

thermo scientific



# Thermo Scientific CO<sub>2</sub> Incubators

Discovery thrives  
in a culture of confidence

**ThermoFisher**  
SCIENTIFIC



## Discovery thrives in a culture of confidence








More scientists worldwide trust their valuable cultures to **Thermo Scientific™ CO<sub>2</sub> incubators** than any other brand. They depend on proven reliability, outstanding contamination prevention and optimal growing conditions. Delivered with innovative features like HEPA air filtration that surrounds cells with clean room-like air quality and a choice of 100% pure copper or polished stainless steel interior surfaces. Plus a high-temperature decontamination function that eliminates the need for separate autoclaving and reassembly of components. The inside story is simple: **our CO<sub>2</sub> incubators let you culture with confidence. Day after day. Year after year.**

Choose a CO<sub>2</sub> incubator that can provide you with:

- an optimal growth environment
- complete contamination control
- enhanced simplicity

## Thermo Scientific CO<sub>2</sub> incubators

### 1 Select the optimal capacity and chamber design

		Direct Heat				Water-Jacketed	Compact Size	Large Capacity
								
		<b>Forma Steri-Cult</b>	<b>Heracell VIOS</b>	<b>Heracell i</b>	<b>Forma Steri-Cycle</b>	<b>Forma Series 3</b>	<b>Midi 40</b>	<b>Large Capacity Reach In</b>
		232 L–323 L 8.2–11.4 cu. ft.	165 L–255 L 5.8–9.0 cu. ft.	150 L–240 L 5.4–8.4 cu. ft.	184 L 6.5 cu. ft.	184 L 6.5 cu. ft.	40 L 1.4 cu. ft.	821 L 29 cu. ft.
<b>2 Choose advanced technologies</b>		Optimal protection, control and capacity	Advanced design with contamination control	Interactive touch-screen simplicity	Original benchmark for HEPA filtration and sterilization	Exceptional temperature stability	Space-savings, small capacity	Maximum volume, high-throughput
Event Based Decontamination	Built-in High Temperature Cycle	●	●	●	●			
Continuous Contamination Prevention	In-Chamber HEPA Air Filtration	●	●		●	●		
	100% Pure Copper Surfaces	○ <sup>1</sup>	● <sup>2</sup>	● <sup>2</sup>	○ <sup>1</sup>	○ <sup>1</sup>		
Advanced Growth Conditions	THRIVE Active Airflow		●					
	External Humidity Source and Control	●						
	Cell Roll System			○				○
	Advanced O <sub>2</sub> Control		○	○		○		
Simplicity	iCAN Interface		●	●		●		
	Stackability	●	●	●	●	●	●	
	Reversible Door Swing		●	●	●	●		
		page 8	page 10	page 14	page 15	page 16	page 17	page 18

● Standard feature  
○ Optional feature

<sup>1</sup> Stainless steel interior with optional copper shelves and components

<sup>2</sup> Models available with solid copper interior, as well as with stainless steel interior

# Optimized cell growth through advanced design and technology

## Enhanced capacity

From small personal-sized incubators to large capacity models, there is a Thermo Scientific CO<sub>2</sub> incubator fit for your unique needs.

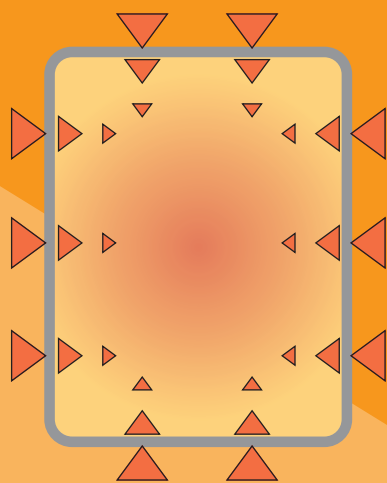
- Choice of volume capacities ranging from 40 L to 821 L (1.4 cu. ft. to 20 cu. ft.)
- Convenient stackable models for space-constrained labs
- Space to accommodate shakers, stirrers, culture devices or large sample throughput

## Quality chamber construction

Choose the lightweight convenience of direct heat technology with available high-temperature decontamination or the added security of water-jacketed chamber designs for protection against unexpected power outages. Both are designed to provide precise, reliable control and tight uniformity values. All incubators conform to the strictest electrical safety standards.

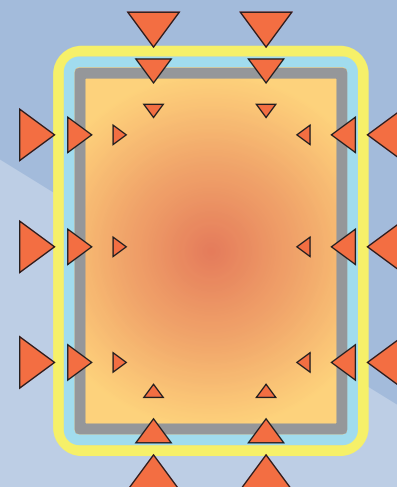
## Solutions for the way you work

- ▶ Reversible door swings
- ▶ Polished stainless steel or solid copper interiors
- ▶ Easy-to-clean coved corners and convenient access ports
- ▶ Sturdy adjustable shelves, easily removed without tools



### Direct Heat

Efficient high-performance heaters located on every chamber surface, provide even temperature distribution throughout the entire chamber.



### Water Jacketed

Unique triple wall construction provides outstanding temperature stability supplied by dual layers of water and high-quality insulation.

# Intelligent design for improved results



## Smart simplicity to proven reliability

The intelligent **Thermo Scientific™ iCAN™ touch screen interface** is designed to provide complete data visibility to monitor all incubator interactions, featuring door-mounted position for easy access, on-screen menu prompts, error and usage logs, data logging, performance trend graphing, and multiple language selection.



