



**CRYSTAL TECHNOLOGY  
& INDUSTRIES, INC.**

**CO<sub>2</sub>/Non-CO<sub>2</sub>  
Incubator Shakers**



**2025 CO<sub>2</sub>/Non-CO<sub>2</sub>  
Incubator Shaker Catalog**

## Company Introduction

For over 25 years, Crystal Technology & Industries has been driven to deliver more value to the global scientific community. Our approach utilizes the experience and skills of our over 40 engineers collaborating closely with top tier research institutions worldwide to design and develop products with application specific features and cutting-edge technology that provide the scientist with more innovative solutions.

This catalog of CO<sub>2</sub>/Non-CO<sub>2</sub> Incubator Shakers details the many advanced options in CO<sub>2</sub> Incubation, Shaking drive technology and ease of use from Crystal Technology & Industries to help scientists. All our products undergo extensive testing to ensure superior quality. That is why every piece of equipment from Crystal Industries comes with our industry leading 2-year Warranty administered by our in-house, factory trained engineers.

Our presence is global with dedicated offices/warehouses in North America, Europe and Asia. Our goal is to consistently provide total customer satisfaction felt locally in our products and services. We look forward to serving the scientific community now and the future.



BRINGING SCIENCE AND TECHNOLOGY TO LIFE!

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# Overview Crystal CO<sub>2</sub>/Non-CO<sub>2</sub> 302L and 190L Incubator Shakers

## **INNOVATIVE DESIGN**

- Three axis eccentric balance system provides stable and reliable shaking
- Terminal feedback system ensures precise shaking speed
- Brushless DC motor is highly efficient, quiet, durable, and produces negligible heat that does not affect the chamber temperature
- Combination of Proportional-Integral Derivative control and Fuzzy control for temperature ensure temperature accuracy within  $\pm 0.1^{\circ}\text{C}$
- Program mode allows user to set up to 12 segments of varying temperature and speed
- WiFi and RS485 monitoring and control allows the user to stay in touch with the instrument even outside of the lab
- Choose your Custom Stack, choice of CO<sub>2</sub> and NonCO<sub>2</sub>, 25 or 50mm Orbit
- 2 Year Warranty
- Units shipped pre-stacked on single pallet, single, double or triple stack. (Stand sold separately.)



# Overview Crystal CO<sub>2</sub>/Non-CO<sub>2</sub> 302L and 190L Incubator Shakers

## INNOVATIVE DESIGN

- **High Resolution 7-inch Color Touch Screen:** Modular display presents instrument status and function values in a clear and concise manner.
- **Capacitive Touch Screen:** The capacitive screen is more responsive and durable than a resistance screen as there is no reaction delay when the screen is pressed.
- **Large Capacity IS-18CA/IS-18A:** Capacity up to 6 x 5L (Thompson) Flasks; Compact IS-ACMA/IS-AMA; Capacity up to 4 x 5L (Thompson) Flasks.
- **Pull Out Rail Platform:** Operators can easily pull the platform out to load or unload samples. Only one locking handle in the middle of the platform makes the process fast and convenient. Universal Platform is shipped pre-installed in the unit.
- **Excellent Temperature Control Performance:** When the incubator is at a stable temperature of 37° C, the uniformity is ±0.1° C.
- **Strong Cooling Capacity:** The incubator chamber can be cooled to 15° C below the ambient temperature (Lowest temp is 4° C).
- **Inverter Compressor:** Makes cooling a quiet, durable, and highly efficient process while also saving energy.
- **Three Units Can Be Stacked:** This product can be purchased as a single, double, or triple stack.
- **Bi-Directional Ultraviolet Sterilization:** The chamber is equipped with a set of UV sterilization light components to enhance the germicidal irradiation effect and reach all areas of the chamber.
- **Ultra Quiet Design:** The noise level is less than 55dB when incubator is running and cooling (loudest process), providing a quiet environment for the operator.
- **Slow Acceleration and Deceleration:** Shaking function starts and stops slowly to prevent large shear forces on the bacteria or cells.
- **Efficient, Durable, and Light-Weight Insulation:** Polyurethane foam insulation provides advanced thermal insulation. The material is also air-tight, waterproof, lightweight, shockproof, electrically insulated, heat resistant, cold resistant, and solvent resistant.



# Overview Crystal CO2/Non-CO2 302L and 190L Incubator Shakers

## CAPACITIVE TOUCH SCREEN DISPLAY

### Main Interface

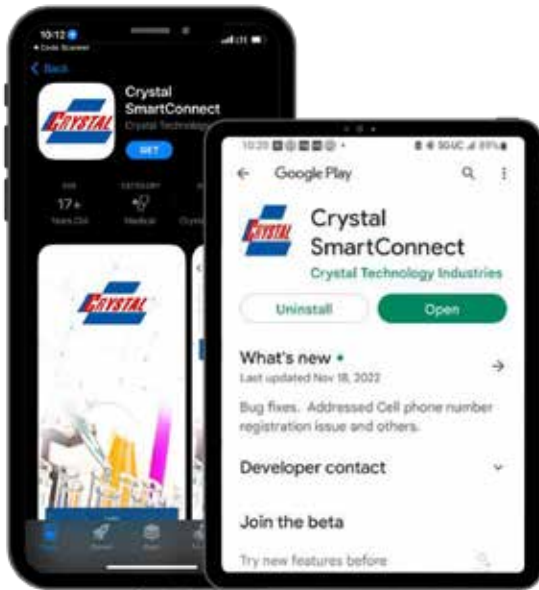
1. Displays the current instrument status.
2. Light button: Press to turn the light on or off.
3. Displays the current function's running status, orbit diameter (for speed), and any alarms.
4. Plus and Minus buttons: Adjusts the corresponding function's value.
5. Displays the set value and allows user to manually input the set value.
6. Run/Stop button: Runs and stops function.
7. Edit button for programmable mode: Sets up to 12 running segments of varying temperatures and speed.
8. Running mode button: Switches between "Easy" and "Program Control" mode.
9. Run/Stop all button: Runs and stops all functions.
10. Main Settings button: Enters settings page (image right), which features specific settings for the user to edit.
11. Function icon buttons: Graphically displays the real-time function data.



