Panasonic

MCO-170M

CE 0123
EU only

Multigas Incubator 161L

Optimizing cell culture productivity

Ideal for various cell culture needs that require CO_2 and sub-ambient or above-ambient oxygen control.

Consistent and uniform environment

- Multi-level contamination control with hydrogen peroxide (H_2O_2) decontamination control, SafeCell UV, inCu-saFe interior & Active Background Contamination control.
- Direct Heat and Air Jacket System for accurate temperature control.
- Dual IR sensor for precise CO_2 control and recovery.
- A solid zirconia oxygen sensor maintains sub-ambient O_2 levels.

Equipped with four inner doors as standard

inCu-saFe Construction for Germicidal Protection

Panasonic offers the exclusive use of inCu-saFe copper-enriched stainless steel alloy interior surfaces to eliminate contamination sources such as mold, spores, and other contaminating spills while providing a noncorrosive environment, and mitigate the effect of airborne contaminates introduced through normal use.

SafeCell UV Decontamination*

Isolated Ultra Violet (UV) lamp decontaminates circulating air and the humidity water reservoir without harming the cultured cells. The new 5,000 hour UV lamp provides long-term maintenance free service without the ozone production. The UV lamp also provides easy access to an effective 24 hour chamber decontamination feature through the touch panel controller.

*The optional MCO-170UVS will add the UV function.

Rapid, Effective and Safe H_2O_2 Decontamination Cycle*

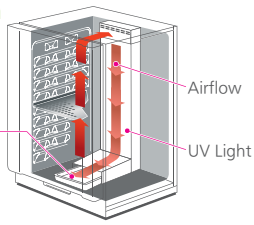
Panasonic's unique high-speed decontamination system uses vaporized H_2O_2 and UV light to safely clean the chamber in less than three hours. This technology provides 100% kill rate with at least 6 log reduction of major contaminants* (e.g. mycoplasma orale, staphylococcus aureus, candida albicans, etc.). *based on an independent study

*The optional MCO-170UVS will add the UV function. The optional MCO-170HB and MCO-170EL will add the H_2O_2 decontamination function.

Germicidal Interior

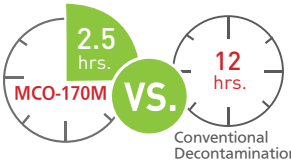
Mycoplasma Stain	Positive Control	Conventional Stainless Steel 304	Panasonic inCu-saFe
Mycoplasma fermentans PG18	Contaminant Growth		No Contaminant Growth
Mycoplasma orale CH19299			
Mycoplasma arginini G230			
Mycoplasma hominis PG21			

Active Background Contamination Control



Airflow and water pan decontamination using a UV system

Efficient Decontamination



Time comparison between the H_2O_2 decontamination process and sterilization at above 140℃
(Efficacy evaluation of sterilization techniques utilized by several cell culture incubators)

LCD Touch Panel Controller

A WVGA Color LCD touch panel delivers full control over different protocols. Auto-lock can be set with the optional electric door lock MCO-170EL. The access can be limited, controlled, and traced by setting User-IDs and Passwords.

Responds to gloved finger action

Security

Control Panel with single-user Key Lock. (Standard)

USB port

USB port for easy data transfers

Integrated Tray Catches

Tray catches are integral parts of the chamber, opening up more space for trays by reducing 80% of the parts to accommodate more culture containers. (comparison with MCO-19M)

MCO-170M's tray catches (integral part of the chamber)

Precise CO_2 Control

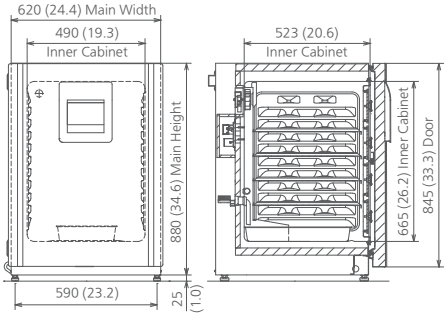
- A single beam dual detector infrared CO_2 system offers unprecedented control accuracy and stability by simultaneously measuring two wavelengths for continuous zero calibration.
- Benefits include ultra-fast recovery without overshoot and accurate CO_2 averages during periods of frequent incubator access with multiple door openings.

Zirconia O_2 Control

For The Multigas Incubator, a solid zirconia oxygen sensor maintains sub-ambient O_2 levels with high degree of precision. It has a long service life and has fast response to door openings.

Dimensions

Unit: mm (inch)



Double-stacking Matching Table

Spacer for double-stacking		Upper unit
		MCO-170AIC | MCO-170M
Lower unit	MCO-230AIC	MCO-230SB
	MCO-170AIC(M)	MCO-170PS
	MCO-19AIC(M)	MCO-170SB
	MCO-18AC	MCO-170SB
	MCO-20AIC	MCO-230SB