## Enhanced flexibility: two available oxygen control ranges

Many cell cultures thrive best in CO<sub>2</sub> incubators with controlled levels of oxygen. Select an O<sub>2</sub> option to simulate physiological hypoxic environments (for stem cell and IVF applications) or choose to increase oxygen concentration for the ability to operate at hyperoxic levels.



## Choice of in-chamber CO<sub>2</sub> measuring technologies

CO<sub>2</sub> sensors are positioned directly in the chamber right near your cultures – ensuring the most precise control. A choice of sensor technologies includes:

- Thermal conductivity (TC) for accurate monitoring and reliable long service life
- Advanced infrared (IR) technology for precise monitoring where temperature and humidity levels are less predictable



## Fan-assisted air circulation for rapid recovery

For advanced uniformity and recovery, our airflow patterns are specifically designed for outstanding distribution of critical environmental conditions (temperature, gas exchange and humidity). Efficient circulation minimizes variation between cultures, while preventing desiccation – no matter where your cultures are located in the incubator.



## Convenient external humidity reservoir and active rH control

To simplify maintenance and remove a potential source of contamination, models with a convenient exterior reservoir are available to eliminate the water pan and allow replenishment of water without disrupting culturing activity. Active rH control is ideal for applications requiring flexibility and precise monitoring of humidity levels.



# Complete **contamination control**

## Protect your cultures with proven technologies

Our advanced contamination control technologies are designed to protect your valuable cultures and save you time and resources spent on fighting contamination while providing security for your work. Your cultures are continuously protected 24 hours per day, 7 days per week. Convenient on-demand high temperature sterilization is designed to eliminate contamination and simplifies your cleaning procedures.

## High temperature sterilization for easy cleaning with push-button simplicity

Conveniently decontaminate your incubator using an on-demand high temperature cycle and eliminate the need for separate autoclaving and re-assembly of components

- Automatically radiates heat uniformly to all interior surfaces, requiring no post-cycle clean up, and returns quickly to selected operating conditions
- Independent third party tests prove the elimination of biological contaminants, including fungal mold and bacteria including mycoplasma
- Avoids the physical constraints and variation of UV germicidal lamps and on-going costs, handling and storage of potentially toxic germicides

## ► Complete contamination control

“ Everything we do is cell based. The main thing I've noticed is my ability to maintain my cells. There is just no comparison since we got the copper. I've had stainless steel incubators before but the comfort level you can have with the copper is simply amazing. ”

Laboratory manager with 14 years experience working with all types of mammalian cell lines, including adherent, suspension, hybridomas and transformed stem cells.

## Easy-to-maintain 100% solid copper

More cell culture professionals are choosing Thermo Scientific incubators with 100% pure copper interiors.

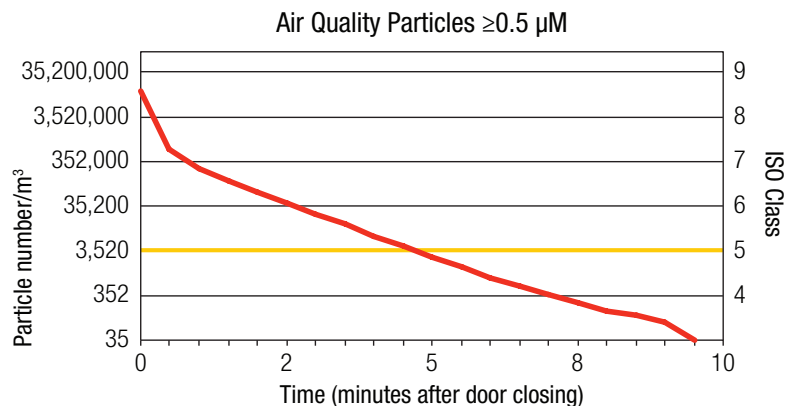
- Naturally easy-to-clean, no special handling required
- Copper surfaces provide long service life and are safe for cultured cells
- Durability, reliability, and recyclability makes copper a smart, sustainable choice



## HEPA air filtration for air purity

Airborne particulates are a primary source of contamination in most lab settings. Our advanced HEPA filter technology protects your cultures, providing ISO Class 5 clean room-like air quality conditions within only five minutes after a 30-second door opening.

- Chamber air is filtered every 60 seconds to ensure air quality
- Featuring a space saving configuration, the HEPA filter is readily replaceable with minimal cost



# Thermo Scientific Forma Steri-Cult CO<sub>2</sub> Incubators

## Outstanding protection, control and capacity for high value cultures

An optimal choice for Good Manufacturing Practices (GMP), bioproduction or large scale culturing of high value samples, the Thermo Scientific™ Forma™ Steri-Cult CO<sub>2</sub> incubator brings leading edge technology into your lab.

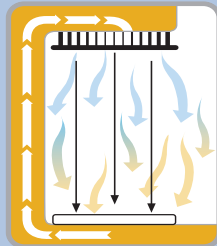
- Convenient sizes of 232 L (8.2 cu.ft.) and 323 L (11.4 cu.ft.), the largest stackable lab incubator available in the Thermo Scientific portfolio
- Triple protection with in-chamber HEPA, 140° C dry heat sterilization, and external humidity water reservoir
- Active humidity control and IR CO<sub>2</sub> sensor



## 3-Way protection against contaminants

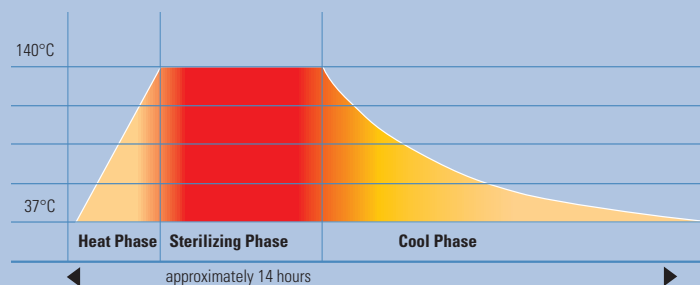
### High-efficiency ISO Class 5 air purity

In-chamber HEPA airflow system filters entire chamber volume every 60 seconds, removing airborne biological and particulate contaminants, with ISO Class 5 (Class 100) cleanroom air quality within five minutes after door opening.



