Midea Biomedical

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CO2 Incubator

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Scope of Application

Midea Biomedical CO2 Incubator with 140°C/180°C dry heat sterilization and low-voltage adaptability ensures a stable, contamination-free culture environment for precision cell research.

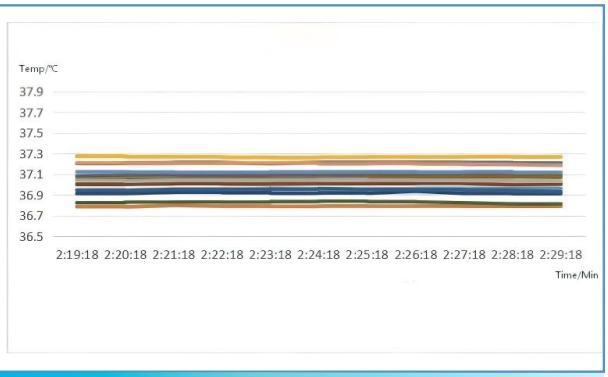
MCP-80S/MCP-80P

MCP-180S/MCP-180P/MCP-180UE

MCP-240S/MCP-240P

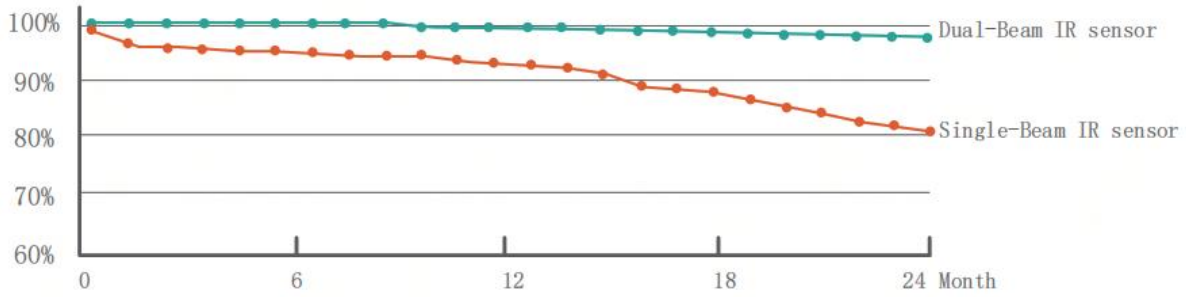
Unmatched Temperature Accuracy and Repeatability

The 6-side heating based on the fuzzy PID control algorithm employs high-performance elements on every interior surface. This design ensures exceptional thermal uniformity, achieving a stable and consistent temperature field of ±0.3°C (S series) and ±0.2°C (P series) throughout the entire chamber.



Measuring 15 pointswith the temp uniformity ⩽±3℃

Engineered for Stability: Infrared CO2 Sensor



Sketch of drift less than 0.3%

Ensure culture integrity with our dedicated Infrared (IR) CO2 Sensor. It delivers exceptional measurement stability in environments where humidity and temperature are less predictable, effectively neutralizing the bias introduced by frequent door opening and closing. Designed for the most sensitive applications, it enables reliable remote monitoring and is perfectly suited for incubators requiring regular access. The sensor also includes an integrated temperature sensor with over-temperature protection for added safety.

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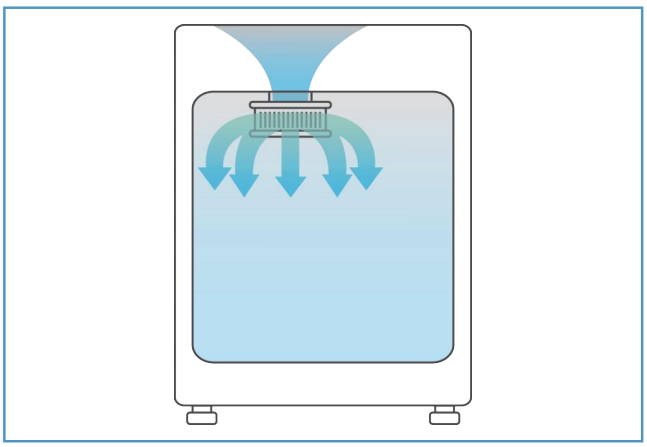
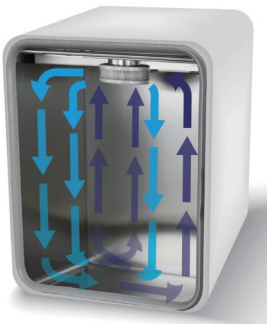
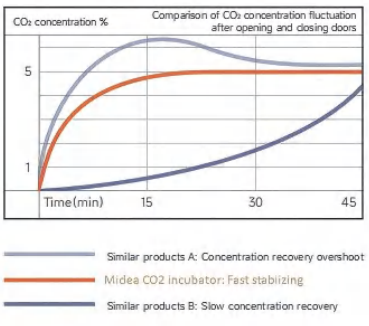
Hepa Air Purification —5-Minute Cycle

