

A breakthrough in **cell culture management**

The Thermo Scientific™ Heracell™ VIOS 160i CO₂ incubator with the Thermo Scientific™ Cell Locker™ System combines our leading technology with an innovative, patented solution of removable, protected chambers designed for improved culturing efficiency and security for sensitive cultures, such as stem and primary cells, used in cutting edge applications.

Enhancing the advanced features of the Heracell VIOS 160i CO₂ incubator, the Cell Locker System is a breakthrough for cultures in frequently opened or shared use incubators.



Enhance Your

Stability

Preserve the environment in Cell Lockers when a neighboring chamber is opened, minimizing sample variability



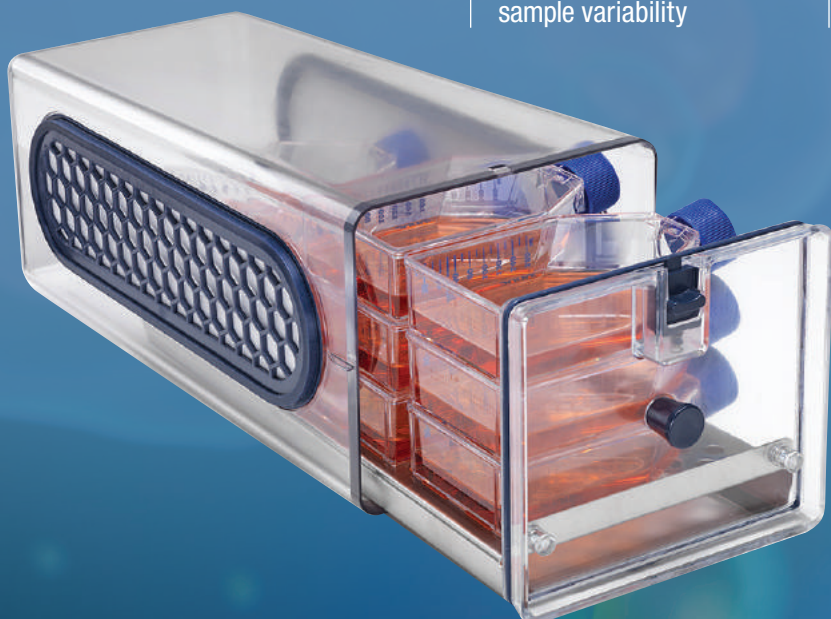
Protection

Provides security from cross contamination due to culture isolation in separate chambers



Flexibility

Organize cultures by separating multiple users, cell types or projects



...that maximizes **your sample security**



Isolate cultures and projects

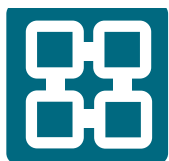
The Cell Locker System features up to six individual, autoclavable polycarbonate chambers that divide the incubator chamber, isolating individual cell types or projects. Individual Cell Lockers serve to quarantine cell types or different projects, offering enhanced protection for valuable cultures.

Cross Contamination Protection

Each Cell Locker has dual 0.2 μm membrane filters that permit air circulation but exclude microbial contaminants. Independent tests demonstrate that microorganisms cannot pass between closed chambers.

Minimize environmental variation

When one Cell Locker is opened, the remaining five Cell Lockers maintain the ideal growth environment for sensitive stem cells, primary cells, diagnostic tests and more.

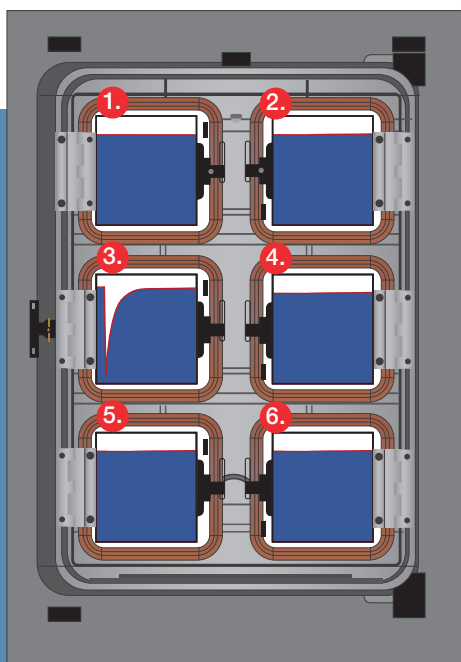


Enhanced Stability

Ensure cultures spend more time in conditions that best mimic the *in vivo* state.