### 140° C dry heat sterilization

This safe and effective overnight high-temperature sterilization cycle is proven to effectively eliminate bacteria, mold, yeast, mycoplasma and even resistant spores, simplifying cleaning protocols and protecting cultures and personnel.



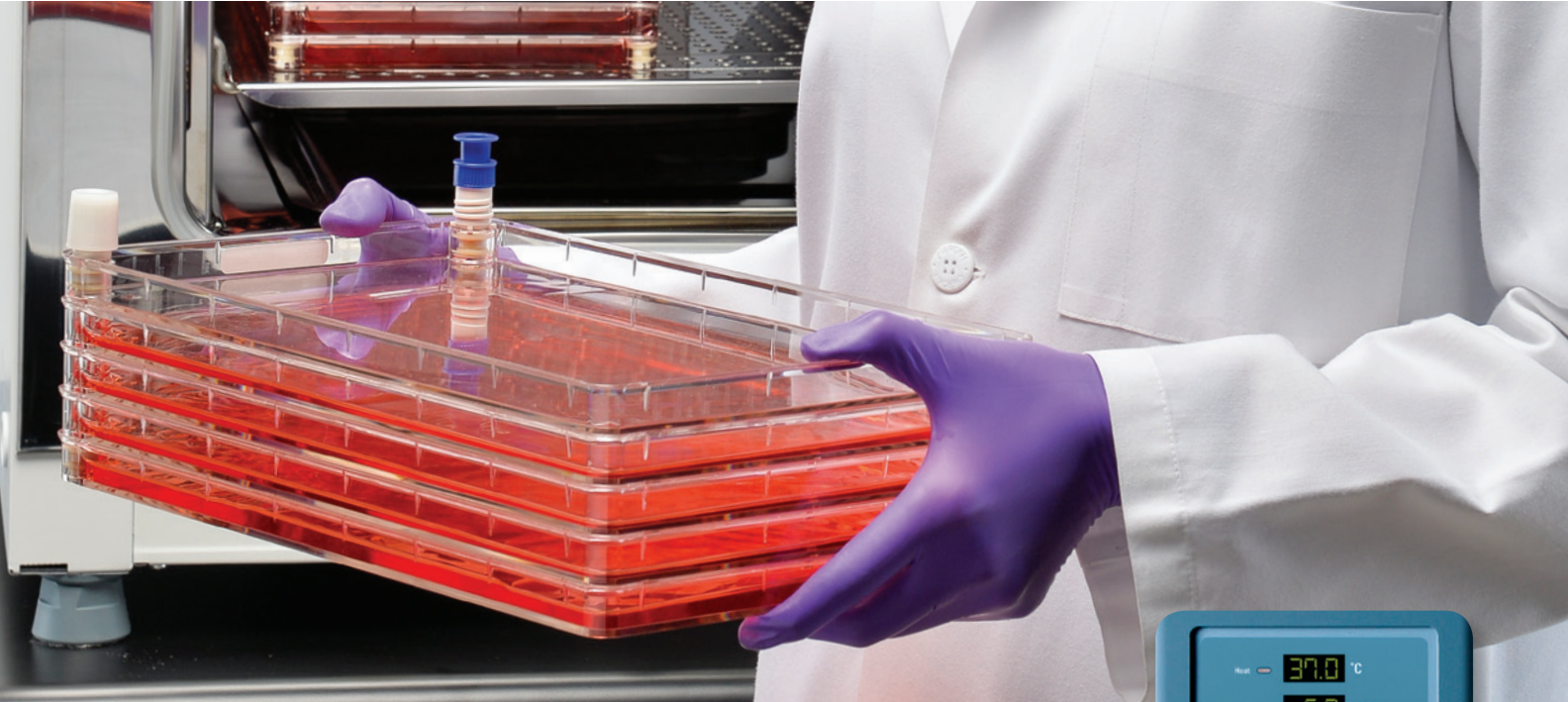
### Full humidity control with convenient external water reservoir

An external water supply allows refilling without opening the chamber, eliminating a potential source of water-based contaminants inside the incubator. Active humidity controls are easily adjustable and at-a-glance water level indicator helps prevent sample desiccation.





## ► Thermo Scientific Forma Steri-Cult CO<sub>2</sub> Incubators



### Intelligent construction for maximum sample protection

The top mounted HEPA filter is designed to simplify maintenance and optimize chamber space. Polished stainless steel interior includes covered corners for easy cleaning, an access port for added flexibility, and a filter on the CO<sub>2</sub> gas port. A water filter provides additional sample protection, and the inner door gasket is removable for easy cleaning.

### Microprocessor messaging center

Alphanumeric display shows temperature, CO<sub>2</sub> and rH with handy programming controls and audible/visual alarms.



Model No.	Description	Interior	Sensor	Volume	Voltage
3307	Steri-Cult CO <sub>2</sub> incubator with external active humidification with ISO 5 HEPA filtration and 140° C sterilization cycle	Stainless steel	IR	8.2 cu. ft. (232L)	115V 50/60Hz
3308					230V 50/60Hz
3310	11.4 cu. ft. (323L)			115V 50/60Hz	
3311				230V 50/60Hz	

# Thermo Scientific Heracell VIOS 160i and 250i CO<sub>2</sub> Incubators

## Advanced design for sensitive cultures with complete contamination control

Designed to achieve your next breakthrough. Our newest incubator series provides everything necessary for your most demanding and highly critical applications. Combines our latest technology advancements in contamination control and uniform growth conditions with existing reliable features.

