

# CO<sub>2</sub> INCUBATOR



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## ABOUT THE COMPANY

iGene Labserve Pvt. Ltd. is gaining recognition by offering resilient, innovative solutions in laboratory instrumentation across healthcare, genomics, drug discovery, biopharma, and food & beverage sectors. We strive to enhance lab efficacy and reduce challenges through advanced technologies and a diverse product portfolio tailored to our customers' needs.

## IG-CO<sub>2</sub> SERIES INCUBATOR

The IG-CO<sub>2</sub> Series Incubators are expertly crafted to create a controlled environment that mimics natural conditions for growing cells and tissues. Featuring advanced 6-side direct heat technology, they provide consistent and uniform heating throughout the chamber. Coupled with precise temperature control and CO<sub>2</sub> level regulation, these incubators ensure a stable and ideal atmosphere for cell culture.

## KEY FEATURES OF THE IG-CO<sub>2</sub> SERIES INCUBATOR

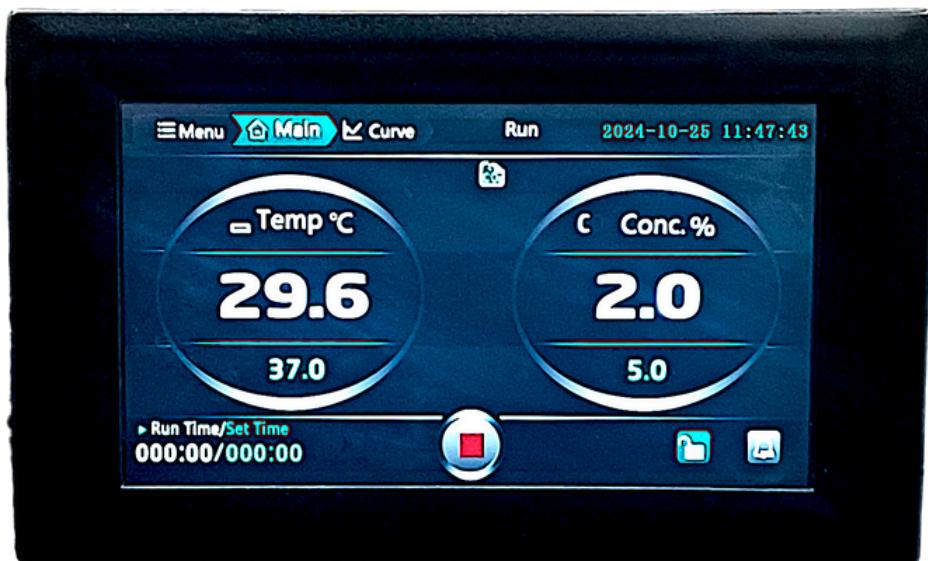
- 6-Side Direct Heat Chamber:** Ensures uniform temperature distribution with six-sided heating. The temperature field stabilizes at  $\pm 0.1^{\circ}\text{C}$ , creating an ideal environment for cell and tissue cultivation.
- Polished Stainless Steel Interior:** The one-piece, polished stainless-steel chamber is designed for easy cleaning. Rounded corners and removable stainless-steel shelves allow for quick maintenance without tools.
- Detachable Humidity Pan:** A 304 stainless steel water pan with a 4-liter capacity maintains a high-humidity environment.
- Versatile Sterilization Options:** Choose between UV sterilization or high heat sterilization at 140°C or 180°C, offering flexible and powerful sterilization options for hygiene and safety.
- ISO Class 5 HEPA-Filtered Airflow System:** Integrated HEPA filtration achieves ISO Class 5 air quality within 5 minutes of closing the door, continuously protecting against airborne contaminants.
- Infrared (IR) CO<sub>2</sub> Sensor:** Provides accurate CO<sub>2</sub> concentration monitoring, minimizing errors from humidity or temperature fluctuations, especially useful for frequent door openings.
- Active Airflow Technology:** Fan-assisted airflow ensures rapid recovery of temperature and gas conditions, maintaining a consistent environment throughout the chamber.
- 5-Inch LCD Touchscreen:** A user-friendly touchscreen offers intuitive controls for settings, with audible/visual alarms, historical data display, and USB data export options.
- Energy Efficiency:** Optimized for lower gas and heat consumption, with faster recovery times and efficient management for various sample types.
- Condensation Prevention:** Heating elements around the front door and frame eliminate condensation buildup on the chamber and glass door.
- Microprocessor PID Control:** Advanced control system for regulating CO<sub>2</sub> levels, temperature, and alarms, ensuring precise operation.
- Overheating Protection:** A safety feature automatically cuts off heating if the temperature exceeds the set limit or if the control system malfunctions.
- Optional High-Precision Solid-State Oxygen Sensors:** Adjustable from ultra-low 0.0%-0.1% to 20%, providing flexible performance options.
- Double-Walled Modular Design:** Features 3-inch thick glass wool blanket insulation for superior temperature retention and energy efficiency.
- Microbial Filters:** Equipped with microbial filters on all gas inlets, outlets, and sample ports to minimize potential sources of contamination.
- Robust Components:** Door hinges, associated cables, and other accessories are robust and have undergone stringent testing for durability.
- Steel Shelves:** Includes a minimum of three (3) steel shelves for efficient storage and organization.
- Active Airflow Technology:** Air jacketed CO<sub>2</sub> incubator features fan-assisted airflow for rapid recovery of temperature and gas conditions.

