



MCO-170ACL/MCO-170AC

CO₂ Incubators



165 L

Optimising cell culture outcomes and reproducibility

PHCbi CO₂ Incubators provide precise control of CO₂ concentration and accurate, uniform, and highly responsive temperature control within the chamber. During cell culturing, the inCu-saFe germicidal interior and optional SafeCell UV lamp continuously work to prevent contamination.

Easier to Clean

The slide-out perforated stainless steel shelves rest securely in integrated shelf channels molded into the left and right sidewalls, eliminating the need for troublesome shelf brackets and clips. Molded shelf channels reduce the amount of interior parts by up to 80%. Perforated shelves promote natural temperature and gas uniformity.

Unified Controller

A central intuitive control panel with graphic user interface simplifies operation and improves visibility of key performance parameters. An OLED input/output display creates an ergonomically-friendly selection of all functions including temperature and CO₂ setpoints and alarm deviation limits for temperature and CO₂. A USB data port permits download of logged performance and event information.

Elimination of Condensation

The innovative Peltier powered dew stick located in the interior chamber draws condensation away from the inner door, outer door and inside inCu-saFe copper-enriched stainless steel surfaces. The dew stick returns moisture to the humidity reservoir and halts contamination before it can destroy cell cultures. Interior temperature control and uniformity are not affected.



Germicidal Barriers

The inCu-saFe copper-enriched stainless steel alloy creates an internal germicidal barrier against airborne contaminants. Unlike pure copper, the inCu-saFe surface will not discolour or corrode due to CO₂ exposure over time. An optional UV lamp automatically destroys airborne contaminants through serial dilution of air that gently circulates through a rear plenum.



Central Management

The microprocessor controller manages all incubator functions and user inputs through an arrow prompted menu. Notifications include actual temperature, actual CO₂, door status, UV status and deviation alarms. CO₂ sensor maintains setpoint to within 0.1% and eliminates any need for periodic calibration.



Reproducibility Assured

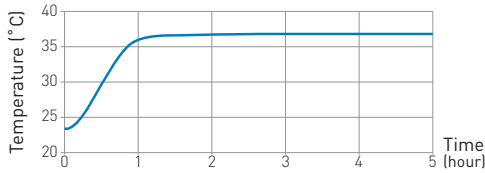
Reduction of interior parts and condensation control helps minimise external factors that often complicate efforts to reproduce cell culture and other protocols. Stable temperature and CO₂ are quickly restored to setpoints after door openings, while relative humidity returns to an elevated state to prevent media desiccation.



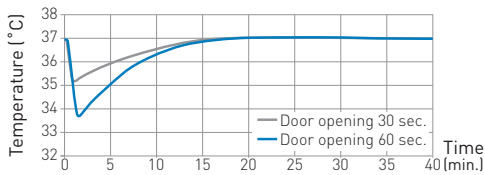
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Performance Data*

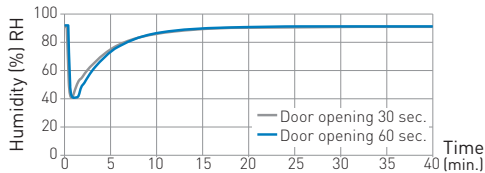
Temperature pull-up characteristics



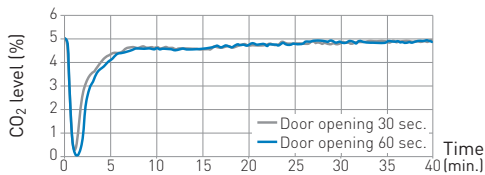
Temperature recovery characteristics



Humidity recovery characteristics

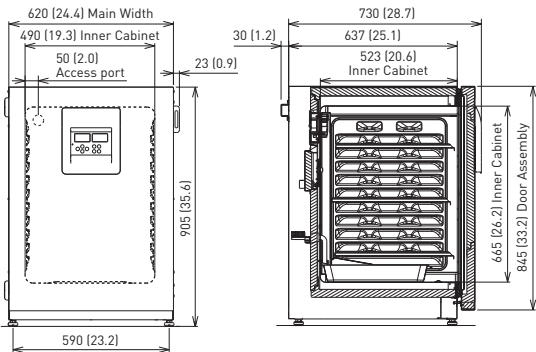


CO₂ level recovery characteristics



Dimensions

Unit : mm (inch)