- Choice of 165 L (5.8 cu. ft.) and 255 L (9.0 cu. ft.) in a compact footprint, readily stackable
- Choice of electropolished stainless steel or 100% copper interior
- Thermo Scientific™ THRIVE™ active airflow provides fast recovery for stable culturing conditions
- Proven protection from every direction including ISO Class 5 HEPA filtration, on-demand sterilization, and easy-to-maintain copper
- Unique covered humidity reservoir is designed to maximize humidity without condensation
- iCAN touchscreen interface provides complete data visibility with data logging, error and usage logs, performance trend graphing, and multiple language selection
- Optional O<sub>2</sub> control with choice of 1-21% or 5-90% ranges

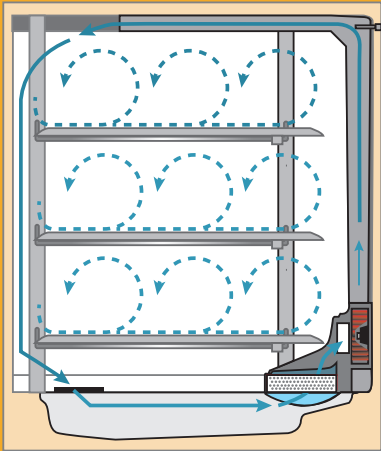


Large capacity 250i model is ideal for high volume culturing

## ► Thermo Scientific Heracell VIOS 160i and 250i CO<sub>2</sub> Incubators

### THRIVE active airflow

designed to provide recovery in 10 minutes or less



In-chamber fan gently and evenly distributes clean, humidified air throughout the chamber ensuring all cells experience the same conditions without the threat of desiccation



Humidity reservoir may be filled without removing shelves or cultures and is easily drained through built-in copper drain

## Better solutions for optimal cell growth

**Revolutionary THRIVE airflow technology** is designed to provide fast recovery of all parameters in 10 minutes or less following a routine door opening<sup>3</sup>. In-chamber fan gently distributes clean, humidified air throughout the chamber ensuring homogeneous conditions

**In chamber probes and sensors** respond quickly to correct changes in conditions and remain in place during sterilization

- > Dual temperature probes provide over-temperature protection
- > Temperature resistant IR180Si infrared (IR) CO<sub>2</sub> sensor replaces the traditional incandescent IR light source with silicon MEMS technology that improves stability and extends service life
- > TC180 offers the performance advantages of traditional IR technologies without the limiting lifespan of a standard incandescent bulb

## Exclusive condensation-free humidification system

Our unique integrated, covered humidity reservoir maximizes relative humidity without condensation ensuring a dry inner chamber, preventing a breeding ground for contaminants.

<sup>3</sup>Based on internal testing with a 30 second door opening, recovery time calculated to 98% of starting value for temperature and CO<sub>2</sub> and 95% of starting value for humidity

## ► Thermo Scientific Heracell VIOS 160i and 250i CO<sub>2</sub> Incubators

### Complete contamination control

#### Exclusive Thermo Scientific™ Steri-Run™ Cycle

High temperature sterilization cycle reaches 180° C on all chamber surfaces and is independently proven to achieve total sterilization and a 12 log Sterility Assurance Level (SAL).

#### HEPA air filtration designed for air purity

In-chamber HEPA continuously filters the entire chamber every 60 seconds to achieve cleanroom quality ISO Class 5 air within 5 minutes of routine door opening.

#### Easy-to-maintain 100% copper

Naturally durable surface with no special handling required provides long service life and is safe for cells.

#### Microorganisms Eliminated During the Steri-Run Cycle\*

Microorganism	ATCC #	Average Positive Control*	Number Recovered*	Log Reduction*
<i>Aspergillus brasiliensis</i>	16404	2.98x10 <sup>4</sup>	NG**	-4.5
<i>Escherichia coli</i>	25922	2.22x10 <sup>4</sup>	NG	-4.3
<i>Mycoplasma pneumoniae</i>	15531	1.25x10 <sup>6</sup>	NG	-6.1
<i>Bacillus atrophaeus</i> spores	51189	2.16x10 <sup>7</sup>	NG	-7.3
<i>Geobacillus stearothermophilus</i> spores	12980	4.81x10 <sup>6</sup>	NG	-6.7

\*Average based on 3 independent tests performed on different days.

\*\* NG = No Growth

Model No.	Description	Interior	Sensor	Volume	Voltage	
51030285	Heracell VIOS 160i CO <sub>2</sub> incubator	Stainless steel	TC180	5.8 cu. ft. (165L)	120V 50/60Hz	
51030287					230V 50/60Hz	
51030284		100% copper			120V 50/60Hz	
51030286					230V 50/60Hz	
51030964	Heracell VIOS 250i CO <sub>2</sub> incubator	Stainless steel		IR180Si	9.0 cu. ft. (255L)	120V 50/60Hz
51030966						230V 50/60Hz
51030963		100% copper				120V 50/60Hz
51030965						230V 50/60Hz
51030400	Heracell VIOS 160i CO <sub>2</sub> incubator	Stainless steel	IR180Si		5.8 cu. ft. (165L)	120V 50/60Hz
51030478						230V 50/60Hz
51030401		100% copper				120V 50/60Hz
51030476						230V 50/60Hz
51030992	Heracell VIOS 250i CO <sub>2</sub> incubator	Stainless steel		IR180Si	9.0 cu. ft. (255L)	120V 50/60Hz
51030994						230V 50/60Hz
51030991		100% copper				120V 50/60Hz
51030993						230V 50/60Hz

► **Thermo Scientific Heracell VIOS 160i and 250i CO<sub>2</sub> incubators with variable O<sub>2</sub> control**



Our lab mandates this [5% oxygen in the tri-gas incubator] in order to mimic conditions in the body, so that cells are as close to those conditions as possible and nothing is different. All of the signals for proper epigenetics are there.