### Control Features

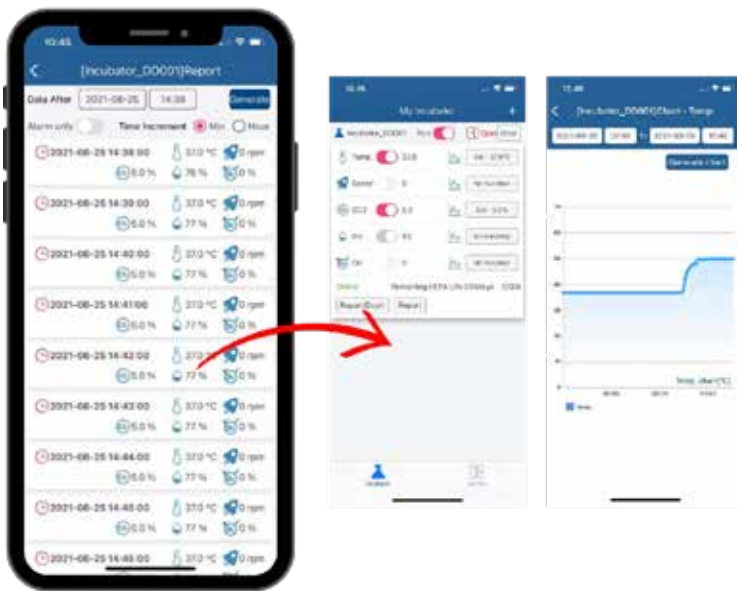
- Powerful Data storage: Data is stored for more than two (2) years. Recorded in 1 minute intervals.
- Real-time data view: On the display, operator can view the running data from latest 7 days.
- Data export: Easily export more than 2 years (912 days) of parameter data via USB.
- Optional Remote WiFi / Ethernet monitoring accessory and smart phone app enabled remote monitoring and control.
- Various Alarms: Alarms can be armed to activate when parameter values deviate outside of users set bounds.
- Alarm recording: Alarm information is stored and viewable.
- Easy Calibration: Calibrating functions only require inputting the difference between set and actual values.





## Remote Monitoring APP

Crystal Industries' Remote Monitoring accessory and app gives customers the ability to control their incubator right from their phone or tablet via WiFi Connection. Features of the incubator app include the ability to set and change the incubator's parameters (including temperature and CO2 concentration). Text notifications are sent when an alarm is activated. This unique app makes it possible to stay conveniently connected with CTI incubator and ongoing projects, whether you are in the lab or not.



# CO2/Non-CO2 Incubator Shakers

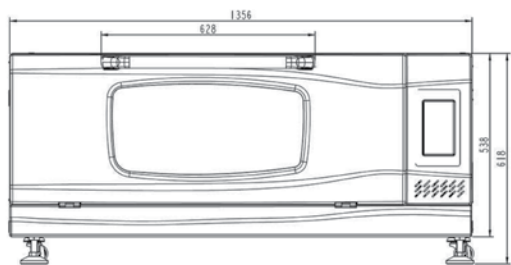
## AEOLUS™ IS-18CA/IS-18A CO2/Non-CO2 Incubator Shaker

The CO2 Incubator Shaker features Temperature, Shaking, CO2 Concentration, and Humidity controls. Its stackable design helps maximize floor space, with the capability to stack up to three units high.



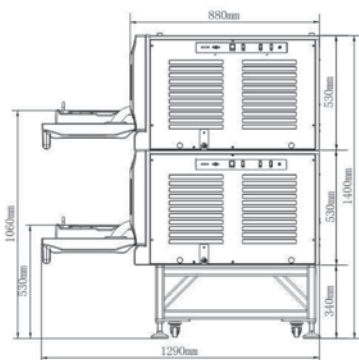
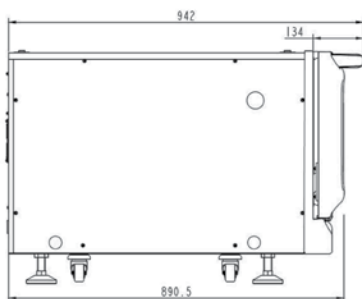
### ◆ Features

- 7" High-Res Color Touch Screen with intuitive graphic interface
- Chamber design features smooth rounded internal corners for easy cleaning
- Capacity is 6 x 5L Thompson shaker flasks
- Infra-Red(IR) CO2 sensor for precise and reliable CO2 detection
- Optional WiFi and RS485 monitoring and control
- Audible and visual alarms
- Mirror finish, pharmaceutical-grade stainless steel chamber
- Stackable design up to 3 units
- Choose your Custom Stack, choice of CO2 and NonCO2, 25 or 50mm Orbit
- 25mm and 50mm Orbit Models available
- 2 Year Warranty
- Units shipped pre-stacked on single pallet, single, double or triple stack (Stand sold separately)



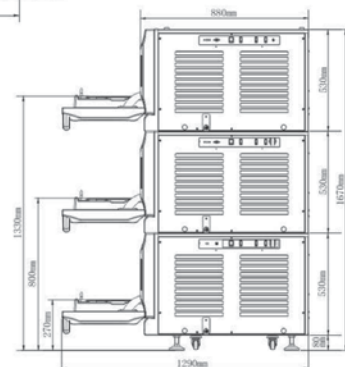
Single Unit Dimensions Front View

Single Unit Dimensions Side View



Double Stack with IS-A118 Stand Dimensions

Triple Stack with Down-Swing Doors Dimensions



# CO2/Non-CO2 Incubator Shakers

## Specifications

Model	IS-18A	IS-18B5A	IS-18CA	IS-18C5A
Product Name	AEOLUS™ Incubator Shaker	AEOLUS™ Incubator Shaker (50mm orbit)	AEOLUS™ CO2 Incubator Shaker	AEOLUS™ CO2 Incubator Shaker (50mm orbit)
Platform Dimensions (WxD)	900 x 560 mm (35.4 x 22 in)			
Max Capacity*	<b>Clamp capacity:</b> 25mLx134 / 50mLx134 / 100mLx60 / 150mLx60 / 200mLx60 / 250mLx60 / 500mLx32 / 1000mLx22 / 2000mLx15 / 5000mL (Shaker Flask) x 6 <b>Capacity with Sticky Mats:</b> 25mLx187 / 50mLx187 / 100mLx112 / 150mLx104 / 200mLx84 / 250mLx76 / 500mLx40 / 1000mLx28 / 2000mLx15 / 5000mL (Shaker Flask) x 6			
Capacity	302 L			
Max Load	20 kg (44.1 lb)			
Temperature Range	Room Temp. Minus 20°C~60°C (Lowest Temp is 4°C)			
Temperature Accuracy	±0.1°C (@37°C)			
Temperature Uniformity	±0.1°C (@37°C)			
Temperature Stability	±0.1°C (@37°C)			
Temp Recover Time After Door is Opened for 30s	≤6min (@37°C)			
Speed**	0 (stop), 30~300 RPM			
Speed Accuracy	±1 RPM			
Orbit Diameter	Ø25mm (Ø1.0in)	Ø50mm (Ø2 in)	Ø25mm (Ø1.0in)	Ø50mm (Ø2 in)
CO2 Sensor	NA		Infrared	
CO2 Control Range	NA		0~20%	
CO2 Control Accuracy	NA		+0.1%	
CO2 Recover Time After Door is Opened for 30s	NA		≤6min (@5%)	
Relative Humidity Type	NA		Active	
Max Humidity	NA		95%	
Programmable Segments	12 Segments			
Timer	0-999hr 59min			
Illumination	LED Lamps on Left and Right Walls			
Disinfection	UV Lamps on Left and Right Walls			
Door Opening Direction	Down-Swing (Optional up-swing door for top unit of triple stack)			
Internal Working Dimensions (WxDxH)	900 x 560 x 308mm (35.43 x 22.05 x 12.13in)			
External Dimensions (WxDxH)	1355 x 855 x 535 (+80mm w/ feet) mm (53.35 x 33.66 x 21.06 (+ 3.1in w/ feet) in)			
Internal Walking Height	308mm (12.1in)			
Net Weight	195 kg (430 lb)			
Display	7" Color Capacitive Touch Screen			
Parameter Protection	Password Protected			
Data Stored	Time, Temperature, Speed, Instrument Status		Time, Temperature, Speed, CO2 Concentration, Humidity, Instrument Status	
Data Storage Interval	1 Minute			
Screen Data Display	Displays Most Recent 7 Days of Data			
USB Data Export	Most Recent 912 Days of Data			
Automatic Defrost	Yes			
Noise Level	≤55dB (When Compressor is Running)			
Auto-Recovery after Power Interruption	Yes			
Power supply	AC 110V±11V, 60Hz			
Power when Heating	≤800w			
Power when Cooling	≤300w			
Max Power	≤1000w			
Mobile Monitoring and Control by WiFi	Optional through IS-A64W Accessory and App			
Warranty	2 Years Parts and Service			
Certification	CE			

