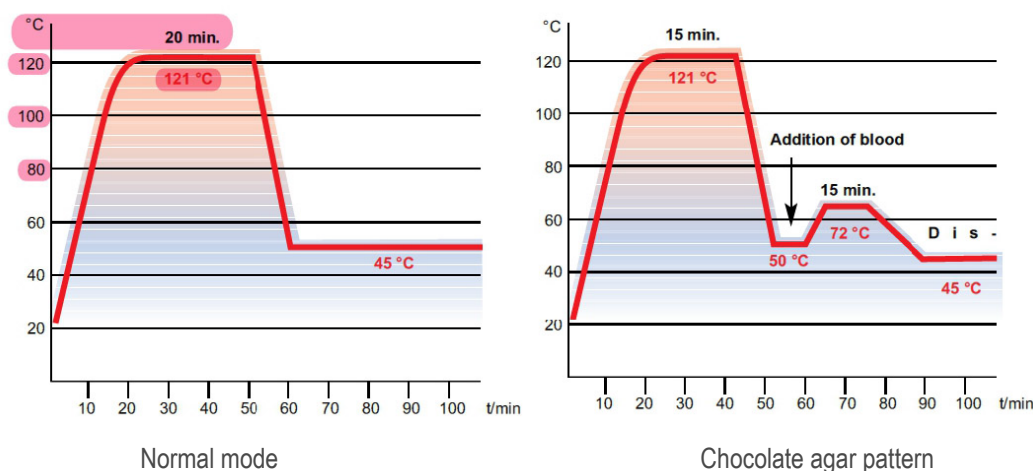
3. MDP-60 Automated Agar Media Preparator



Product Description:

The MDP-60 Automated Agar Media Preparators have flexible automated media reader – ready to allow you to quickly sterilize and prepare high quality media. This minimizes the space required to store the finished petri dish, eliminates the management of the petri dish storage, and ensures high quality media uniformity. It can quickly and gently sterilize the medium and accurately monitor and control the time, temperature, pressure and other parameters in the sterilization process, so as to ensure that all sterilized products have the same high quality, its intuitive graphical interface and the programming function makes it easy for everyone to operate the instrument.

MDP-60 preparator can be quickly prepared for sterilization, placed in a sterilizer, and filled with water in a “water jacket system” (sleeve water between the sterilizer and the sterilizer cavity for efficient heat transfer), added to the medium Raw materials, ready to start the sterilization process. The medium can be suspended and dissolved directly in MDP-60 preparator. Strong magnetic stirring ensures uniformity of mixing in the inner chamber and prevents condensation. The medium can be pre-dissolved in WATER BATH mode prior to sterilization. At the same time, an intuitive graphical interface makes it easy to operate without specially trained personnel. Users can customize multiple sterilization procedures, such as sterilization temperature, time, and dispensing temperature.

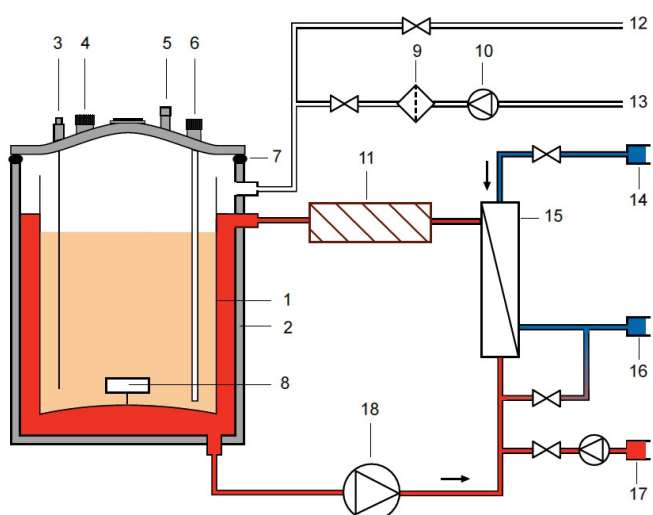


Main function:

- Medium sterilization
- Highly safe operation
- Rapid heating
- Reliable sterilization
- Rapid cooling
- Simple dispensing
- Sterilization data record

Key Components Origin

- Siemens PLC (Germany)
- Solenoid valves (Italy)
- Stirrer motor (Spain or Japan)
- Pressure sensor (Switzerland)
- Stirrer bar (Japan)
- Circulating pump (U.S.)



