Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

MTS200 / MTS400

Microplate Thermo Shaker Incubator · Heating · Mixing · Timed Incubation · 2-Plate / 4-Plate Models

MTS200 / MTS400 Microplate Thermo Shaker Incubator is a compact laboratory platform designed for controlled incubation, heating and shaking of microtiter plates, deep well plates and culture plates. The system combines PID intelligent temperature control, precise brushless DC motor speed regulation, timed operation and automatic protection functions in one bench-top instrument. MTS200 supports up to two plates, while MTS400 supports up to four plates for higher microplate throughput.

MICROPLATE THERMO SHAKER | RT+5°C TO 70°C | 100–1600 RPM | 2 OR 4 PLATES | 3 MM AMPLITUDE | TFT 4.3 INCH | PID CONTROL | PT100 A CLASS | TIMER 1–9999 MIN | POWER FAILURE MEMORY

Document type: **Technical Specification Sheet**
Product family: **MTS Series Microplate Thermo Shaker Incubator**
Models: **MTS200 · MTS400**
Format: **A4 landscape · COLO.Science TechSpec v2.3**

MTS200 · microplate thermo shaker incubator · main unit

FAMILY
MTS200 / MTS400

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Technical data sheet · Informational document · Controlled electronic document
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MTS200 / MTS400 · technical specification

Microplate thermo shaker incubator for controlled incubation, heating and mixing

LCD / TFT DISPLAY | PID FUZZY CONTROL | BRUSHLESS DC MOTOR | SLOW START | AUDIO ALARM | POWER FAILURE RECOVERY | OVERHEATING PROTECTION

— Compact automation tool for microplate incubation, catalysis and reaction processes

Product Overview

Application profile

Microplate incubation: suitable for controlled heating and incubation of microtiter plates, deep well plates and culture plates.

Plate-based mixing: supports shaking from 100 to 1600 rpm with a 3 mm mixing amplitude.

Reaction workflows: designed for sample incubation, catalysis, enzymatic reactions and other temperature-controlled reaction processes.

Throughput choice: MTS200 is a two-plate model, while MTS400 offers a four-plate configuration for higher workload.

Design and handling advantage

Compact platform: small size and moderate weight make the instruments practical for bench-top laboratory use.

One-key knob operation: simple operation interface for daily routine use.

Real-time display: 4.3 inch display shows operating information and set parameters.

Reliable long-term use: high quality switching power supply supports stable operation.

Key features

Temperature control: PID intelligent control with ±0.3°C temperature control accuracy.

Temperature uniformity: ±0.5°C for stable incubation conditions.

Mixing speed: 100–1600 rpm with ±1 rpm speed accuracy.

Timer: 1 minute to 9999 minutes with audio alarm after completion.

Safety: built-in software and hardware over-temperature protection.

Recovery: power failure memory allows automatic resume after power restoration.

Core technical summary

Parameter	Specification
Model family	MTS200 / MTS400
Product type	Microplate thermo shaker incubator
Capacity	2 × plates / 4 × plates depending on model
Temperature range	RT+5°C to 70°C
Mixing speed	100–1600 rpm
Mixing amplitude	3 mm
Display	4.3 inch TFT / LCD display
Timer	1 min to 9999 min
Power supply	AC220V±10% / 50–60Hz

CAPACITY
2 or 4 plates

TEMPERATURE
RT+5°C to 70°C

MIXING SPEED
100–1600 rpm

TIMER
1–9999 min

Technical Specifications

Model comparison

Parameter	MTS200	MTS400
Product type	Microplate thermo shaker incubator	Microplate thermo shaker incubator
Capacity	2 × microtiter or deep well plates	4 × microtiter or deep well plates
Temperature range	RT+5°C to 70°C	
Heating method	Peltier / thin-film heating system*	
Mixing speed	100–1600 rpm	
Temperature control accuracy	±0.3°C	
Temperature uniformity	±0.5°C	
Temperature resolution	0.1°C	
Maximum heating speed	5.5°C/min	
Mixing amplitude	3 mm	
Speed accuracy	±1 rpm	
Display	TFT / LCD 4.3 inch display	
Drive mode	Multidimensional drive	
Overheating protection	Yes	
Cooling system	No	

Power, dimensions and accessories

Parameter	MTS200	MTS400
Rated power	180 W	200 W
Timer	1 min to 9999 min	
Temperature sensor	Pt100 A Class	
Power supply	AC220V±10% / 50/60Hz	
Overall dimension W×D×H	280 × 270 × 140 mm	329 × 359 × 172 mm
NW / GW	9 / 10 kg	10 / 11 kg
Optional accessories	Blocks, thermo lid, communication port	

Operation and running functions

Function	Technical note
Running function	Setting or program running, timing running, automatic stop, quick stop / start, one-button illumination and two-way automatic switching.
Timing function	Timer range from 1 minute to 9999 minutes with audio alarm after completion.
Shaking method	Continuous or timed shaking, with automatic function switch-off after the set time expires.
Temperature control	Microcomputer control of temperature and oscillation frequency with timing functions.
Power failure recovery	Built-in power-off protection can automatically resume operation after power is restored.
Additional features	Temperature deviation correction, menu button lock and power failure memory.
Motor system	Intelligent brushless DC motor with high precision speed control and slow start design.
Speed protection	Automatic lock / protection if speed becomes uncontrolled.
Safety reference	Multi-protection function; product documentation refers to CE safety standard.