\*Sticky Mat can be cut to fit platform

\*\*Note: Double Stack units is recommended that the Shaker Speed of the top unit <250 rpm

Triple Stack units is recommended that the Shaker Speed of the middle and top unit < 250 rpm

# CO2/Non-CO2 Incubator Shakers

## Accessories



Test Tube Rack



Adjustable Test Tube Rack



Mini Universal Spring Platform



Infusion Bottle Clamp



Bioreactor Tube Holder



Flask Clamp



Stand for IS-18CA/IS-18A Incubator Shakers (Single or Double Stack)



96-Well Microplate Holder



Sticky Mat



CO2 Cylinder Pressure Regulator



Water Carboy



Multi-Microplate Holder



Fixture for Separating Funnel



Visor Cover

Item Number	Item Type	Specifications	Max Capacity
IS-A50	Flask Clamp	Holds 25mL Flask	134
IS-A1		Holds 50mL Flask	134
IS-A2		Holds 100mL Flask	60
IS-A3		Holds 150mL Flask	60
IS-A4		Holds 200mL Flask	60
IS-A5		Holds 250mL Flask	60
IS-A6		Holds 500mL Flask	32
IS-A7		Holds 1000mL Flask	22
IS-A9		Holds 3000mL Flask	12
IS-A10		Holds 5000mL Flask	6
IS-A11	Tube Rack	Holds 40 Tubes x Ø14mm	9
IS-A12		Holds 40 Tubes x Ø16mm	9
IS-A23		Holds 40 Tubes x Ø18mm	9
IS-A24		Holds 27 Tubes x Ø22mm	9
IS-A42		Holds 21 Tubes x Ø30mm	9
IS-A20	Adjustable Tube Rack	Holds 40 Tubes x Ø14mm	9
IS-A21		Holds 40 Tubes x Ø16mm	9
IS-A30		Holds 40 Tubes x Ø18mm	9
IS-A31		Holds 27 Tubes x Ø22mm	9
IS-A32		Holds 21 Tubes x Ø30mm	9
IS-A37		Holds 24 Tubes x Ø30mm	6
IS-A33	Infusion Bottle Clamp	Holds 500 ml Infusion Bottle	40
IS-A34		Holds 1000 ml Infusion Bottle	28
IS-A13	Microplate Holder	96-Well Microplate Holder	30
IS-A175	Multi-Microplate Holder	Holds up to 6 Standard Microplates	30

Item Number	Item Type	Specifications	Max Capacity
IS-A35	Fixture holds Separating Funnel	Holds Separating Funnel of ±500ml	4
IS-A47	Sticky Mat	140 x 140mm (5.51 x 5.51in)	24
IS-A122		280 x 280mm (11.02 x 11.02in)	6
IS-A63	Spring Frame	900 x 540 x 80mm	1
IS-A27		350 x 240 x 80mm	4
IS-A22		450 x 400 x 80mm	1
IS-A14		428 x 295 x 80mm	2
IS-A90	Water Carboy	For IS-18CA humidity function; Holds 15L; 1 can serve up to 3 incubator shakers	1
IS-A64W	Remote Monitoring and Control	Connects each unit to users' smart phones via a WiFi or wired internet connection and an app available on the Apple Store and Google Play	1
CIA25	CO2 Cylinder Pressure Regulator	Max Inlet Pressure: 3000 psi Max Outlet Pressure: 60 psi	—
IS-A118	Stand	Adds 34mm (1.339in) of height Recommended for use with Single and Double Stacks	—
IS-A166	Bioreactor Tube Holder	Holds 450ml Bioreactor Conical Tubes	6
IS-A178		Holds 600ml Bioreactor Conical Tubes	6
IS-A176	Visor Cover	Blocks ambient light from entering chamber	1



# CO2/Non-CO2 Incubator Shakers

## AEOLUS™ CO2/Non-CO2 Compact Incubator Shakers (3mm, 25mm or 50mm Orbit Models)

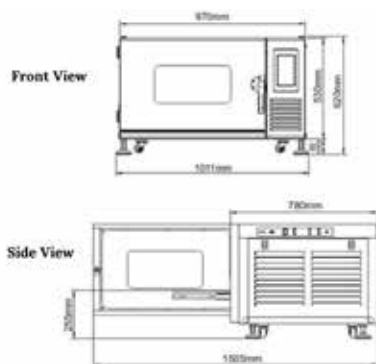
The CO2 Compact Incubator Shaker features Temperature, Shaking, CO2 Concentration, and Humidity controls. With 3mm, 25mm and 50mm orbit models available, its stackable design helps maximize floor space, with the capability of stacking up to three units high. Featuring an innovative Magnetic Drive for increased reliability and minimal maintenance.



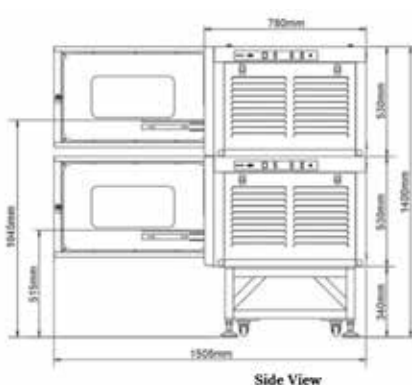
### ◆ Features

- 7" High-Res Color Touch Screen with intuitive graphic interface
- Innovative chamber design features smooth rounded internal corners for easy cleaning
- Infra-Red(IR) CO2 sensor for precise and reliable CO2 detection
- Optional WiFi and RS485 control
- UV lights for easy sterilization
- Audible and visual alarms
- Mirror finish, pharmaceutical grade stainless steel chamber
- Stackable design up to 3 units
- Choose your Custom Stack, choice of CO2 and NonCO2, 25 or 50mm Orbit
- 3mm, 25mm and 50mm orbit models available
- 2 Year Warranty
- Units shipped pre-stacked on single pallet, single, double or triple stack (Stand sold separately)