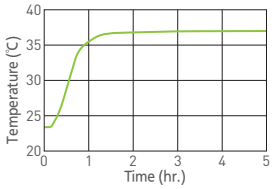
Specifications

	Model No.
110V–120V, 60Hz	MCO-170M-PA
220V, 60Hz	MCO-170M-PK
220V–240V, 50Hz/60Hz (CE)	MCO-170M-PE
Contamination Control	
H_2O_2 Decontamination System	Optional
SafeCell UV System	Optional
inCu-saFe copper enriched stainless interior	Standard
Single Beam, Dual Detector IR CO_2 Sensor | Zirconia O_2 Sensor	Standard
Direct Heat & Air Jacket (DHA) Heating System	Standard
Environmental performance	
Temperature control range	+5℃ above ambient to 50℃*1 (Ambient temperature: 5℃–35℃)
Temperature control uniformity	±0.25℃ (23℃ ambient, setting: 37℃, CO_2: 5%, O_2: 5%, no load)*2
CO_2 control range and deviation	0% to 20% / ±0.15% (23℃ ambient, setting 37℃, CO_2: 5% , O_2: 5%, no load)
CO_2 sensor platform	Ceramic based, single beam infrared sensor, with dual wavelength measurement for continuous auto-zero calibration
CO_2 sampling, patent pending	No moving parts; airflow passess over in/out ports to sustain continuous sampling
CO_2 calibration	Automatic, continuous zero reference calibration. Optional STD gas auto calibration
O_2 sensor	P.I.D. control system, Zirconia
O_2 control range and deviation	1–18%, 22–80% / ±0.2% (23℃ ambient, setting 37℃, CO_2: 5%, O_2: 5%, no load)
Airflow	Gentle vertical airflow, continuous with inner door closed
Interior humidity	95% ±5% R.H. at 37℃ by natural evaporation with humidifying pan
Control, monitoring, alarm	
Temperature and CO_2 control	P.I.D. control system setpoint resolution 0.1℃, 0.1%
Data acquisition	Automatic log function of temperature, CO_2, O_2, Door opening/closing, Alarm, CSV file output
Communication	Remote alarm contacts standard. Optional 4-20mA connection (US only). Optional with RS-232C/RS-485/LAN data ports*3
Cabinet design and construction	
Touch Panel (WVGA full color LCD) and USB data logging	Standard
Exterior cabinet and door	Galvanized steel with baked-on finish
Interior and shelves	Copper-enriched stainless steel
Inner door | Outer door	4 tempered glass inner door (Standard) | Reversible heated door
Insulation	Expandable polystyrene beads
Access port	Diameter 30mm port with non-VOC silicone stoppers (1 on back side)
Leveling feet	4, Adjustable
Energy and CO_2 utilities	
Maximum power consumption | Maximum heat discharge	Maximum 375W | 1030kJ/h
CO_2 / O_2 gas connection	4mm to 6mm inner diameter tubing
CO_2 gas pressure	0.03 – 0.10 MPa (G) (0.3 – 1.0 Kgf/cm² G, 14.5psiG) from two-stage CO_2 regulator
O_2 gas pressure	0.05 – 0.10 MPa (G) (0.5 – 1.0 Kgf/cm² G, 14.5psiG) from two-stage O_2 regulator
Dimensions, Weights, capacities	
Interior dimensions (W x D x H)	490 x 523 x 665 (mm) / 19.3 x 20.6 x 26.2 (inch)
Exterior dimensions (W x D x H)*4	620 x 710 x 905 (mm) / 24.4 x 28.0 x 35.6 (inch)
Volume	161 Liters (5.7cu.Ft.)
Shelves	3 supplies as standard (Max.10), 470 (W) x 450 (D) x 12 (H) mm, maximum load 7kg/shelf
Net weight	77 kg (170 lbs.)

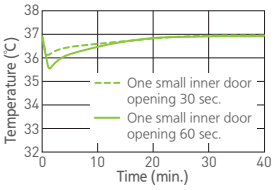
*1 When ambient temperature is 25℃, temperature control range: 30℃–50℃. Regardless of ambient temperature, the maximum of temperature control range is always 50℃.
*2 The measurement condition complies with Panasonic specified measuring method.
*3 Only for MTR-5000 (data acquisition system) users.
*4 Exterior dimensions of main cabinet only. See dimension drawings showing handles and other external projections.

Performance Data

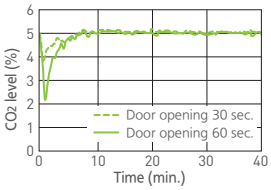
Temperature pull-up characteristics



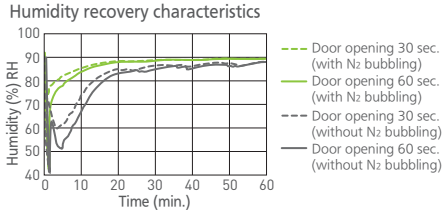
Temperature recovery characteristics



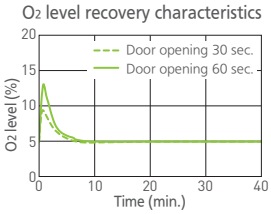
CO_2 level recovery characteristics



Humidity recovery characteristics



O_2 level recovery characteristics



Optional Accessories

	MCO-170M
UV system set	MCO-170UVS
H_2O_2 decon board	MCO-170HB
Electric lock	MCO-170EL
H_2O_2 generator	MCO-HP
H_2O_2 reagent	MCO-H2O2
Gas regulator	MCO-100L
Gas auto changer	MCO-21GC
STD gas auto calibration kit	MCO-SG
Tray	MCO-170ST
Half tray	MCO-25ST
Roller base	MCO-170RB
Optional software product	
Interface board; for LAN	MTR-L03*
Interface board; for RS-232C/RS-485	MTR-480*
Interface board	MCO-420MA

Appearance and specifications are subject to change without notice.
Caution: Panasonic guarantees the product under certain warranty conditions.
Panasonic in no way shall be responsible for any loss of content or damage to content.
*Only for MTR-5000 (data acquisition system) users.

Preservation, Culturing, Drying, and Sterilization Equipment.
Management of design, development, production, sales support, and servicing of the above.
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Panasonic Healthcare Co., Ltd. Biomedical Division, the producer of Incubators, is certified by TÜV SÜD for the product quality management system.

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