Stem cell researcher at biomedical research institute

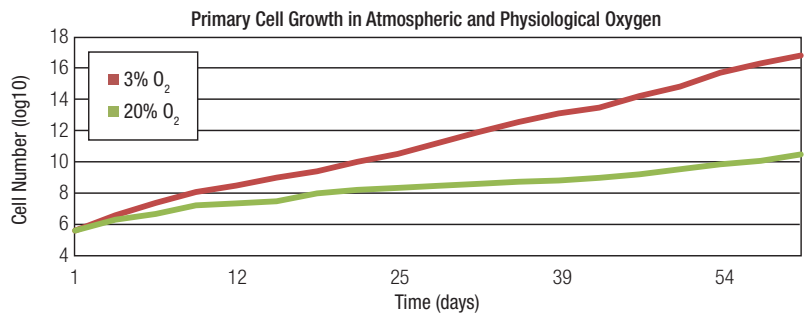
With segmented inner doors, accessing separate sections of the incubator is convenient, minimizing recovery time and contamination risk.



**Added culturing flexibility with variable oxygen control**

Many cell types thrive best in CO<sub>2</sub> incubators with reduced oxygen. Culturing cells at lower oxygen concentration will better simulate physiological conditions, resulting in cell behaviors that are more predictive of the *in vivo* environment.

Our variable oxygen control (or “tri-gas”) incubators can generate conditions to help your cells grow faster and healthier. With the Heracell VIOS CO<sub>2</sub> incubator, you can select the incubator for your O<sub>2</sub> range: simulate hypoxic (1–21%) environments for primary cell, stem cell and embryo research applications, or hyperoxic (5–90%) conditions for research in lung, retina and other sensitive tissues.



**Cells cultured in low oxygen (hypoxia) will generally grow faster, live longer, and show lower stress.**

Adapted from Parrinello et al. *Nature Cell Biology* 2003.

Model No. <sup>4</sup>	Description	Interior	Sensor	Volume	Voltage
51030403	Heracell VIOS 160i tri-gas CO <sub>2</sub> incubator with 1–21% O <sub>2</sub> control	Stainless steel	TC	5.8 cu. ft. (165L)	120V 50/60Hz
51030405			IR		
51031047	Heracell VIOS 250i tri-gas CO <sub>2</sub> incubator with 1–21% O <sub>2</sub> control	Stainless steel	TC	9.0 cu. ft. (255L)	120V 50/60Hz
51031160			IR		
51030408	Heracell VIOS 160i tri-gas CO <sub>2</sub> incubator with 1–21% O <sub>2</sub> control	100% copper	TC	5.8 cu. ft. (165L)	120V 50/60Hz
51030410			IR		
51031048	Heracell VIOS 250i tri-gas CO <sub>2</sub> incubator with 1–21% O <sub>2</sub> control	100% copper	TC	9.0 cu. ft. (255L)	120V 50/60Hz
51031159			IR		

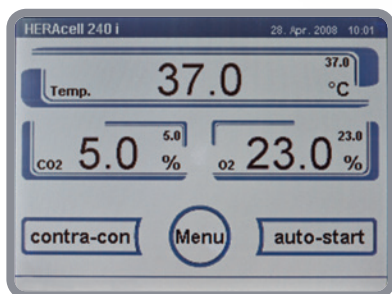
<sup>4</sup>Additional configurations and 230V models are available; contact your sales representative

# Thermo Scientific Heracell 150i and 240i CO<sub>2</sub> Incubators

## Interactive touch-screen simplicity for outstanding results

Renowned for accuracy, uniformity and quick recovery rates, our Thermo Scientific Heracell 150i and 240i direct heat incubators combine optimal culturing conditions with simplicity and ease-of-use.

- Two convenient stackable sizes 150 L, 240 L (5.3 cu. ft., 8.4 cu. ft.) with electropolished stainless steel or 100% pure copper interior
- Intuitive iCAN touchscreen interface
- Optional O<sub>2</sub> control with choice of 1-21% or 5-90% ranges
- Choose reliable long-life TC or dual-beam IR CO<sub>2</sub> sensors



## Exclusive Thermo Scientific™ ContraCon™ 90° C disinfection system

Our unique ContraCon 90° C moist heat on-demand decontamination cycle has been proven effective by multiple third party testing labs against a wide range of contaminants including bacteria, molds, fungal spores and mycoplasma. No autoclaving or toxic chemicals are needed: operation is push-button simple, and does not require the removal of sensors or other components. ContraCon simplifies cleaning and eliminates variability in disinfection.

## Rapid response humidity system

Our unique integral humidity water reservoir provides a high relative humidity (rH) and allows rapid recovery of optimal humidity level after door openings. This pan-less system reduces handling and provides recovery rates up to 5x faster than traditional tray humidified incubators.