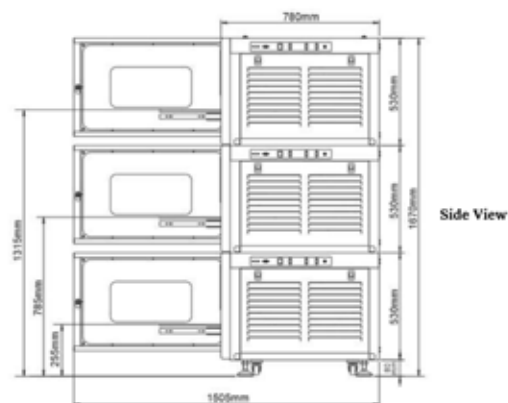
Single Unit Dimensions



Double Stack Dimensions with IS-A93 Stand



Triple Stack Dimensions



# CO2/Non-CO2 Incubator Shakers

Model	IS-AMA	IS-A5M	IS-ACMA	IS-A5CMA
Product Name	AEOLUS™ Compact Magnetic Drive Incubator Shaker		AEOLUS™ Compact Magnetic Drive CO2 Incubator Shaker	
Platform Dimensions (WxD)	560 x 470mm (21.65 x 18.50in)			
Max Capacity	<b>Clamp capacity:</b> 50mLx72 / 100mLx30 / 150mLx30 / 200mLx30 / 250mLx30 / 500mLx6 / 1000mLx12 / 2000mLx6 / 5000mL (Thompson) x4 <b>Sticky mat:</b> 50mLx72 / 100mLx53 / 150mLx41 / 200mLx32 / 250mLx30 / 500mLx16 / 1000mLx12 / 5000mL (Thompson) x4			
Capacity	190 L			
Max Load	10kg (22.05lb)			
Temperature Range	Room Temp. Minus 18°C~60°C (Lowest Temp is 4°C)			
Temperature Accuracy	±0.1°C			
Temperature Uniformity	±0.1°C (@37°C)			
Temp Recovery Time After Door is Opened for 30s	≤6min (@37°C)			
Speed	0 (stop), 30~300 RPM			
Speed Accuracy	±1 RPM			
Speed Drive Motor	Magnetic Drive			
Orbit Diameter	Ø25mm (Ø1.02in)	Ø50mm (Ø2 in)	Ø25mm (Ø1.02in)	Ø50mm (Ø2 in)
CO2 Sensor	NA		Infrared	
CO2 Control Range	NA		0~20%	
CO2 Control Accuracy	NA		+0.1%	
CO2 Recovery Time After Door is Opened for 30	NA		≤6min (@5%)	
Relative Humidity Type	Active		Active	
Max Humidity	90%		90%	
Programmable Segments	12 Segments			
Timer	0~999h 59min			
Illumination	LED Lamps on Left and Right Walls			
Disinfection	UV Lamps on Left and Right Walls			
Door Opening Direction	Leftward			
Internal Dimensions (WxDxH)	654 x 605 x 474 mm (25.75 x 23.82 x 18.66 in)			
Outside Dimensions (WxDxH)	970 x 780 x 530mm (+80 with feet) (38.19 x 30.71 x 20.87in (+3.15 with feet))			
Internal Working Height	300mm (11.8in)			
Net Weight	170kg (375lb)			
Display	7" Color Capacitive Touch Screen			
Parameter Protection	Password Protected			
Data Stored	Time, Temperature, Speed, Instrument Status		Time, Temperature, Speed, CO2 Concentration, Humidity, Instrument Status	
Data Storage Interval	1 Minute			
Screen Data Display	Displays Most Recent 7 Days of Data			
USB Data Export	Most Recent 912 Days or Data			
Automatic Defrost	Yes			
Noise Level	≤55dB (When Compressor is Running)			
Auto-Recovery after Power Interruption	Yes			
Power when Heating	≤450W			
Power when Cooling	≤180W			
Power supply	AC 110V±11V, 60Hz			
Power	≤630W		≤630W	
Mobile Monitoring and Control by WiFi	Optional through IS-A64W Accessory and App			
Warranty	2 Years Parts and Service			
Certification	CE			

# CO2/Non-CO2 Incubator Shakers

## Accessories



Test Tube Rack



Adjustable Test Tube Rack



Mini Universal Spring Platform



Infusion Bottle Clamp



96-Well Microplate Holder



Sticky Mat



CO2 Cylinder Pressure Regulator



Water Carboy



Bioreactor Tube Holder



Flask Clamp



IS-ACMAVIS-AMA Incubator Shakers (Single or Double Stack)



Multi-Microplate Holder



Fixture for Separating Funnel



Visor Cover



# CO2/Non-CO2 Incubator Shakers

Item Number	Item Type	Specifications	Max Capacity
IS-A50	Flask Clamp	Holds 25mL Flask	72
IS-A1		Holds 50mL Flask	72
IS-A2		Holds 100mL Flask	30
IS-A3		Holds 150mL Flask	30
IS-A4		Holds 200mL Flask	30
IS-A5		Holds 250mL Flask	30
IS-A6		Holds 500mL Flask	16
IS-A7		Holds 1000mL Flask	12
IS-A8		Holds 2000mL Flask	6
IS-A10		Holds 5000mL Flask	4
IS-A11	Tube Rack	Holds 40 Tubes x Ø14mm	6
IS-A12		Holds 40 Tubes x Ø16mm	6
IS-A23		Holds 40 Tubes x Ø18mm	6
IS-A24		Holds 27 Tubes x Ø22mm	6
IS-A42		Holds 21 Tubes x Ø30mm	6
IS-A20	Adjustable Tube Rack	Holds 40 Tubes x Ø14mm	6
IS-A21		Holds 40 Tubes x Ø16mm	6
IS-A30		Holds 40 Tubes x Ø18mm	6
IS-A31		Holds 27 Tubes x Ø22mm	6
IS-A32		Holds 21 Tubes x Ø30mm	6
IS-A37		Holds 24 Tubes x Ø30mm	3
IS-A33	Infusion Bottle Clamp	Holds 500 ml Infusion Bottle	21
IS-A34		Holds 1000 ml Infusion Bottle	13
IS-A13	Microplate Holder	96-Well Microplate Holder	18
IS-A175	Multi-Microplate Holder	Holds up to 6 Standard Microplates	18

NOTE: 3000mL flask clamps (IS-A9) are available for use with 2.8L Fernbach flasks. Flasks must be shorter than the working height of the incubator shaker chamber (300mm).