The integrated HEPA filtration system ensures continuous, whole-chamber air purification. Upon door closure, the system achieves specified air quality standards within a 5-minute air exchange cycle. It provides sustained contamination control by significantly reducing the concentration of airborne particulates, thereby minimizing their deposition on internal surfaces.



Active Airrlow Technology | Filtered Airflow System

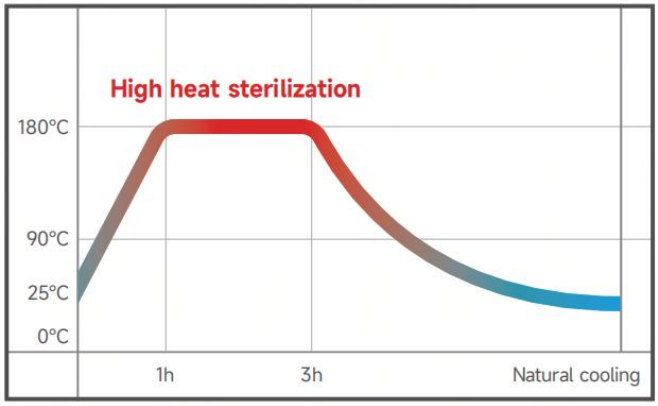




The incubator features a fan-assisted airflow circulation system that enables rapid environmental recovery. Its airflow pattern is engineered to ensure uniform distribution of key parameters—including temperature, gas concentration, and humidity—throughout the chamber.
A built-in fan continuously delivers filtered, humidified air across all areas of the interior. This design maintains consistent environmental conditions for all cell cultures, preventing localized drying and minimizing water loss regardless of their position within the chamber.

Dual-Temperature Dry-Heat Sterilization: 140°C / 180°C

Two programmable dry-heat sterilization cycles are available: 140°C and 180°C. The optional 180°C high-temperature cycle provides rapid, effective decontamination, thermally eliminating bacteria, mold, yeast, and mycoplasma from all interior surfaces. This in-situ sterilization process simplifies cleaning workflows by removing the need for external autoclaving and component disassembly/reassembly, thereby enhancing operational efficiency and ensuring consistent aseptic conditions.(For laboratories seeking enhanced convenience, the MCP-180UE series introduces an important upgrade: dry-heat sterilization can now be performed without removing the HEPA filter or sensors.)



	Clump count (CFU/piece)	positive samples / total samples
Bacillus subtilis black variant spore	6.08 × 10^5	0 / 2
escherichia coli	7.55 × 10^5	0 / 2
staphylococcus aureus	1.83 × 10^6	0 / 2
pseudomonas aeruginosa	5.48 × 10^5	0 / 2
Candida albicans	5.50 × 10^5	0 / 2
aspergillus niger	1.63 × 10^6	0 / 2
*operating parameter: 140 120min Operating state: fully occupied(glassware)		

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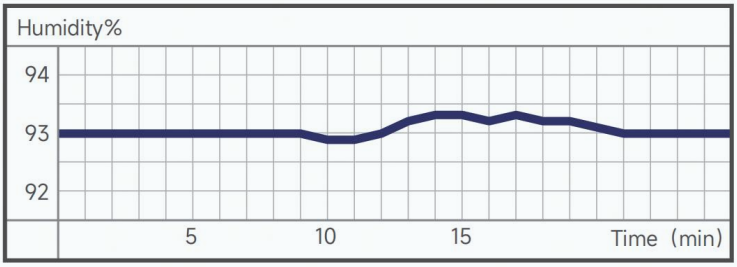
Precision Humidity Management & Condensation Control