Model No.	Description	Interior	Sensor	Volume	Voltage
51026282	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	Stainless steel	TC <sup>5</sup>	5.3 cu. ft. (150 L)	120V 50/60Hz
51026280	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	Stainless steel			230V 50/60Hz
51026283	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	100% copper			120V 50/60Hz
51026281	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	100% copper			230V 50/60Hz
51026331	Heracell 240i single chamber with ContraCon moist heat decontamination cycle	Stainless steel		8.4 cu. ft. (240 L)	120V 50/60Hz
51026330	Heracell 240i single chamber with ContraCon moist heat decontamination cycle	Stainless steel			230V 50/60Hz
51026332	Heracell 240i single chamber with ContraCon moist heat decontamination cycle	100% copper			120V 50/60Hz
51026333	Heracell 240i single chamber with ContraCon moist heat decontamination cycle	100% copper			230V 50/60Hz

<sup>5</sup> For a configuration with IR sensor, please order factory installed accessory part number 51900733 with unit listed above



# Thermo Scientific Forma Steri-Cycle and Direct Heat CO<sub>2</sub> Incubators

## Performance and value for everyday culturing

### Choice of two direct heat CO<sub>2</sub> incubator configurations:

- Forma Steri-Cycle incubator with ISO Class 5 HEPA filtration and 140° C on-demand high temperature sterilization
- Forma Direct Heat incubator with optional HEPA filter airflow system
- Easy-to-use and configure with field-installed reversible door and an alpha numeric Enviro Scan control panel
- Designed for precise CO<sub>2</sub> control with choice of TC or IR sensors

### Large capacity and easy maintenance

Large 184 L (6.5 cu. ft.) capacity is readily stackable to maximize capacity. Polished stainless steel chamber is designed with coved corners to simplify cleaning.

### Proven direct heat technology

Culture with confidence from the combination of high performance heating elements and advanced insulation surrounding the chamber. Samples benefit from excellent temperature uniformity and recovery performance.

### HEPA filter airflow system

HEPA filter airflow constantly manages air quality within the chamber to protect cultures against airborne contaminants. It continuously filters the entire chamber volume every 60 seconds and provides ISO Class 5 (Class 100) within 5 minutes of door opening (Steri-Cycle only).



### Easy-to-read messaging center

Informative alphanumeric displays provide the information you need to verify proper incubator operation and ensure accurate, trouble-free operation.

Model No.	Description	Interior	Sensor	Volume	Voltage
<b>370</b>	Forma Steri-Cycle CO <sub>2</sub> Incubator	Stainless Steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
<b>371</b>					230V 50/60Hz
<b>380</b>			IR		120V 50/60Hz
<b>381</b>					230V 50/60Hz
<b>310</b>	Forma Direct Heat CO <sub>2</sub> Incubator	Stainless Steel	TC		120V 50/60Hz
<b>311</b>					230V 50/60Hz
<b>320</b>			IR		120V 50/60Hz
<b>321</b>					230V 50/60Hz
<b>190858</b>				Optional HEPA filter assembly (factory installed) for direct heat models only (310, 311, 320, 321)	



# Thermo Scientific Forma Series 2 and Series 3 Water Jacketed CO<sub>2</sub> Incubators



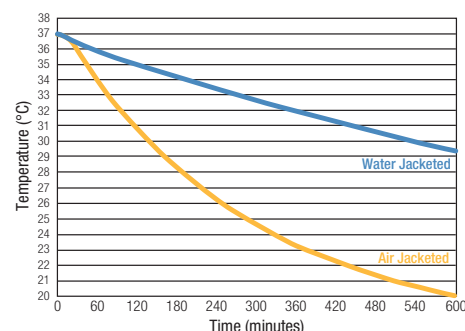
## The best-selling Thermo Scientific CO<sub>2</sub> incubator for temperature stability

Thermo Scientific™ Forma™ Series 2 and Series 3 Water Jacketed CO<sub>2</sub> incubators are designed to deliver dependable thermal protection and quick recovery from swings in ambient temperature and power variations.

- Series 3 water jacketed CO<sub>2</sub> incubator includes the iCAN touchscreen for simplicity of operation
- Unique triple wall construction provides outstanding temperature uniformity and stability
- FDA 510k registered as suitable for use with patient samples in the Series 2 models (31XX)
- Large, readily stackable 184 L (6.5 cu. ft.) capacity chamber
- Removable humidity pan and choice of TC or IR sensors

### Performance after unexpected power loss ▶ ▶ ▶

Triple-wall construction offers outstanding temperature stability during a power disruption. Sixty minutes after power loss, the Forma Water Jacketed CO<sub>2</sub> incubator dropped only 1° C, maintaining the chamber's specified growing environment.



Model No.	Description	Interior	Sensor	Volume	Voltage
4110	Forma Series 3 Water Jacketed CO <sub>2</sub> incubator with ISO Class 5 HEPA filtration and iCAN touchscreen	Stainless steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
4111					230V 50/60Hz
4120					120V 50/60Hz
4121					230V 50/60Hz
4130	Forma Series 3 Water Jacketed CO <sub>2</sub> incubator with 1–21% O <sub>2</sub> control, ISO Class 5 HEPA filtration and iCAN touchscreen	Stainless steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
4131					230V 50/60Hz
4140					120V 50/60Hz
4141					230V 50/60Hz
3110	Forma Series 2 Water Jacketed CO <sub>2</sub> incubator with ISO Class 5 HEPA filtration	Stainless steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
3111					230V 50/60Hz
3120					120V 50/60Hz
3121					230V 50/60Hz
3130	Forma Series 2 Water Jacketed CO <sub>2</sub> incubator with 1–21% O <sub>2</sub> control, ISO Class 5 HEPA filtration	Stainless steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
3131					230V 50/60Hz
3140					120V 50/60Hz
3141					230V 50/60Hz

### ISO Class 5 HEPA filter airflow system

In-chamber HEPA air filtration system provides ISO Class 5 (Class 100) cleanroom air quality conditions in only five minutes for continuous protection from unwanted contaminants from routine door openings.