Item Number	Item Type	Specifications	Max Capacity
IS-A35	Fixture holds Separating Funnel	Holds Separating Funnels of ±500mL	3
IS-A47	Sticky Mat	140 x 140mm (5.51 x 5.51in)	12
IS-A122		280 x 280mm (11.02 x 11.02in)	2
IS-A93	Spring Frame	550 x 470 x 80mm	1
IS-A27		350 x 240 x 80mm	4
IS-A22		450 x 400 x 80mm	1
IS-A14		428 x 295 x 80mm	2
IS-A90	Water Carboy	For IS-ACMA humidity function. Holds 15L; 1 can serve up to 3 incubator shakers	1
IS-A64W	Remote Monitoring and Control	Connects each unit to users' smart phones via a WiFi or wired internet connection and an app available on the Apple Store and Google Play	1
CIA25	CO2 Cylinder Pressure Regulator	Max Inlet Pressure: 3000 psi Max Outlet Pressure: 60 psi	1 (up to 2 units)
IS-A166	Bioreactor Tube Holder	Holds 450ml Bioreactor Conical Tubes	3
IS-A178		Holds 600ml Bioreactor Conical Tubes	3
IS-A95	Visor Cover	Blocks ambient light from entering chamber	1
IS-A93	Stand	Adds 340mm (13.39in) of height recommended for use with single and double stacks	1

# CO2/Non-CO2 Incubator Shakers

## AEOLUS™ IS-AHC3SA/IS-AH3GA Compact CO2/Non-CO2 Stackable Incubator Shakers for Microplates (3mm Orbit)

The Compact CO2/non-CO2 Microplate Incubator Shakers feature a 3mm orbit, optimized for thorough mixing of microplates and deep-well microplates with variable shaking speeds of 150-1000 rpm for gentle mixing to ensure the well contents remain in place or for more vigorous agitation for effective aeration across the small surface area of each of the wells. Featuring an innovative Magnetic Drive for increased reliability and minimal maintenance.



### ◆ Microplate Platform Options

#### For Shaking Microplates or Deep-well Plates at speeds of 150-1000rpm

- The IS-A152 Platform pre-installed in each unit with optional IS-A157 Column Clamp Pressure Pads (blue) and IS-A158 Silicon Pads accessories (purchased separately)

Holds 60 Microplates (3 layers x 20 Microplates)  
OR Holds 40 Deep-well Plates (2 layers x 20 Deep-well Plates)



#### For Shaking Deep-well Plates at speeds of 150-1000rpm

- The IS-A119 Aluminum Platform with optional IS-A167 Deep-Well Plate Holders (purchased separately) offers convenient, fast loading and unloading of plates.

Holds 12 sets of Double-Layer Deep-Well Holders  
(24 Deep-Well Plates total)

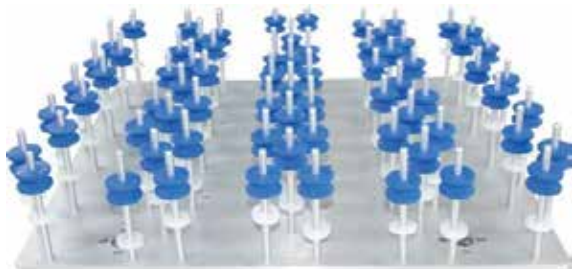


# CO2/Non-CO2 Incubator Shakers

Model	IS-AH3GA	IS-AHC3SA
Product Name	180L Compact Magnetic Drive Incubator Shaker, Microplates	180L Compact Magnetic Drive CO2 Incubator Shaker, Microplates
Platform Dimensions (WxD)	570 x 500mm	
Max Capacity	<b>Microplate:</b> 3 x 20 Plates, Deepwell Plate 2 x 20 Plates	
Capacity	180 L	
Max Load	10kg (22.05lb)	
Temperature Range	Room Temp. Minus 18°C~60°C (Lowest Temp is 4°C)	
Temperature Accuracy	±0.1°C	
Temperature Uniformity	±0.1°C (@37°C)	
Temp Recovery Time After Door is Opened for 30s	≤6min (@37°C)	
Speed	0 (stop), 30~300 RPM	
Speed Accuracy	±1 RPM	
Speed Drive Motor	Magnetic Drive	
Orbit Diameter	3mm	
CO2 Sensor	NA	Infrared
CO2 Control Range	NA	0~20%
CO2 Control Accuracy	NA	+0.1%
CO2 Recovery Time After Door is Opened for 30	NA	≤6min (@5%)
Relative Humidity Type	Active	Active
Max Humidity	90%	90%
Programmable Segments	12 Segments	
Timer	0~999h 59min	
Illumination	LED Lamps on Left and Right Walls	
Disinfection	UV Lamps on Left and Right Walls	
Door Opening Orientation	Leftward	
Internal Dimensions (WxDxH)	654 x 605 x 474 mm (25.75 x 23.82 x 18.66 in)	
Outside Dimensions (WxDxH)	970 x 780 x 530mm (+80 with feet) (38.19 x 30.71 x 20.87in (+3,15 with feet))	
Internal Working Height	290mm	
Net Weight	195kg	
Display	7" Color Capacitive Touch Screen	
Parameter Protection	Password Protected	
Data Stored	Time, Temperature, Speed, Instrument Status	Time, Temperature, Speed, CO2 Concentration, Humidity, Instrument Status
Data Storage Interval	1 Minute	
Screen Data Display	Displays Most Recent 7 Days of Data	
USB Data Export	Most Recent 912 Days or Data	
Automatic Defrost	Yes	
Noise Level	≤55dB (When Compressor is Running)	
Auto-Recovery after Power Interruption	Yes	
Power when Heating	≤450W	
Power when Cooling	≤180W	
Power supply	AC 110V±11V, 60Hz	
Power	≤630W	≤630W
Mobile Monitoring and Control by WiFi	Optional through Accessory and App	
Warranty	2 Years Parts and Service	
Certification	CE	

# CO2/Non-CO2 Incubator Shakers

## Accessories



### IS-A152

Platform with Pre-Installed Deep-Well Plate Holders

(Set of 73 Pressure Pads and Silicon Pads included with unit)



### IS-A167

Platform with Double-Layer Deep-Well Plate Holders

(Deep-Well Plate Holders sold separately)



### IS-A157

Pressure Pad for Microplate Holder



### IS-A158

Silicone Pad for Microplate Holder



### IS-A95

Visor Cover



### IS-A90

Water Carboy



### CIA25

CO2 Cylinder Pressure Regulator



### IS-A93

Stand for Compact Incubator Shakers (Single or Double Stack)

# CO2/Non-CO2 Incubator Shakers

Item Number	Item Type	Specifications	Max Capacity
IS-A152	Deep-Well Plate Holder + Platform	Accommodates 2 layers of deep-well plates; Platform: 500 x 570mm; Column Height: 125mm	1
IS-A167	Double-Layer Deep-Well Plate Holder	Internal Dimensions: 127 x 85 x (25-51)mm; 2 Deep-Well Plates per holder	12
IS-A119	Platform for Deep-Well Plate Holders	Dimensions: 500 x 570mm; Holds 12 sets of Double-Layer Deep-Well Holders or 24 Deep-Well Plates	1
IS-A157	Pressure Pad for Microplate Holder	Thickness: 20mm; Outer Diameter: Ø27mm	73
IS-A158	Silicone Pad for Microplate Holder	Thickness 5mm; Outer Diameter Ø27mm	73
IS-A93	Stand for Compact Incubator Shakers (Single or Double Stack)	Adds 340 mm ( 13.39in) of height Recommended for use with single and double stacks	1
IS-A90	Water Carboy	For IS-AHC3SA humidity function; Holds 15L; 1 Carboy serves up to 3 incubator shakers	1
IS-A95	Visor Cover	Blocks ambient light from entering chamber	1
CIA25	CO2 Cylinder Pressure Regulator	Max Inlet Pressure: 3000 psi Max Outlet Pressure: 60 psi	1 (up to 2 Units)



# CO2/Non-CO2 Incubator Shakers

## Top-Hinge Incubator Shaker IS-RDD3A / IS-RSD3A

These versatile Benchtop incubator shakers with optional refrigeration (IS-RDD3A has a built-in refrigeration module with auto-defrost) are designed to provide an optimal environment to safely shake flasks, tubes racks, and micro-plates. These incubators are quiet, easy to operate, and convenient to load. Incubator Shakers are ideal for cell culture, solubility studies, extraction procedures, protein expression, and many other applications.