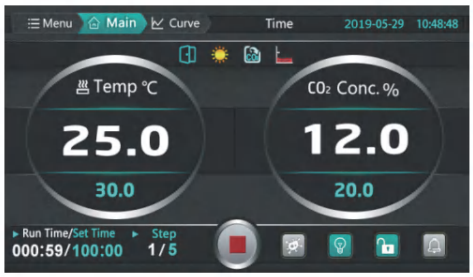
Designed to prevent condensation formation, the 304 stainless steel water pan for humidification holds up to 4 liters of water, ensuring a high-humidity environment within the culture chamber. It provides reliable protection for cell and tissue culture by effectively avoiding the dangerous formation of condensation, even when operating at high humidity levels under normal room temperature conditions. This performance is supported by stable humidity maintenance, as shown in the accompanying graph, where relative humidity consistently reaches 93–94% with minimal fluctuation. Turbulence-free ventilation throughout the chamber further contributes to a constant and uniform culture environment.

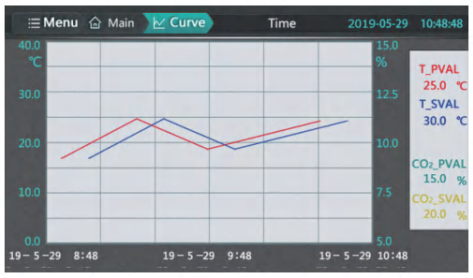


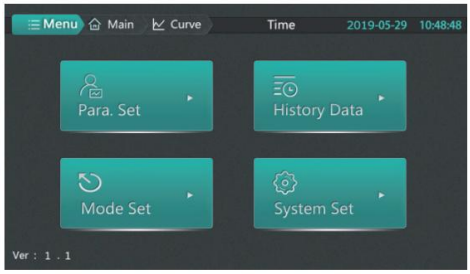
*The humidity measurement location is the middle center of the chamber

Interactive Intelligent Display with Easy Touch Operation

Featuring an intuitive 5-inch LCD touchscreen mounted above the door for easy access, the system allows for straightforward operation with sensitive touch control. It provides clear visualization of both real-time and historical run curves, supported by on-screen prompts and audible/visual alarms. All recorded data is securely stored, can be monitored directly, and is exported via a USB port. This data remains unalterable, ensuring complete and reliable traceability back to the original records.







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Product			
Model No.	MCP-80S	MCP-180S	MCP-240S
Control interface	5 inch LCD touch screen	5 inch LCD touch screen	5 inch LCD touch screen
Temperature control mode	PID control mode	PID control mode	PID control mode
Temperature control range	Ambient +5℃~60℃	Ambient +5℃~60℃	Ambient +5℃~60℃
Temperature display resolution	0.1℃	0.1℃	0.1℃
Temperature field uniformity	±0.3℃ at 37℃	±0.3℃ at 37℃	±0.3℃ at 37℃
Heating power	600W	900W	1000W
Timing function	0-999.9 hours	0-999.9 hours	0-999.9 hours
Internal Dimensions	L440×W400×H500mm	L535×W526×H675mm	L674×W526×H675mm
Dimension	L560×W530×H825mm	L660×W652×H1000mm	L800×W652×H1000mm
Volume	85L	185L	248L
CO2 measurement principle	Infrared (IR)detection	Infrared (IR)detection	Infrared (IR)detection
CO2 control range	0-20%	0-20%	0-20%
CO2 display resolution	0.1%	0.1%	0.1%
CO2 supply	0.05~0.1MPa is recommended	0.05~0.1MPa is recommended	0.05~0.1MPa is recommended
Relative Humidity	Ambient humidity~95%at 37℃	Ambient humidity~95%at 37℃	Ambient humidity~95%at 37℃
HEPA filtration	ISO 5 level,5 minutes	ISO 5 level,5 minutes	ISO 5 level,5 minutes
Sterilization method	140℃ High heat sterilization	140℃ High heat sterilization	140℃ High heat sterilization
Temperature recovery time	≤10 min (open door 30sec room temperature 25℃ set value 37℃)	≤10 min (open door 30sec room temperature 25℃ set value 37℃)	≤10 min (open door 30sec room temperature 25℃ set value 37℃)
COz concentration recovery time	≤5 min(open the door 30sec set value 5%)	≤5 min(open the door 30sec set value 5%)	≤5 min(open the door 30sec set value 5%)
Historical data storage	250,000 messages	250,000 messages	250,000 messages
Data export interface	USB interface	USB interface	USB interface
User Management	3 levels of user management: Administrator/Tester/Operator	3 levels of user management: Administrator/Tester/Operator	3 levels of user management: Administrator/Tester/Operator
Scalability	Up to 2 units can be stacked	Up to 2 units can be stacked	Up to 2 units can be stacked
Working environment temperature	18~30℃	18~30℃	18~30℃
Power supply	115V~230V±10%,50~60Hz	115V~230V±10%,50~60Hz	115V~230V±10%,50~60Hz
Weight	78kg	112kg	130kg