### Available oxygen control

Individual O<sub>2</sub> display facilitates set-point and monitoring of desired O<sub>2</sub> levels in a range of 1–20%. Ideal for measuring the effect of suppressed oxygen concentration upon their cultures.



### Door-mounted iCAN

touchscreen interface is designed to provide complete data visibility allowing you to monitor all incubator interactions (Series 3 only)



# Thermo Scientific Midi 40 CO<sub>2</sub> Incubators



## Space-savings for small capacity needs

Ideal for space constrained labs, the Thermo Scientific™ Midi™ 40 CO<sub>2</sub> incubator is the right choice for small workloads and those seeking a personalized workspace.

- Convenient 40 L (1.4 cu.ft.) capacity
- Small footprint — 24 x 18 in. (60 x 47 cm)
- Easy-to-operate, economical to own

### Easy-to-operate and maintain

Featuring a seamless stainless steel chamber for easy cleaning and a removable humidity water pan, the Midi 40 CO<sub>2</sub> incubator is supplied with four removable perforated shelves. Our advanced Thermo Scientific™ Intralogic™ II user interface simplifies daily operation and provides a bright, easy-to-read display.

### Highly efficient direct heat design

Direct heating design heats all chamber surfaces for uniform temperature. Reliable, low maintenance thermal conductivity (TC) sensor mounted within the culture chamber enables precise CO<sub>2</sub> control and optimal results. A heated inner glass door provides sample security while preventing unwanted condensation.

### Designed for personalized workspaces

This cost-effective single user alternative eliminates the need for shared-use culturing and the potential impact on your samples from multiple user access. A dedicated incubator is ideal for quarantine or individual studies.



Model No.	Description	Interior	Sensor	Volume	Voltage
<b>3403</b>	Thermo Scientific Midi 40 CO <sub>2</sub> incubator	Stainless steel	TC	1.4 cu. ft. (40L)	120V 50/60Hz
<b>3404</b>					230V 50/60Hz

# Thermo Scientific Large Capacity Reach-In CO<sub>2</sub> Incubators



Heavy-duty, solid stainless steel shelves are easy-to-clean, corrosion resistant

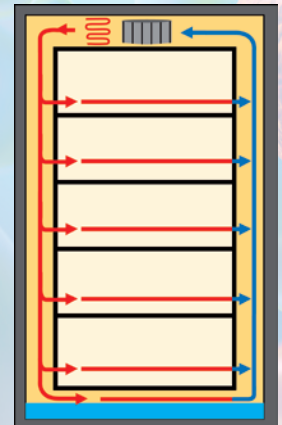
Standard remote alarm contacts and available data outputs allow connection to an in-house monitor/alarm

Interior and exterior accessory receptacles provide a convenient power source

Two thru-wall access ports (one on right and left sidewalls) offer easy addition of probes, sensors, or power cords

Leveling feet provide stability for added safety in the lab

Swivel, locking casters ensure easy mobility for installation and cleaning



**Our Directed Airflow** minimizes the risk of product desiccation and loss, and improves temperature uniformity and recovery

## Maximum volume for high-throughput requirements

The Thermo Scientific Large Capacity Reach-In CO<sub>2</sub> incubator provides the extra space required for large experiments.

- Convenient 821 L (29 cu.ft.) capacity easily accommodates shakers, bioreactors and other related equipment within its tightly controlled environment
- High quality stainless steel interior
- Heated glass door prevents condensation

### Intuitive message center

Easily monitor operating parameters via the bright alphanumeric display, including humidity level indicators, process and alarm status messages.

### Easy-to-Use rH system

Three customizable settings for humidity (off, medium and high) are reliable and simple-to-use. Three water fill options (automatic, semi-automatic, and ergonomic manual) accommodate your facility's setup and minimize frequent refills.

Model No.	Description	Interior	Sensor	Volume	Voltage
<b>3950</b>	Thermo Scientific Large Capacity Reach In CO <sub>2</sub> Incubator	Stainless steel	TC	29 cu. ft. (821L)	120V 50/60Hz
<b>3951</b>					230V 50/60Hz