### ◆ Features

- Easy to use LCD user interface
- Precise Proportional-Integral-Derivative temperature control resulting in  $\pm 0.1^{\circ}\text{C}$  accuracy
- A highly efficient inverted compressor refrigeration system allows for temperatures as low as  $15^{\circ}\text{C}$  below room temperature or  $4^{\circ}\text{C}$  with low energy consumption (IS-RDD3A only)
- Clear curved tempered glass window for viewing samples without disturbing chamber temperature
- The terminal feedback system ensures precise shaking speed
- Designed to reduce noise for quiet operation
- Max capacity is 8 x 1L flasks
- Timer 0~999 hours
- Audible and visual alarms activate when abnormal parameters are detected
- The program mode allows users to set up to 6 segments of varying temperature and speed

Model	IS-RDD3A	IS-RSD3A
Product Name	Top-Hinge Incubator Shaker with Cooling	Top-Hinge Incubator Shaker
Temp. Range	Ambient $-15^{\circ}\text{C}$ ~ $60^{\circ}\text{C}$ (Lowest Temp is $4^{\circ}\text{C}$ )	Ambient $+5^{\circ}\text{C}$ ~ $60^{\circ}\text{C}$
Temp. Accuracy	$\pm 0.1^{\circ}\text{C}$	
Temp. Uniformity	$\pm 0.5^{\circ}\text{C}$ (@ $37^{\circ}\text{C}$ )	
Speed Range	0rpm, 30~400rpm	
Speed Accuracy	$\pm 1\text{rpm}$	
Orbit Diameter	$\varnothing 26\text{mm}$	
Programmable Segments	6 Segments	
Timer	0-999hrs	
Platform size	450 x 400mm (17.72 x 15.75in)	
Number of Platforms	1	
Maximum Capacity	<b>Clamp capacity:</b> 42x50mL / 25x100mL / 24x150mL / 20x200mL / 20x250mL / 12x500mL / 8x1000mL / 4x2000mL <b>Sticky mat:</b> 56x50mL / 42x100mL / 30x150mL / 30x200mL / 24x250mL / 20x300mL / 14x500mL / 9x1000mL / 4x2000mL	
Power	<700W	<500W
Power Supply	AC 110V / 60Hz	
Working Chamber Height	310mm (12.2in)	
Outer Dimensions (WxDxH)	712 x 687 x 628mm (28.03 x 27.05 x 24.72in)	
Inner Dimensions (WxDxH)	500 x 460 x 350mm (19.67 x 18.11 x 13.78in)	
Net Weight	242lb (110kg)	220lb (100kg)
Certification	CE	

# CO2/Non-CO2 Incubator Shakers

## Accessories



Test Tube Rack



Adjustable Test Tube Rack



96-Well Microplate Holder



Various Flask Clamps



Bioreactor Tube Holder



Mini Universal Spring Platform



Mini Universal Spring Platform



Sticky Mat



Multi-Microplate Holder



Infusion Bottle Clamp



Fixture for Separating Funnel

Item Number	Item Type	Specifications	Max Capacity
IS-A50	Various Flask Clamps	Holds 25mL Flask	42
IS-A1		Holds 50mL Flask	42
IS-A2		Holds 100mL Flask	25
IS-A3		Holds 150mL Flask	24
IS-A4		Holds 200mL Flask	20
IS-A5		Holds 250mL Flask	20
IS-A6		Holds 500mL Flask	12
IS-A7		Holds 1000mL Flask	8
IS-A8		Holds 2000mL Flask	4
IS-A47	Sticky Mat	140 x 140mm (5.51 x 5.51in)	9
IS-A122		280 x 280mm (11.02 x 11.02in)	1
IS-A11	Tube Rack	Holds 40 Tubes x Ø14mm	4
IS-A12		Holds 40 Tubes x Ø16mm	4
IS-A23		Holds 40 Tubes x Ø18mm	4
IS-A24		Holds 27 Tubes x Ø22mm	4

Item Number	Item Type	Specifications	Max Capacity
IS-A20	Adjustable Angled Tube Racks	Holds 40 Tubes x Ø14mm	4
IS-A21		Holds 40 Tubes x Ø16mm	4
IS-A30		Holds 40 Tubes x Ø18mm	4
IS-A31		Holds 27 Tubes x Ø22mm	4
IS-A32		Holds 21 Tubes x Ø30mm	4
IS-A37		Holds 24 Tubes x Ø30mm	2
IS-A19	Mini Universal Spring Platform	165 x 165 x 80mm	4
IS-A22		450 x 400 x 80mm	1
IS-A27		350 x 240 x 80mm	2
IS-A35	Fixture for Separating Funnel	Holds Separating Funnels of ≥500mL	4
IS-A33	Infusion Bottle Clamp	Holds 50mL Infusion Bottle	9
IS-A34		Holds 1000mL Infusion Bottle	8
IS-A13	Microplate Holder	96-Well Microplate Holder	9
IS-A175	Multi-Microplate Holder	Holds up to 6 Standard Microplates	10
IS-A166	Bioreactor Tube Holder	Holds 450mL Bioreactor Conical Tubes	2

# CO2/Non-CO2 Incubator Shakers

## Benchtop Incubator Shaker IS-RSDAA

Compact Size shaker with advanced features, a sliding platform, and great visibility through a tempered glass door.



### ◆ Features

- Versatile platform with wide selection of accessories
- Precise temperature control (ambient +5°C~ 80°C)
- Speeds of up to 300 RPM with orbit diameter of 26mm (1.02")
- The Sliding platform feature provides easy sample handling with Max Load 5 x 1L
- Fits conveniently under countertops

Model	IS-RSDAA
<b>Product Name</b>	Benchtop Incubator Shaker
<b>Temperature Range</b>	Ambient +5°C ~ 80°C
<b>Temperature Accuracy</b>	±0.1°C (@37°C)
<b>Temperature Uniformity</b>	±0.5°C (@37°C)
<b>Speed Range</b>	0 RPM, 30~300 RPM
<b>Speed Accuracy</b>	±1RPM
<b>Platform Dimensions</b>	350 x 300mm (13. x11. in)
<b>Orbit Diameter</b>	Ø26mm (Ø1.02 in)
<b>Timer</b>	0-99hr
<b>Display</b>	LED
<b>Max Capacity</b>	Flask Clamps: 28 x 50mL / 16 x 100mL / 12 x 150mL / 9 x 200mL / 9 x 250mL / 6 X 500mL / 4 x 1L Sticky Mat: 28 x 50mL / 20 x 100mL / 15 x 150mL / 14 x 200mL / 12 x 250mL / 8 x 500mL / 5 x 1L
<b>Max Load</b>	10 kg
<b>Ambient Temperature</b>	5°C~40°C
<b>Ambient Relative Humidity</b>	≤80%
<b>Interior Dimensions (WxDxH)</b>	392 x 330 x 365 mm (15.4 x 13.0 x 14.4 in)
<b>Exterior Dimensions (WxDxH)</b>	440 x 535 x 550 (17.3 x 21.1 x 21.7 in)
<b>Power Supply</b>	AC110V±11V/ 60Hz
<b>Max Power</b>	745W
<b>Net Weight</b>	50kg (110 lb)