- 1 Media cuvette
- 2 Sterilization vessel
- 3 Temperature probe
- 4 Adding port
- 5 Overpressure safety valve
- 6 Dispense port
- 7 Lid seal
- 8 Magnetic stirrer bar
- 9 Filter (0.25um)
- 10 Pressure pump
- 11 Flow heater
- 12 Air outlet
- 13 Air inlet
- 14 Cooling water inlet
- 15 Heat exchanger
- 16 Water outlet
- 17 Coupling water inlet
- 18 Circulation pump

Technical parameters:

MODEL	MDP-60
Load capacity	60L, cavity 87L
Cavity size	400 mmx 685mm
Pail size	380mm x 640mm
Sterilization temperature	90-135 °C, design temperature 147 °C
Packing temperature	35-80 °C
Water bath temperature	0-100 °C
Temperature accuracy	0.1 °C
Temperature offset	1 °C
Time setting accuracy	1 minute
Maximum working pressure	2.5bar
Design pressure	3.5bar
Sterilized water in the cavity	deionized pure water, can automatically enter the water (pressure not less than 1bar), and alarm for high and low water levels
Cooling water interface	2 points inner wire diameter 12 pagoda joint
Circulating water	the pressure is not less than 1bar tap water
Drainage interface	2 points inner wire diameter 12 pagoda joint
Sterilizer material	S31603

Packing ports	two, which can adapt to various packing requirements, and one of them can also be used for aseptic addition of materials
Dispensing hose	inner diameter 6mm, thickness 2mm
Material adding port	diameter 32mm
Stirring	strong magnetic stirring, the speed is 0-240rpm, adjustable
Cooling system	supplementary pressure water cooling system can maintain the cavity pressure during rapid cooling
Temperature sensor	flexible PT-100 temperature probe in the medium preparation chamber and place it anywhere in the chamber
Heating power	15KW
Power requirements	3×380-420V, 50/60Hz, 40A
Dimensions	height 1120mm × length 670mm × width 790mm
Net weight	180kg

4. MDD200/400 Series Automated Cell Culture Petri Dish Media

Dispenser

In modern laboratories, it is essential to dispense aseptic media, and there is an increasing demand for media quality. The MDD dispenser dispensing system offers a unique and flexible dispensing mode that dispenses multiple plates and occupies a small laboratory bench space to complete the dispensing process.

A perfect fit with the media preparer allows you to dispense 1-10 liters of sterile media at once to meet the needs of small laboratories.

MDD dispenser is a compact, highly automated plate dispenser that requires only a small amount of laboratory bench space. Its feature is to explain the operation through its own explanation, just as all functions can be easily controlled through the graphical user interface. Once the plate dispensing process is initiated, the entire system can be operated stably without the operator. The filling area of the filling machine must be equipped with an ultraviolet sterilization lamp to ensure that the filling area is clean.



Easy to operate

All of the MDD dispenser's features are easily controlled through a graphical user interface that is displayed full screen. The operation of the system is completely explained by itself, just as all functions are explained in plain text, so that in fact, the operation of the machine does not require an operation manual.