Specification note

Model selection: choose MTS200 for two-plate routine workflows and MTS400 for four-plate throughput.

Plate compatibility: verify microtiter plate, deep well plate or culture plate format before final configuration.

Heating method wording: source data includes both thin-film heating and Peltier reference; final manufacturer wording should be confirmed before quotation.

Final values depend on plate format, loading conditions, ambient temperature, operating program and selected model configuration. Technical data are provided for orientation and product selection.

Feature Summary and Visual Configuration Support

Control and display

Display: 4.3 inch LCD / TFT interface shows operating and setting information in real time.

Microcomputer control: temperature and oscillation frequency are controlled with timing functions.

PID fuzzy control: supports accurate temperature regulation and automatic heating-rate adjustment.

Menu lock: menu button lock helps prevent accidental parameter changes.

Drive and operation

Brushless DC motor: supports stable operation and reduced maintenance.

High precision speed: ±1 rpm speed accuracy for controlled mixing workflows.

Slow start: helps reduce liquid splashing at the start of shaking.

Auto protection: automatic lock is activated if speed becomes uncontrolled.

Temperature workflow

Temperature range: RT+5°C to 70°C for plate incubation and reaction processes.

Heating speed: maximum heating speed up to 5.5°C/min.

Uniformity: ±0.5°C temperature uniformity across working conditions.

Protection: software and hardware double over-temperature protection.

Instrument Views and Model Identification

MTS200 main unit · two-plate microplate thermo shaker incubator

Image references

MTS200 main unit

MTS200 open lid

MTS400 four-plate model

Configuration checklist

Plate capacity: define whether two-plate or four-plate throughput is required.

Plate format: confirm microtiter plate, deep well plate or culture plate compatibility.

Temperature profile: confirm incubation temperature and acceptable heating time.

Mixing requirement: define shaking speed, mixing amplitude and timed / continuous operation.

Accessories: confirm blocks, thermo lid and communication port before ordering.

Configuration notice — plate workflow must be confirmed before quotation

MTS200 and MTS400 are selected according to plate capacity, plate type, incubation temperature, shaking speed and accessory configuration. Final plate compatibility and optional accessories should be confirmed in the official quotation.

Applications and Laboratory Value

Sample incubation

Controlled incubation: suitable for temperature-controlled incubation of microtiter plates, deep well plates and compatible culture plate formats.

Shorter operation time: integrated heating and shaking can reduce manual transfer between separate devices.

Plate automation: useful as a compact automation tool for plate-based laboratory workflows.

Catalysis and reaction processes

Reaction support: controlled heating and mixing support catalysis, enzymatic reactions and biochemical reaction steps.

Timed programs: timer setting from 1 to 9999 minutes helps standardize reaction duration.

Audio alarm: audible notification is issued automatically after the timer is finished.

Routine plate-based work

Diagnostics: supports routine microplate handling in diagnostic and bioanalytical laboratories.

Research: suitable for laboratory research workflows requiring repeatable incubation and shaking.

Quality control: useful for controlled plate-based procedures in QC laboratory environments.

Choosing MTS200

Capacity: 2 × microtiter or deep well plates.

Bench-top use: compact dimensions of 280 × 270 × 140 mm.

Power: rated power 180 W.

Weight: NW / GW 9 / 10 kg.

Recommended use: routine workflows with moderate plate throughput.

Choosing MTS400

Capacity: 4 × microtiter or deep well plates.

Higher throughput: suitable for laboratories processing more plates per run.

Power: rated power 200 W.

Dimensions: 329 × 359 × 172 mm.

Recommended use: higher workload while retaining the same temperature and mixing class.

Selection note

MTS200 is the practical choice for compact two-plate operation. MTS400 is selected when four-plate capacity is required. Both models share the same RT+5°C to 70°C temperature range, 100–1600 rpm mixing speed range, 3 mm amplitude and PID temperature control concept.

Safety and Reliability

Safety / reliability function	Technical description
Double over-temperature protection	Built-in software and hardware protection for safe operation.
Multi-protection function	Protection concept designed to support CE safety standard requirements.
Power failure memory	After power interruption and restoration, the equipment can resume operation according to the original setting program.
Stable power supply	High quality switching power supply supports reliable long-term operation.
Speed protection	Automatic lock / protection when speed becomes uncontrolled.
Menu button lock	Helps prevent accidental operation or parameter changes during workflow.

MANUFACTURER AND SUPPORT

COLO Lab Experts

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Selection guidance: Send the required plate format, plate capacity, incubation temperature, shaking speed, protocol duration and accessory requirement. COLO.Science can help confirm whether MTS200 or MTS400 is the correct configuration for your laboratory workflow.

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COLO.SCIENCE · MTS200 / MTS400 MICROPLATE THERMO SHAKER INCUBATOR SUPPORT

Need help choosing between MTS200 and MTS400?

Send the plate type, number of plates per run, required incubation temperature, mixing speed, timer requirement and optional accessory needs. COLO.Science can help confirm the correct microplate thermo shaker incubator configuration.

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