# SPECIFICATION

| Item Name                                   | CO <sub>2</sub> Incubator   |           |            |                   |            |             |
|---|---|-----------|------------|-------------------|------------|-------------|
| Model No.                                   | IG-CO280UV  | IG-CO280H | IG-CO280HH | IG-CO2180UV       | IG-CO2180H | IG-CO2180HH |
| Sterilization                               | UV  | 140°C     | 180°C      | UV                | 140°C      | 180°C       |
| Volume                                      | 80L   | 80L       | 80L        | 180L              | 180L       | 180L        |
| Microprocessor-based controller             | Proprietary algorithm to control CO <sub>2</sub> and temperature                              |           |            |                   |            |             |
| Display                                     | LCD touch display   |           |            |                   |            |             |
| Temp control range                          | Ambient +5°C- 60°C  |           |            |                   |            |             |
| Temp stability                              | ±0.1°C  |           |            |                   |            |             |
| Temperature accuracy                        | ±0.4°C at 37°C  |           |            |                   |            |             |
| Temp field uniformity                       | ±0.3°C (at 37°C )   |           |            |                   |            |             |
| Timer function                              | 0 - 999hr 59 min.   |           |            |                   |            |             |
| CO <sub>2</sub> measurement principle       | Infrared (IR) detection   |           |            |                   |            |             |
| CO <sub>2</sub> control range               | 0-20%   |           |            |                   |            |             |
| CO <sub>2</sub> display resolution          | 0.10%   |           |            |                   |            |             |
| CO <sub>2</sub> increment                   | Increment of 0.1%, accuracy: ±0.3%  |           |            |                   |            |             |
| CO <sub>2</sub> Stability                   | ± 0.1%  |           |            |                   |            |             |
| CO <sub>2</sub> gas uniformity              | ± 0.1% across the chamber   |           |            |                   |            |             |
| CO <sub>2</sub> supply                      | 0.05~0.1MPa is recommended  |           |            |                   |            |             |
| Relative Humidity                           | Ambient humidity ~95% at 37°C   |           |            |                   |            |             |
| HEPA filtration                             | HEPA filters at the gas inlet, ISO 5 level, 5 minutes   |           |            |                   |            |             |
| Temperature recovery time                   | ≤10 min (open door 30sec room temperature 25°C set value 37°C)                                |           |            |                   |            |             |
| CO <sub>2</sub> concentration recovery time | ≤5 min (open the door 30sec set value 5%)   |           |            |                   |            |             |
| MOC   | The inner chamber is made up of stainless steel and outer chamber with MS with powder coating |           |            |                   |            |             |
| Light                                       | Fluorescent light   | -         | -          | Fluorescent light | -          | -           |
| Historical data storage                     | 250,000 messages  |           |            |                   |            |             |
| Data export interface                       | USB interface   |           |            |                   |            |             |
| Scalability                                 | Up to 2 units can be stacked.   |           |            |                   |            |             |
| Working environment temperature             | 18~30°C   |           |            |                   |            |             |
| Power supply                                | 230V±10%, 50~60Hz   |           |            |                   |            |             |
| Inner Dimensions (L x D x H) mm             | 440 x 400 x 500   |           |            | 530 x 535 x 670   |            |             |
| Outer Dimensions (L x D x H) mm             | 580 x 516 x 872   |           |            | 660 x 652 x 1030  |            |             |

## MICROPROCESSOR-BASED CONTROLLER

- **LCD touch display:** Features a user-friendly LCD touch display for easy operation.
- **Temperature control range:** From ambient +5°C to 60°C, with temperature stability maintained at  $\pm 0.1^\circ\text{C}$  for precise conditions.
- **CO<sub>2</sub> control range:** Adjustable between 0% and 20% with a CO<sub>2</sub> display resolution accurate to 0.10%, providing precise monitoring.
- **User Profiles:** Includes three user roles—Administrator, Tester, and Operator. Access is password-protected:
  - **Administrator:** Full access to all parameters and settings.
  - **Tester:** Access to all functions except for changing running parameters.
  - **Operator:** Limited access to operate and run parameters set by the Administrator.
- **Timer:** Programmable timer ranging from 0 to 999 hours and 59 minutes.
- **Custom Programming:** Users can set and store programs according to specific protocols, ensuring flexible operation.
- **Pre-scheduling of programs:** Allows pre-scheduling of programs and timers for future operations.
- **Data Management:** Historical data can be viewed, stored, and exported using a USB drive for easy access and analysis.
- **Alarm System:** Alerts for low and high temperature and deviations in CO<sub>2</sub> concentration (high or low) from set values, ensuring safety and precision.
- **Real-Time Monitoring:** Displays real-time curves of CO<sub>2</sub> levels and temperature throughout the operation, providing comprehensive monitoring.
- **Printer Connectivity:** Supports connection to printers for printing running data and other essential parameters.
- **Screen lock feature:** Secures settings and prevents unauthorized access during operation.





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