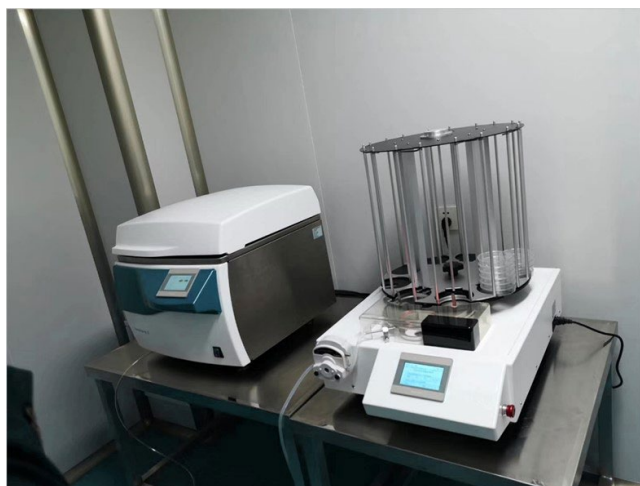
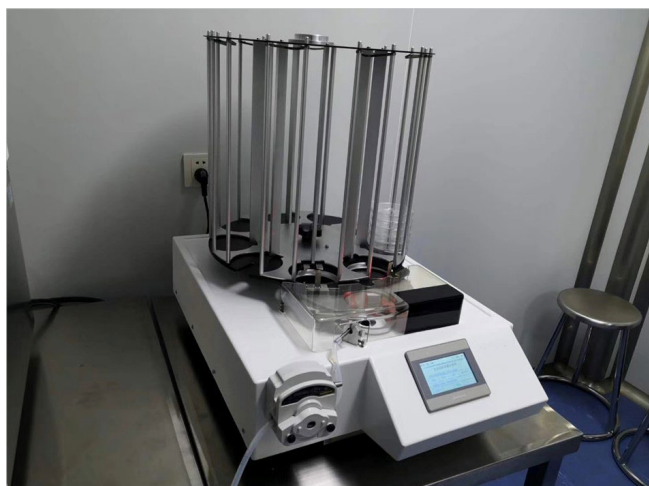
Reliable automation

The MDD dispenser guarantees reliable and independent operation. The plates are mechanically transmitted in the system during the dispensing process and monitored by a set of sensors. Typical disposable plastic plates vary in diameter and shape, but the machine can be adjusted automatically without problems, so that there is no trouble during the entire operation. After preparing 9 liters of medium, it can be dispensed into 540 plates by pressing a single button.

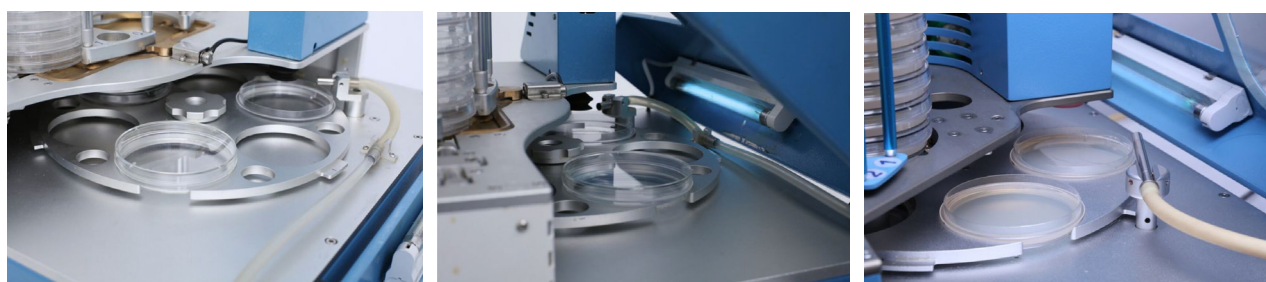


Technical Parameters:

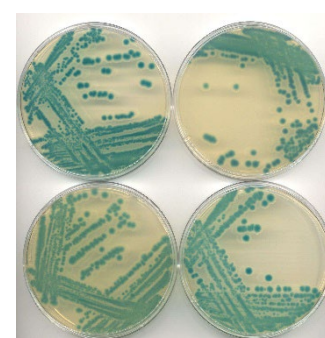
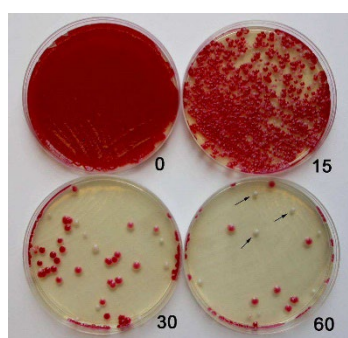
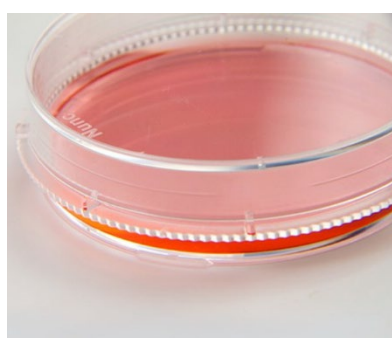
Model	MDD-200	MDD-400
Dispensing hose	25# (0.2~1120ml/min) 17# (0.3~1780ml/min)	
Dispensing accuracy	1% (20ml) with a system calibration program, calibration operation is simple, to ensure accurate dispensing.	
Dispensing speed	400pcs/h (Dual pump head, 20ml, diameter 90mm)	800pcs/h (Dual pump head, 20ml, diameter 90mm)
Petri dish holder	25pcs/grid, 9 grid, can be placed up to 175 petri dishes (diameter 90mm), 60mm diameter dish holder is optional	40pcs/grid, 9 Grid, can hold up to 280 culture dishes (90mm in diameter) at a time, 60mm diameter dish holder is optional
Dispensing plate	3-layer (90mm diameter), 60mm optional	6-layer (90mm diameter), 60mm optional
Shaking function	N/A	Yes, Make the medium distribution more even and smooth
Semiconductor refrigeration module	N/A	Optional, Cooling the medium
Print module	N/A	Optional, Print production date, expiration date, batch number, etc. on the culture dish
UV LAMP	254nm, 11W, 13000h life time, Disintegration of separate areas, low risk of contamination, Automatic reminder replacement	
Control	Large touch screen, Easy to operate, simple and intuitive to set parameters	
Cleaning and disinfection	Dish and rotary plate are removable for cleaning and disinfection	
Alarm	Failure alarm function	
Dimensions	640*515*725mm	725*635*1000mm
Packing size	950*730*1080mm	925*835*1300mm
Weight	72kg / 92kg	82kg / 112kg



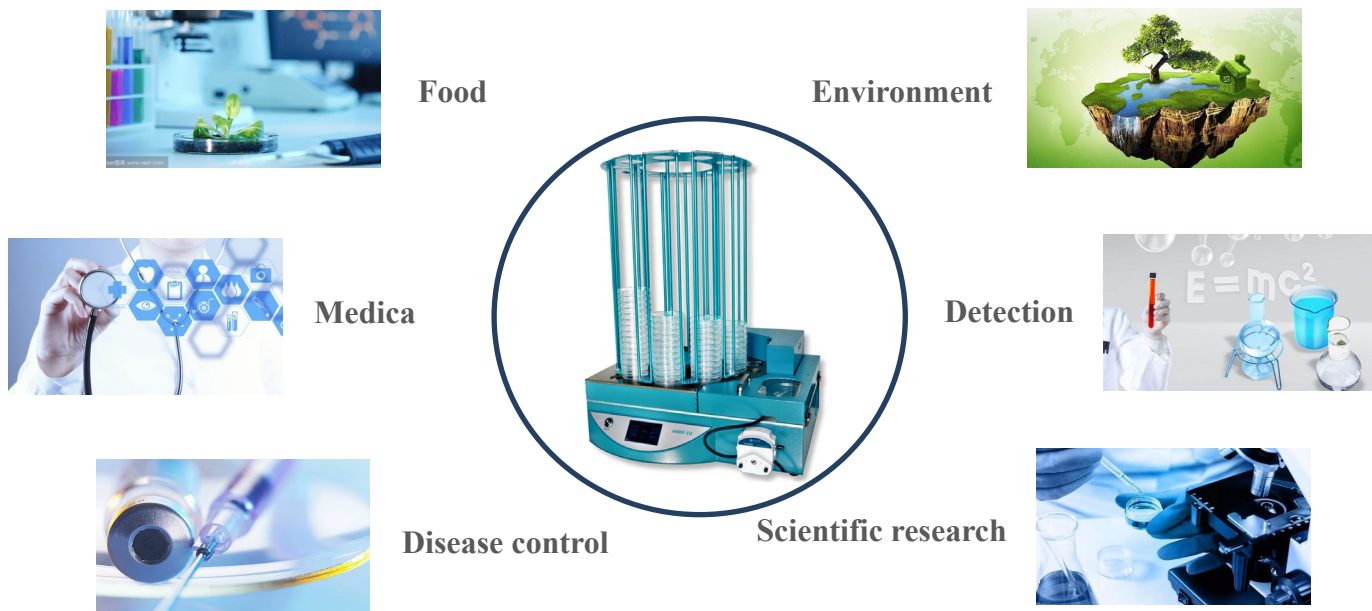
5. MDD-500 Automatic Agar Media Dispenser