Model Number	MCO-170ACL-PA	MCO-170ACL-PE	MCO-170AC-PK
External dimensions (W x D x H) ¹⁾	mm	620 x 730 x 905	
Internal dimensions (W x D x H)	mm	490 x 523 x 665	
Volume	litres	165	
Net weight	kg	74	
Performance			
Temperature control range and fluctuation	°C	AT +5 to +50 ²⁾ , ±0.1	
Temperature uniformity ³⁾	°C	±0.25	
CO ₂ setting range and fluctuation ³⁾	%	0 to 20, ±0.15	
Humidity level and fluctuation	% RH	95, ±5	
Control			
Temperature sensor		Thermistor	
CO ₂ sensor		Thermal conductivity	
Display		Digital (white graphic OLED)	
Construction			
Exterior material		Painted steel (rear cover not painted)	
Interior material		Stainless steel copper-enriched alloy	
Insulation material		Styrene AcryloNitrile copolymer	
Heating method		Direct Heat & Air Jacket System	
Outer door		1	
Field reversible door		Included	
Inner door		1 (tempered glass)	
Trays		3 x stainless steel copper-enriched alloy	
Shelf dimensions (W x D x H)	mm	470 x 450 x 12	
Max. load per shelf	kg	7	
Access port		1	
Access port position		Rear upper left	
Access port diameter	∅ mm	30	
Alarms (V = Visual Alarm, B = Buzzer Alarm, R = Remote Alarm)			
Power failure		R	
Out of temperature setting		V-B-R	
High temperature		V-B-R	
Out of CO ₂ setting		V-B-R	
Door open		V-B	
Electrical and Noise Level			
Power supply	V	110-120	220-240
Frequency	Hz	60	50 / 60
Noise level ⁴⁾	dB [A]	29	
Options			
UV system set		MCO-170UVS-PA / MCO-170UVS-PE	
CO ₂ gas pressure regulator		MCO-010R-PW	
Automatic CO ₂ cylinder changeover system		MCO-216C-PW	
Small door		MCO-170ID-PW	
Tray		MCO-170ST-PW	
Half tray		MCO-25ST-PW	
Double stacking bracket		MCO-170PS-PW	
Stacking plate		MCO-170SB-PW	
Roller base		MCO-170RB-PW	
Optional Communication Systems			
Ethernet interface [LAN] ⁵⁾		MTR-L03-PW	
Digital interface [RS232C/RS485] ⁵⁾		MTR-480-PW	
Analogue interface [4-20 mA]		MCO-420MA-PW	
Quality Management System⁶⁾			
Certification		ISO9001	ISO13485

1) External dimensions of main cabinet only, excluding handle and other external projections.
 2) When set temperature is 37°C, ambient temperature must be 32°C or less. Regardless of ambient temperature, the maximum of temperature control range is always 50°C.
 3) The measurement condition complies with PHCbi specified measuring method.
 4) Nominal value.
 5) Only for the data acquisition system MTR-5000 user.
 6) MCO-170ACL is for laboratory use.

• The optimum performance may not be obtained if the ambient temperature is not above 15°C.
 • Appearance and specifications are subject to change without notice.
 * Ambient temperature: 23°C, setting: 37°C, CO₂: 5%, no load
Caution: PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.



Preservation Equipment, Experimental Environment Equipment, Dispensary Equipment, Culturing Equipment and Drying & Sterilising Equipment for General Laboratory use
 The management of the design, development, production and servicing of the above.



Freezers, Refrigerators, Incubators, and Drying and Sterilising Equipment for Medical use
 The management of the design, development, production and distribution of the above.



PHC Corporation, Biomedical Division is certified for:
Environmental management system: ISO14001

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