While incubation conditions are normally disrupted by routine door openings, the Cell Locker System helps to minimize this impact. During a door opening of one Cell Locker, the temperature, CO₂ gas concentration and humidity remain stable in the unopened Cell Lockers. Compared to traditional incubator designs, the cell cultures in the Cell Locker Solution are in the desired *in vivo*-like state longer because they are not exposed to every door opening.

THRIVE active airflow gently and evenly distributes humidified, conditioned air throughout Cell Lockers, creating a uniform culture environment in each Cell Locker. THRIVE airflow provides fast recovery from door openings for each opened Cell Locker.



Demonstration of temperature, humidity and CO₂ stability in the unopened Cell Lockers when one Cell Locker (#3 as an example) is opened.

Learn more about the improved culture conditions in the Cell Locker System

- For consistent results, the uniformity in each Cell Locker is $\pm \leq 0.3^{\circ}\text{C}$
- When one Cell Locker is opened, the other Cell Lockers maintain stable conditions*, preserving the *in vitro* environment
- Compared to the standard single glass door design, the temperature drop in the opened Cell Locker is reduced by 50%
- With the Cell Locker system, gas consumption from a door opening is reduced by 50%, saving time and money

For more information, see “Functional Performance and Benefits of the Thermo Scientific Cell Locker System”

*Conditions remain stable within these spatial deviations: temperature $\pm 0.3^{\circ}\text{C}$, humidity $\pm 3\%$, and CO₂ $\pm 0.2\%$



Enhanced Protection

Individual chambers maximize security against costly cross contamination.

Cross contamination from neighboring cultures or circulating microorganisms is a constant risk in many traditional incubators. In the Heracell VIOS CO₂ incubator, the HEPA system filters the entire incubator air volume to achieve ISO Class 5 cleanroom air quality. The Cell Locker further protects from cross contamination by dividing the incubator into six individual chambers. Each individual Cell Locker is effectively a quarantine chamber. Independent 3rd party tests validate protection against circulating microorganisms (when used as directed).



The replaceable 0.2 µm membrane filter has an effective pore size of about 0.02 µm when filtering air¹ and is hydrophobic, oleophobic, resistant to organic solvents and tested for biosafety and low cytotoxicity.



Table 1:

Independent tests show common cell culture contaminants were unable to enter or exit a closed Cell Locker. Two common cell culture contaminants were tested in the Cell Locker System inside the Heracell VIOS CO₂ incubator. No microorganisms were able to travel into or out of the Cell Lockers.

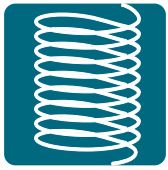
For more information, see “How does the Thermo Scientific Cell Locker System isolate cell cultures and projects in a CO₂ incubator, protecting from cross-contamination?”

| Independent Tests with Cell Locker System | | | |
|---|-----------------------|----------------------------|---------------------------|
| Microorganism Tested | Total Circulated | Total Outside Cell Lockers | Total Inside Cell Lockers |
| <i>Staphylococcus aureus</i> ATCC 6538 | 9.6 x 10 ⁴ | TNTC* | 0** |
| <i>Mycoplasma orale</i> DSM 25590 | 9.3 x 10 ⁴ | TNTC* | 0** |

*TNTC = too numerous to count. For each test, 48 open agar plates were placed outside of the Cell Lockers.