Automatic culture medium dispensing instrument is an intelligent instrument that integrates quantitative culture medium dispensing, automatic stacking/stacking of culture dishes and high-pressure steam sterilizer. It can provide an aseptic, accurate and quantitative culture medium preparation and dispensing system without personnel on duty. It is mainly used for the preparation, sterilization and aseptic dispensing process of solid medium plates, such as automatic dispensing of bacterial nutrient agar medium, Automatic dispensing of fungus Sabouraud solid medium.



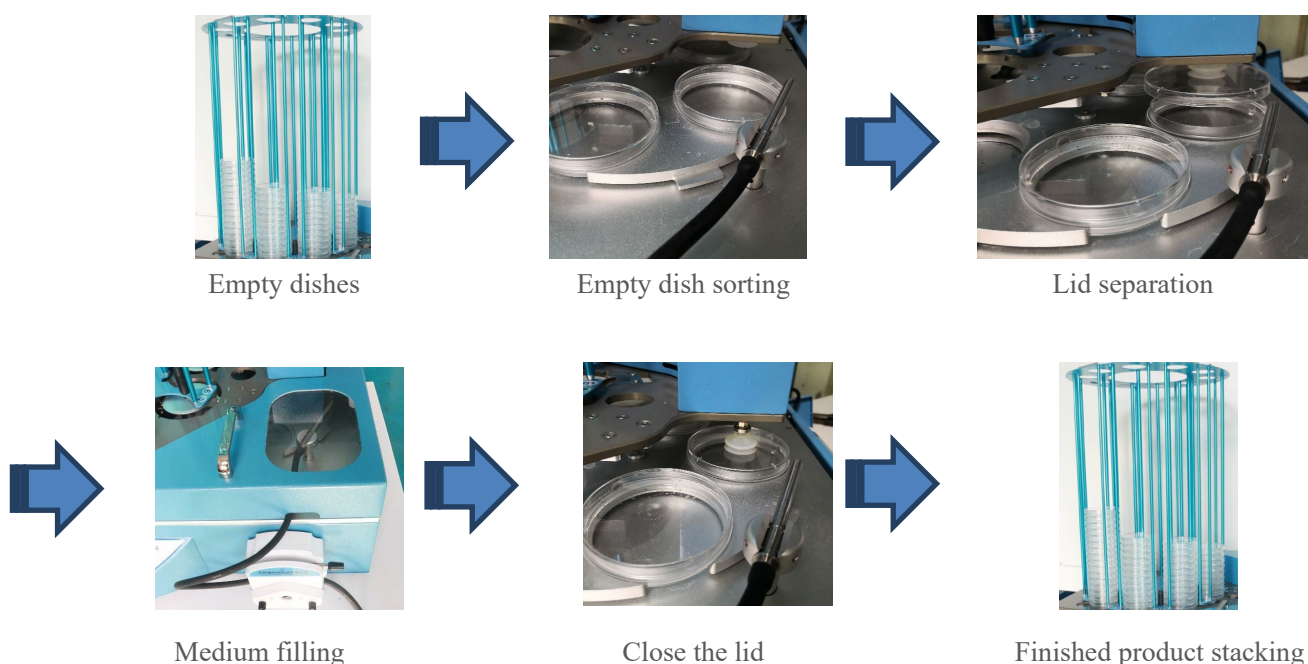
The instrument is widely used in hospitals, food, environment, disease control, scientific research, inspection, third-party testing and other fields to realize the quantitative and automatic preparation of microbial culture solid medium plates, improve the efficiency of the test, and reduce the repeated mechanical operations of personnel.