# CO2/Non-CO2 Incubator Shakers

## Accessories



Adjustable Test Tube Rack



96-Well Microplate Holder



Various Flask Clamps



Infusion Bottle Clamp



Mini Universal Spring Platform



Mini Universal Spring Platform



Fixture for Separating Funnel



Sticky Mat

Item Number	Item Type	Specifications	Max Capacity
IS-A50	Various Flask Clamps	Holds 25mL Flask	28
IS-A1		Holds 50mL Flask	28
IS-A2		Holds 100mL Flask	16
IS-A3		Holds 150mL Flask	12
IS-A4		Holds 200mL Flask	9
IS-A5		Holds 250mL Flask	9
IS-A6		Holds 500mL Flask	6
IS-A7		Holds 1000mL Flask	4
IS-A13	96-Well Microplate Holder	136 x 95mm (5.4 x 3.7in)	6
IS-A11	Tube Rack	Holds 40 Tubes x Ø14mm	2
IS-A12		Holds 40 Tubes x Ø16mm	2
IS-A23		Holds 40 Tubes x Ø18mm	2
IS-A24		Holds 27 Tubes x Ø22mm	2

Item Number	Item Type	Specifications	Max Capacity
IS-A20	Adjustable Angled Tube Racks	Holds 40 Tubes x Ø14mm	2
IS-A21		Holds 40 Tubes x Ø16mm	2
IS-A30		Holds 40 Tubes x Ø18mm	2
IS-A31		Holds 27 Tubes x Ø22mm	2
IS-A32		Holds 21 Tubes x Ø30mm	2
IS-A19		Mini Universal Spring Platform	165 x 165 x 80mm (6.5 x 6.5x3.1in)
IS-A27	350 x 240 x 80mm (13.8 x9.5 x 3.1in)		1
IS-A35	Fixture for Separating Funnel	Holds Separating Funnels of ≥500mL	2
IS-A33	Infusion Bottle Clamp	Holds 50mL Infusion Bottle	4
IS-A34		Holds 1000mL Infusion Bottle	2

# CO2 Resistant Orbital Shaker

## Orbital Shaker / Designed for CO2 Incubators (OSC-26M)

Developed to help you economically scale-up cell production in your existing CO2 Incubator. Designed with sealed electronics to minimize heat disruption and ensure that conditions in the CO2 chamber are not affected.



Aluminum platforms (OSA11 and OSA36) are easily interchangeable with the included platform and allow for compatibility with additional accessories like flask clamps, tube racks, etc.

### ◆ Features

- Remote Control attaches externally to CO2 Incubator
- LED display on the remote control shows both set and actual parameters without opening the door
- Simple and intuitive design provides easy operation
- Alarm function alerts the user when the timer reaches zero
- Shaker is easy to remove for cleaning/disinfecting to protect your cells
- The Magnetic Orbital Drive system uses magnetic force to deliver precise speed control, low vibration, maintenance free operation and long service life
- Suitable for use in CO2, Standard or Refrigerated Incubators at up to 20% CO2 and 90% Humidity environments
- Wide range of accessories to accommodate various sample holders

Model	OSC-26M
Product Name	CO2 Resistant
Orbit Diameter	Ø19mm (.75in)
Speed	30~300rpm
Timer	0-99hrs 59min
Platform size	305 x 360mm (12x14.2in)
Max. Flask Capacity	30 x 25/50mL / 15 x 100/150/200/250mL / 9 x 500mL / 5 x 1L / 4 x 2L / 2 x 3L / 1 x 5L
Max. Load	6kg (13.2lb)
Operating Environment	Ambient Temp. 5°C~60°C
	Relative Humidity <95%
Max. Power	8.5W
Power supply	AC100-240V, 50Hz/60 Hz
Net Weight*	18 kg (37 lb)
Shaker Dimensions (WxDxH)	375 x 300 x 94mm (14.8 x 11.8 x 3.7in)
Control Box Dimensions (WxDxH)	90 x 160 x 26mm (3.5 x 6.3 x 1.02in)
Certification	CE

\*Verify that shelf weight capacity of CO2 Incubator can hold weight of shaker.

# CO2 Resistant Orbital Shaker

## Accessories



Test Tube Rack



Adjustable Test Tube Rack



96-Well Microplate Holder



Various Flask Clamps



Infusion Bottle Clamp



Mini Universal Spring Platform



Fixture for Separating Funnel



Sticky Mat



Aluminum Platform

Item Number	Item Type	Specifications	Max Capacity*
IS-A50	Various Flask Clamps	Holds 25mL Flask	30
IS-A1		Holds 50mL Flask	30
IS-A2		Holds 100mL Flask	15
IS-A3		Holds 150mL Flask	15
IS-A4		Holds 200mL Flask	15
IS-A5		Holds 250mL Flask	15
IS-A6		Holds 500mL Flask	9
IS-A7		Holds 1000mL Flask	6
IS-A8		Holds 2000mL Flask	4
IS-A9		Holds 3000mL Flask	2
IS-A10		Holds 5000mL Flask	1
IS-A11		Tube Rack	Holds 40 Tubes x Ø14mm
IS-A12	Holds 40 Tubes x Ø16mm		2

Item Number	Item Type	Specifications	Max Capacity*
OSA11	Aluminum Platform	300 x 360mm	1
OSA36		400 x 400mm	1
OSA12	Nonslip Platform with Rubber Mat	305 x 360mm	1
IS-A27	Mini Universal Spring Platform	350 x 240 x 80mm (13.8 x 9.4 x 3.1in)	1
IS-A47	Sticky Mat	140 x 140mm (5.51 x 5.51in)	4
IS-A13	96-Well Microplate Holder	136 x 95mm (5.4 x 3.7in)	6
IS-A33	Infusion Bottle Clamp	Holds 50mL Infusion Bottle	5
IS-A34		Holds 1000mL Infusion Bottle	4
IS-A20	Adjustable Tube Racks	Holds 40 Tubes x Ø14mm	2
IS-A21		Holds 40 Tubes x Ø16mm	2
IS-A35	Fixture for Separating Funnel	Holds Separating Funnels of ≥500ml	2

\*When using CI-191CXA Platform with Stick Mats

# CO2 Incubator

## AIREA™ CO2 Incubator (6.75 cu ft)

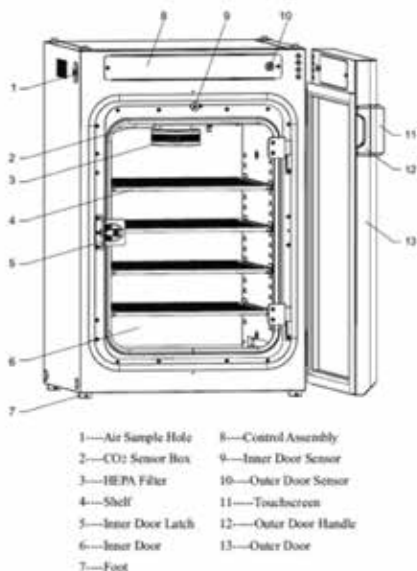
The AIREA™ CO2 Incubator (CI-191CXA) is an air-jacketed, dry-wall insulation CO2 Incubator with temperature, CO2 concentration, and humidity functions. With this incubator, customers have the ability to visualize performance and data set on the AIREA™ Remote Monitoring accessory and app.



