# CellPro
## Medium Capacity Stackable Incubator Shaker

## Introduction

CellPro Medium Capacity Stackable Incubator Shaker caters to diverse cell cultures, encompassing CHO, hybridoma, mammalian cells, insect cells, and more. As the ultimate solution for biological culture preceding fermenter cultivation, CellPro Stackable Incubator Shaker reigns as a comprehensive culture apparatus. Leveraging cutting-edge bearing technology, it boasts not only stable initiation but also impressively noise-free functionality. Remarkably, even when multiple layers are artfully stacked, abnormal vibrations are expertly mitigated. The hallmark air circulation system guarantees an unparalleled level of temperature field uniformity. With the flexibility to stack up to 2 or 3 layers, CellPro Stackable Incubator Shaker optimizes lab space utilization, culminating in a truly indispensable laboratory asset.

## Product Features

1. Experience expansive utility within a minimal footprint with the option of one, two, or three-tier stacked configurations, optimizing available space.

2. Designed with your convenience in mind, the lower two tiers feature swing-down doors, while the third tier boasts flip-up doors. Each tier grants autonomous control over temperature, speed, and concentration, enabling tailored adjustments to suit your unique requirements.

3. Benefit from an ingenious hollow tempered glass door that offers unhindered observation of the internal chamber from various angles without the need for door opening. Additionally, the door incorporates a heating function to prevent condensation and ensure a clear view.

4. Seamlessly integrated three-dimensional tri-wheel propulsion ensures impeccable stability, durability, and smooth operation.

5. Safeguard against anomalies with an over-temperature alarm mechanism and automated power-off function. The power-off recovery feature prevents data loss due to power disruptions or system crashes.

6. An elegant streamlined exterior envelops a corrosion-resistant 304 brushed stainless steel interior. The curvature-enhanced design prevents bacterial growth, ensuring easy cleaning, while the electrostatically sprayed outer shell enhances durability.

## Product Features - Continued

7. Elevate your operational security with encrypted and locked interface functions, mitigating the risk of inadvertent operations or misuse.

8. Precision is paramount with a high-quality servo motor, offering meticulous control over speed and unwavering stability. The integrated filter magnetic ring shields against external interference, bolstering machine stability.

9. Embrace sustainable performance with meticulously selected imported compressors and eco-friendly fluorine-free refrigerants. Experience prolonged stability even at low temperatures, devoid of frost or freezing concerns.

10. Illuminate and sanitize simultaneously with the integrated lighting and ultraviolet timing sterilization functionality. Your work environment remains well-lit, while microbial contamination is curbed.


## Unique Advantages

1. Employing an imported infrared $CO_2$ sensor, our system ensures automatic control of $CO_2$ concentration with heightened sensitivity and exceptional precision. Enhanced by a controller and solenoid valve setup, this technology simplifies usage, requiring only a $CO_2$ gas source for direct operation.

2. Featuring a $CO_2$ air inlet filter mechanism, our design adeptly eliminates particulate impurities, microorganisms, and other potential pollutants present in the incoming $CO_2$ gas, further optimizing performance.

3. Empower your control with an intuitive LCD touch screen. This interface seamlessly displays $CO_2$ concentration, temperature, speed, time, actual $CO_2$ concentration, temperature, speed, and remaining time, all within a single view. The option for forward or reverse rotation of the rocking plate is customizable, as is the real-time display of time accumulation and timing functions. The ability to set the forced convection fan for automatic or manual operation enhances convenience.

4. Unlock insightful analysis through our data memory function. Capturing temperature and speed data per minute in real time, this system forms a repository of historical data and real-time graphs. This invaluable resource aids in observing and understanding the impact of temperature and speed during experiments. With a data storage capacity of 12 months and a USB interface for seamless information exchange, your insights are readily accessible.