Features

- 4.3-inch color touch screen, user-friendly UI interface design, simple and intuitive operation.
- With flow calibration function.
- Equipped with anti-drip and compensation functions to avoid liquid dripping during filling.
- High-precision peristaltic pump, accurate quantification, fast dispensing.
- The suction cup uncovering design prevents the failure of the dish body and the dish lid from being separated, stable operation, high reliability, and strong ability to adapt to the culture dish.
- Built-in ultraviolet lamp, optional special ultra-clean table, make the whole instrument in a completely clean environment, to ensure the sterile environment.
- Multi-station design, separate packaging, stacking and stacking of petri dishes at the same time.
- The multi-station turntable is detachable, which is more convenient for cleaning and maintenance.
- Multiple automatic protection, one-button start sub-assembly, no personnel on duty.
- Integrated high-pressure steam sterilizer (optional): realizes the automatic operation of high-pressure sterilization and quantitative dispensing of culture medium.

Work principle



Specifications

Model	MDD-500
Working voltage	AC220V/ 50Hz
Power	400W
Dispensing range(ml)	5-1000ml
Dispensing accuracy(30 ml)	2%
Dispensing speed	500pcs/h
Dispensing quantity of one time	300pcs
Petri dish specifications	Diameter 90mm, 60mm(optional)
Dimensions	L650*W510*H840mm(300pcs) or H620mm(200pcs)
Standard configuration	200 dishes storage; Diameter 90mm petri dish
Optional configuration	300 dishes storage; Diameter 60mm petri dish; 10L Autoclave sterilizer; Special ultra clean station

6. MDD-17 Media Dispenser, medium tube, jar bottle, plate filler



Product introduction

MDD-17 medium dispenser is an electronic peristaltic pump dispensing system for precise liquid delivery, specially designed for precise metering and dispensing of various reagent solutions (medium, buffer, diluent, etc.) in the microbiology laboratory, it can make your frequent repeated dispensing operation easy and efficient! One machine for multiple purposes: It can realize various purposes such as "pour plate preparation" and "test tube dispensing"; It is widely used in professional microbiology laboratories of various food and drug companies, government testing institutions and scientific research units.

Instrument Features

- Compact and lightweight design, easy to move, saving laboratory space.
- 3 -inch TFT precision resistive full-color touch screen and 32-bit ARM microprocessor.
- Automatic identification of foot switch, filling with timing and infrared sensing functions.
- Four innovative designs: flow intelligent calibration, quantitative correction, 1 ° -720 ° suction angle setting, buffer delay.
- The pop-up dispensing pump head is adopted, which can quickly replace the dispensing tube of different specifications.
- The dispensing head with anti-drip design can meet the sanitary requirements and protect every drop of your reagents.
- Equipped with dispensing tubes of different diameters to ensure accurate dispensing accuracy while obtaining a variety of dispensing volume ranges.

Instrument technical parameters

- ≥ 20 curing and dispensing modes, the error is $\leq \pm 1.0\%$;
- The anti-drip dispensing head can be used to dispense various microbial reagents such as culture medium, buffer solution and diluent;
- The maximum volume that can be dispensed in a single time can reach 3000mL , the flow rate of dispensing is 0.6mL-7000ml/min , and the error of dispensing is less than 1% ;
- Sterilizable dispensing tube, optional inner diameter 1.6mm, 2.4mm, 3.1mm, 4.8mm, 6.4mm, 7.9mm six kinds of dispensing tube;
- Five working modes: continuous conveying, timing filling, quantitative filling , duplication filling, weighing filling ;

- The animation shows the working status , and the setting parameters, flow data, and machine configuration are displayed on the same screen, which is easy to operate ;
- Membrane keys control start and stop, and external controllers can also be used for remote start / stop control.
- The design of separating the dispensing tube and the dispensing pump is adopted, so that the fluid only passes through the sterilizable dispensing tube, preventing the possibility of contamination.

Instrument configuration

- Dispensing pump host 1 set
- 1 set of anti-drip dispensing head
- 1 set of sterilizable dispensing tube
- 1 Foot switch

7. Product Gallery





8. Customer site







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