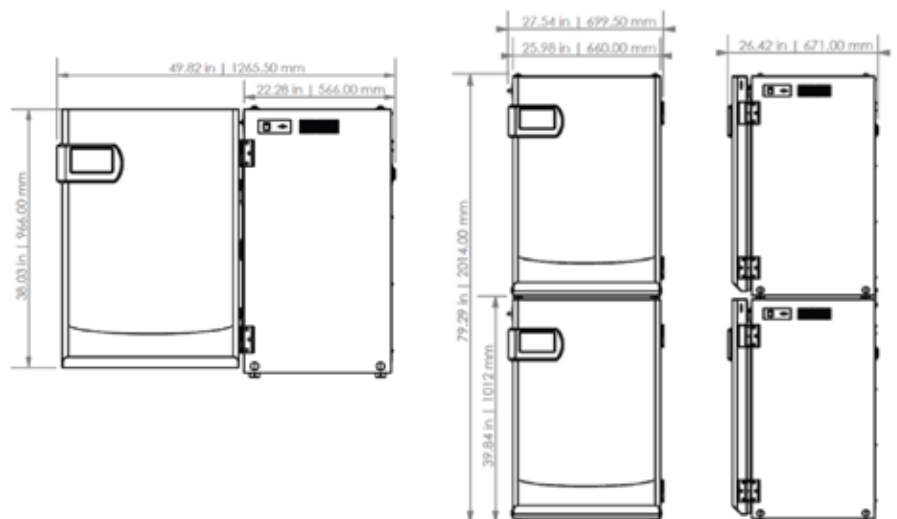
### ◆ Features

- Chamber HEPA air filtration provides class 100 purification
- Infra-Red (IR) sensor precisely and reliably detects CO2 concentration
- Easy sterilization process at 140°C dry heat
- Temperature controlled door prevents condensation and provides higher temperature stability and uniformity
- Intuitive 7" hi-res capacitive touchscreen
- Includes 4 shelves (can hold up to 13)
- Smart capabilities allow user to control CTI CO2 Incubator from a phone or tablet
- Visualize performance and changes over time with function performance graphs
- Audible and visual alarms alert user if parameters fluctuate outside set ranges
- 3 year warranty

Door Open



Double Stack



## Touchscreen Display

This touchscreen display is an intuitive and innovative user interface. On the main screen, parameters can be set, current values are displayed, and alarms will be displayed in real time. Customers can easily configure their setting preferences.



## Remote Monitoring App

Crystal Industries' AIREA™ Remote Monitoring accessory and app give customers the ability to control their CTI CO2 Incubator right from their phone or tablet via a WiFi connection. Features of the Incubator app include the ability to set and change the incubator's parameters (including temperature and CO2 concentration). Text notifications are sent when an alarm is activated. This unique app makes it possible to stay conveniently connected with your CTI Incubator and ongoing projects, whether you are in the lab or not.

**NEW:** Orbital Shaker / Designed for CO2 Incubators



# CO2 Incubator

Model	CI-191CX A
Product Name	AIREA™ CO2 Incubator 191L, Dry Heat Sterilization, Touch Screen
Capacity	191 L (6.75 cuft)
Temp. Range	Room Temp. Plus 5°C ~ 60°C
Temp. Accuracy	±0.1°C (@ 37°C) ±0.3°C max
Temp. Uniformity	±0.3°C (@ 37°C) ±0.6°C max
CO2 Sensor	IR
CO2 Concentration Range	0 ~ 20%
CO2 Concentration Accuracy	± 0.1%
Recovery Time after Opening Door	≤ 6 min (@37°C)
Relative Humidity Type	Natural Evaporation from Humidity Pan
Disinfection	140°C Dry Heat Sterilization
Disinfection Duration	12 Hours
Direction of Door Swing	Right
Display	7" Color Capacitance Touch Screen
Protection for Set Parameters	Password Protected
Data Display	7 days
Data Curve Display	Temp. Curve, CO2 Curve, RH Curve, Speed Curve (with CO2 Resistant Shaker)
Max Number of Shelves	13
Standard Number of Shelves	4
Shelf Dimensions (D x W)	472 x 472mm (18.85 x 18.85in)
Max Load per Shelf (When sliding in and out)	15 kg (33.06 lb)
Max Capacity using CIA24 Shelf	20 kg (40.09 lb)
Insulation	Dry-Wall
U Disk Download Date	Yes
Data Storage	Most Recent 912 Days of Data
Data Storage Increments	1 min
Data Storage Types	Time, Temp, Speed (with CO2 Resistant Shaker), RH, Machine Status
Auto-Run after Power Recovery	Yes
Noise Level	≤ 53dB
Water Sparge Resistant	Yes
Interface Languages	English / Chinese
Volume of Humidity Pan	3L
Power	≤ 1100W
Power Supply	AC 110V / 60Hz
Mobile Monitor and Wifi Control	Optional
PC Monitor and Control by RS485	Optional
Net Weight	125kg (275.58lb)
Outer Dimensions (D x W x H)	670.50 x 699.50 x 1012mm (26.40 x 27.54 x 39.84in)
Chamber Dimensions (D x W x H)	540 x 510 x 700mm (21.26 x 20.08 x 27.56in)
Temp. Alarm	Adjustable
CO2 Alarm	Adjustable
Chamber HEPA Filter	Yes

## Accessories



**CIA15**  
CO2 Inlet HEPA Filter  
1 Year Service Life



**CIA19**  
Remote Monitoring for  
CO2 Incubator



**CIA24**  
Shelves  
CO2 Incubator



**CIA13**  
Chamber HEPA Filter  
1 Year Service Life



**CIA28**  
Caster Wheels



**CIA25**  
CO2 Cylinder Pressure  
Regulator

## Benchtop Equipment Compatible with CI-191CXA:



**MR-01UA/MR-03UA**  
CO2 Resistant Mini Roller



**OSC-26M**  
CO2 Resistant Orbital Shaker  
(If using in CI-191CXA CO2 Incubator  
Shaker need to place on CIA24 Shelf.)

**Crystal Industries Sales & Product Support:**

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