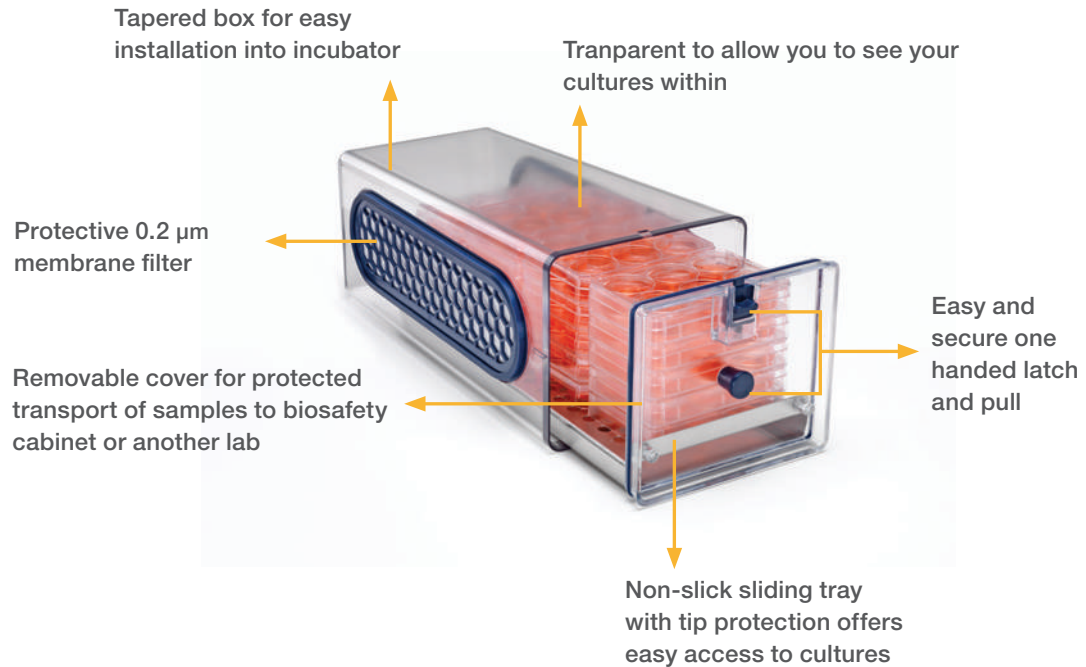
**A total of 24 culture plates were placed open inside the Cell Lockers. All showed zero growth.

¹Boomus M. Medical Device & Diagnostic Industry News Products and Suppliers. 2006.



Enhanced Flexibility

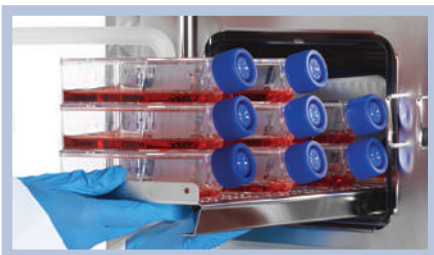
The Cell Locker can be configured to fit the unique needs of your lab.



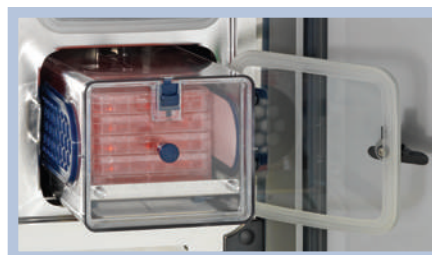
Cell Locker configuration can be optimized for your workflow

The Cell Locker was designed with flexibility in mind. Different cell types, samples, users or projects can be segregated within shared incubator space.

- Dishes and flasks can be removed individually; on a work tray; or inside the entire Cell Locker with optional transport cover, thus protecting samples from outside air
- Each Cell Locker holds 9 each T-75 cell culture flasks, 20 each 6-well plates, or 24 each 96-well plates
- The Cell Locker can be manually disinfected or can be autoclaved a maximum of 12 times
- Individual Cell Lockers can be placed in any incubator to quarantine samples or to isolate cultures or projects



The non skid tray slides out to allow access to culture vessels, or the entire tray can be removed. The specialized design prevents tipping.