5. Utilizing PLC microcomputer intelligent control, our system remains adaptable to evolving needs. This flexibility allows for the addition of programs as required, promoting a user-centric experience and enabling programming upgrades.

## *Unique Advantages - Continued*

6. Our proprietary precision three-channel gas cold and hot mixing circulation air duct design guarantees uniform temperature distribution across the entire cabinet, a pioneering innovation protected by a patent.

7. The adoption of a self-balancing system design contributes to overall stability, effectively extending the operational life of the machine. This innovation, too, is safeguarded by a patent.

8. Experience the convenience of our built-in diversion type waterproof system. With its capacity for thorough, dead-angle-free waterproof flushing, cleaning is effortless without the need for specialized tools, all covered by a patent.

9. Discover unprecedented efficiency with our fast fixing device. The innovative feature permits rapid fixation or release of the rocking plate within just 5 seconds. Enhanced by an elegant, lightweight aluminum rocking plate that can be effortlessly operated with a single hand, this advancement optimizes work processes and maximizes productivity, secured by a patent.

10. Embrace enhanced safety and ease-of-use with our user-friendly lid opening mechanism, designed to either halt operations or initiate a slow-stop function. This not only promotes the well-being of your cell cultures but also elevates overall operational stability.

11 .For precise temperature management, our system is equipped with an external ambient temperature probe, delivering real-time ambient temperature readings on the panel interface, ensuring meticulous control within the cabinet.

12. Tailor your system with optional three-level or higher management authority settings. Each level boasts an independent user name and password, facilitating secure logins, parameter adjustments, and screen data access—a management tool designed with convenience in mind.

13. Optimize your environment with the optional built-in active humidity control module. This space-efficient feature, coupled with an external water replenishment mechanism, ensures automatic hydration. Utilizing a high-precision humidity probe, our system maintains humidity levels of up to 95% during normal culture at 37°C, effectively curbing sample volatilization. Real-time humidity display adds to the convenience and insights this module offers.



UMSI-215-2TC

UMSI-215-3TC

# Technical Specifications

| Model | UMSI-215-1TC | UMSI-215-2TC | UMSI-215-3TC |
|---|---|---|---|
| Number of overlays | 1 layer | 2 layers | 3 layers |
| Control interface | LCD touchscreen | | |
| Rotation speed | 10-300rpm | | |
| Speed control accuracy | 1rpm | | |
| Shaking throw | 50mm Standard/26mm Optional | | |
| Internal usable height | 338mm | | |
| Maximum load | 50kg | | |
| Volumn | 215L | | |
| Temperature control mode | PLC control mode | | |
| Temperature control range | 4-60℃ | | |
| Temperature display resolution | 0.1℃ | | |
| Temperature fluctuation | ±0.1℃ | | |
| Temperature field uniformity | ±0.5℃@37℃ | | |
| Working environment temperature | 5-35℃ | | |
| $CO_2$ measurement principle | IR sensor detection | | |
| $CO_2$ control range | 0-20% | | |
| $CO_2$ display resolution | 0.001 | | |
| $CO_2$ supply | 0.05-0.1MPa is recommended | | |
| Sterilization method | UV sterilization | | |
| Tray size | 830×450mm | | |
| Tray capacity of shake flask | 250ml×45　　500ml×28　　1000ml×18　　2000ml×11 | | |
| Illumination | FI tube, 30W | | |
| Heating power | 600W | | |
| Cooling power | 278W | | |
| Power supply | AC220V±10％，50-60Hz | | |
| Timing function | 0-999.9hours | | |
| Data export interface | USB interface | | |
| Historical data storage | Three months | | |
| Push-pull blackout curtain | Optional | | |
| Dimension(W×D×H) | 1119×910×621mm | 1119×910×1165mm | 1119×910×1711mm |
| Net weight | 213KG | 400KG | 580KG |
| Package size(W×D×H) | 1250×1050×790mm(1 layer) | | |
| Gross weight | 273kg(1 layer) | | |