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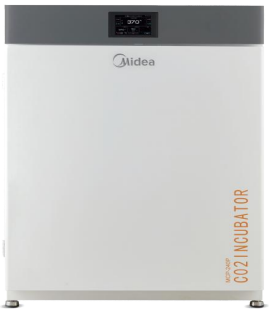
Product			
Model No.	MCP-80P	MCP-180P/MCP-180UE	MCP-240P
Control interface	5 inch LCD touch screen	5 inch LCD touch screen	5 inch LCD touch screen
Temperature control mode	PID control mode	PID control mode	PID control mode
Temperature control range	Ambient +4℃-60℃	Ambient +4℃-60℃	Ambient +4℃-60℃
Temperature display resolution	0.1℃	0.1℃	0.1℃
Temperature field uniformity	±0.2℃ at 37℃	±0.2℃ at 37℃	±0.2℃ at 37℃
Heating power	600W	900W	1000W
Timing function	0-999.9 hours	0-999.9 hours	0-999.9 hours
Internal Dimensions	L440×W400×H500mm	L535×W526×H675mm	L674×W526×H675mm
Dimension	L560×W530×H825mm	L660×W652×H1000mm	L800×W652×H1000mm
Volume	85L	185L	248L
CO2 measurement principle	Infrared(IR)detection	Infrared(IR)detection	Infrared(IR)detection
CO2 control range	0-20%	0-20%	0-20%
CO2 display resolution	0.1%	0.1%	0.1%
CO2 supply	0.05~0.1MPa is recommended	0.05~0.1MPa is recommended	0.05~0.1MPa is recommended
Relative Humidity	Ambient humidity~95%at 37℃	Ambient humidity~95%at 37℃	Ambient humidity~95%at 37℃
HEPA filtration	ISO 5 level,5 minutes	ISO 5 level,5 minutes	ISO 5 level,5 minutes
Sterilization method	180℃ High heat sterilization	180℃ High heat sterilization	180℃ High heat sterilization
Temperature recovery time	≤10 min (open door 30sec room temperature 25℃ set value 37℃)	≤10 min (open door 30sec room temperature 25℃ set value 37℃)	≤10 min (open door 30sec room temperature 25℃ set value 37℃)
COz concentration recovery time	≤5 min(open the door 30sec set value 5%)	≤5 min(open the door 30sec set value 5%)	≤5 min(open the door 30sec set value 5%)
Historical data storage	250,000 messages	250,000 messages	250,000 messages
Data export interface	USB interface	USB interface	USB interface
User Management	3 levels of user management: Administrator/Tester/Operator	3 levels of user management: Administrator/Tester/Operator	3 levels of user management: Administrator/Tester/Operator
Scalability	Up to 2 units can be stacked	Up to 2 units can be stacked	Up to 2 units can be stacked
Working environment temperature	10~30℃	10~30℃	10~30℃
Power supply	115V~230V±10%,50~60Hz	115V~230V±10%,50~60Hz	115V~230V±10%,50~60Hz
Weight	78kg	112kg	130kg