Remove the Cell Locker with optional transport cover to protect all cultures from outside air, for transport to a biological safety cabinet or to another lab.

Thermo Scientific Heracell VIOS 160i CO₂ Incubator

with the Cell Locker System

Our advanced technologies deliver the optimized, protected growth environment required to support a range of cell culture needs. Equipped with the Cell Locker System, the Heracell VIOS CO₂ incubator is designed to maximize the level of security for today's demanding research applications.

- 165 L interior chamber with the new 6 segmented, gas tight inner door configuration and 3 shelves designed to accommodate 6 individual Cell Lockers
- Choose electropolished stainless steel or 100% pure copper chamber interior
- THRIVE airflow technology provides enhanced stability, tight uniformity, and fast recovery
- Unique covered humidity reservoir maximizes humidity without condensation
- ISO Class 5 HEPA filtration provides clean room air quality in the chamber
- Thermo Scientific Steri-Run overnight 180°C sterilization cycle achieves 12 log Sterility Assurance Level (SAL) total sterilization
- Thermo Scientific iCAN touchscreen interface provides bright at-a-glance monitoring and complete data visibility to monitor all incubator interactions and parameters
- Temperature resistant, bulb-free IR CO₂ sensor (IR180Si)
- Optional O₂ control of 1-21% or 5-90%

HERAcell VIOS 160i
CO₂ Incubator



Ordering Information

| Heracell VIOS 160i Cell Locker Solution Packages with 6 Cell Lockers | Stainless Steel Interior | 100% Copper Interior |
|---|--------------------------|----------------------|
| Single Chamber configured with 6 door gas tight screen, IR180Si CO ₂ sensor and 6 each of the Cell Lockers, 120V 50/60HZ | 51032124CL6 | 51032128CL6 |
| Single Chamber configured with 6 door gas tight screen, IR180Si CO ₂ sensor, 1-21% O ₂ control option, and 6 each of the Cell Lockers, 120V 50/60HZ | 51032342CL6 | 51032406CL6 |

Incubator base model includes 6 door gas tight screen and modified interior and shelving (does not include Cell Lockers). Use these part numbers if adding factory installed options.

| Heracell VIOS 160i CO ₂ Incubators | Stainless Steel Interior | 100% Copper Interior |
|--|--------------------------|----------------------|
| Single Chamber with IR180Si CO ₂ sensor, 120V 50/60HZ | 51032124 | 51032128 |

Factory installed options

| | |
|----------|---|
| 51901143 | Internal 4-20 mA analog data output |
| 51900293 | Left hinge door configuration |
| 51900735 | Internal gas guard for CO ₂ |
| 51900736 | Internal gas guard for N ₂ /O ₂ |
| 51901126 | Stainless steel external outer casing |
| 51901137 | 1-21% O ₂ control |
| 51901138 | 5-90% O ₂ control |

Choose customer installable accessories*

| | |
|------------|---|
| 50145394 | Support frame for double chamber, 172 mm high (with casters) |
| 50154551 | Lower profile support frame for double chamber (with casters), 73 mm high |
| 50148171 | Adaptor required for stacking VIOS models |
| 50153148 | Replacement membrane filters (2/pk) |
| 50151650 | Single Cell Locker with stainless steel sliding tray and transport cover |
| 50154739 | Single Cell Locker with copper sliding tray and transport cover |
| 50151650X6 | Package of 6 Cell Lockers with stainless steel sliding tray and transport cover |
| 50154739X6 | Package of 6 Cell Lockers with copper sliding tray and transport cover |

*Please consult the Heracell VIOS brochure for additional available accessories

Find out more at thermofisher.com/co2

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