# Specifications and Ordering

	Forma Steri-Cult 3310/3307	Heracell VIOS 160i/250i	Heracell i 150i/240i
<b>Dimensions</b>			
Chamber capacity	3310: 322.8 L (11.4 cu. ft.) 3307: 232.2 L (8.2 cu. ft.)	160i: 165L (5.8 cu. ft.) 250i: 255L (9.0 cu. ft.)	150i: 150L (5.3 cu. ft.) 240i: 240L (8.4 cu. ft.)
Internal dimensions (w x h x d)	3310: 28.8 x 32.8 x 20.6 cm (73.2 x 83.3 x 52.3 in) 3307: 20.8 x 32.8 x 20.6 cm (52.8 x 83.3 x 52.3 in)	160i: 47 x 60.7 x 57.6 cm (18.5 x 23.9 x 22.7 in) 250i: 60.7 x 67.0 x 62.9 cm (23.9 x 26.4 x 24.8 in)	150i: 47 x 60.7 x 53 cm (18.5 x 23.9 x 20.9 in) 240i: 60.7 x 67.0 x 58.3 cm (23.9 x 26.4 x 23 in)
External dimensions (w x h x d)	3310: 109.2 x 100.1 x 68.6 cm (43 x 39.4 x 27 in) 3307: 88.9 x 100.1 x 68.6 cm (35 x 39.4 x 27 in)	160i: 63.7 x 90.0 x 88.0 cm (25.1 x 35.4 x 34.6 in) 250i: 77.4 x 96.8 x 93.4 cm (30.5 x 38.1 x 36.8 in)	150i: 63.7 x 86.7 x 76.6 cm (25 x 34 x 30.2 in) 240i: 78.0 x 93.4 x 83.4 cm (30.7 x 36.8 x 32.8 in)
Weight	3310: 186 kg (410 lbs) 3307: 149.7 kg (330 lbs)	160i: 83 kg (183 lbs) 250i: 97.5 kg (215 lbs)	150i: 70 kg (154 lbs) 240i: 81 kg (178 lbs)
<b>Shelves</b>			
Dimensions (w x h)	3310: 65.5 x 50.5 cm (25.7 x 19.9 in) 3307: 45.2 x 50.5 cm (17.7 x 19.9 in)	160i: 42.3 x 44.5 cm (16.7 x 17.5 in) 250i: 56 x 50 cm (22.0 x 19.7 in)	150i: 42.3 x 44.5 cm (16.7 x 17.5 in) 240i: 56 x 50 cm (22 x 19.7 in)
Construction	Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated
Number shipped/maximum	5/22	160i: 3/10 250i: 3/12	150i: 3/10 240i: 3/12
<b>Temperature</b>			
Sensor accuracy	(+/-) 0.1°C	(+/-) 0.1°C	(+/-) 0.1°C
Range	5° C above ambient to 50°C	3° C above ambient to 55° C	3° C above ambient to 55° C
Readability and setability	0.1° C	0.1° C	0.1° C
Uniformity	(+/-) 0.3° C	< +/- 0.3° C	(+/-) 0.5° C
Decon cycle temperature	140° C dry heat	180° C dry heat	90° C (moist heat)
Decon cycle length	14h for complete cycle (140° C hold for 3h)	Under 12 hours	25h for complete cycle (90° C hold for 9h)
<b>Humidity</b>			
rH range	>90% @ 37° C, with active control	≥ 93% @ 37° C	>90% @ 37° C
rH source	3.8 L (4 qt)	3L (3.2 qt) integrated pan	150i: 3 L (3.2 qt) pan-less reservoir 240i: 4.5 L (4.75 qt) pan-less reservoir
<b>CO<sub>2</sub></b>			
CO <sub>2</sub> range	0–20%	0–20%	0–20%
Control (readability and setability)	0.10%	0.10%	0.10%
CO <sub>2</sub> sensor type	IR	TC180/IR180Si	TC / IR (optional)
Gas inlet pressure required	15 PSIG (1.0 bar)	160i: 12–15 PSIG (0.8–1 bar) 250i: 13–15 PSIG (0.8–1 bar)	150i: 12–15 PSIG (0.8–1 bar) 240i: 13–15 PSIG (0.8–1 bar)
<b>O<sub>2</sub></b>			
O <sub>2</sub> control accuracy	n/a	(+/-) 0.2%	(+/-) 0.2%
O <sub>2</sub> range	n/a	1–21% or 5–90%	1–21% or 5–90%
Readability and setability	n/a	0.10%	0.10%
O <sub>2</sub> sensor type	n/a	Zirconium oxide	Zirconium oxide
Gas inlet pressure required	n/a	160i: 12–5 PSIG (0.8–1 bar) 250i: 13–15 PSIG (0.8–1 bar)	150i: 12–5 PSIG (0.8–1 bar) 240i: 13–15 PSIG (0.8–1 bar)
<b>Electrical</b>			
Voltage/frequency/current	115 V, 50/60 Hz	160i: 120 V, 50/60 Hz, 5.2 A 250i: 120 V, 50/60 Hz, 5.6 A	150i: 120 V, 50/60 Hz, 5.2 A 240i: 120 V, 50/60 Hz, 5.6 A
Alarm contacts	Standard	Standard	Standard
Data output	Optional RS-485, 0–1V, 0–5V, and 4–20 milliamp	USB standard, optional 4–20mA	RS232, USB optional

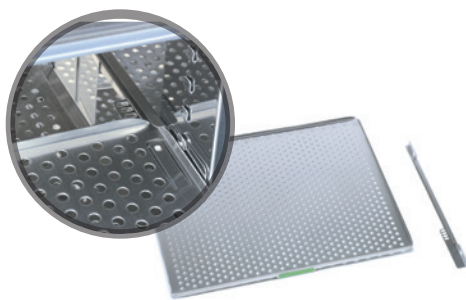
# Specifications and Ordering

	Forma Steri-Cycle Direct Heat	Forma Water Jacket Series 2 and Series 3	Midi 40	Large Capacity Reach-In
<b>Dimensions</b>				
Chamber capacity	184 L (6.5 cu. ft.)	184 L (6.5 cu. ft.)	40 L (1.4 cuft)	821 L (29 cu. ft.)
Internal dimensions (w x h x d)	Steri-Cycle: 54.1 x 68.1 x 50.8 cm (21.3 x 26.8 x 20 in) Direct Heat: 54.1 x 68.1 x 50.8 cm (21.3 x 26.8 x 20 in)	54.1 x 68.1 x 50.8 cm (21.3 x 26.8 x 20 in)	30.5 x 46.5 x 35.5 cm (12 x 14 x 14 in)	78.7 x 152.4 x 68.6 cm (31 x 60 x 27 in)
External dimensions (w x h x d)	Steri-Cycle: 66.8 x 100.3 x 63.5 cm 26.3 x 26.8 x 20 in Direct Heat: 66.3 x 97.8 x 62.7 cm (26.1 x 38.5 x 24.7 in)	66.8 x 100.3 x 63.5 cm (26 x 39.5 x 25 in)	47 x 46.5 x 59.7 cm (18.5 x 18 x 23.5 in)	96.5 x 203.2 x 83.8 cm (38 x 80 x 33 in)
Weight	Steri-Cycle: 117.9 Kg (260 lbs) Direct Heat: 95.3 kg (210 lbs)	166 kg (365 lbs)	28 kg (60 lbs)	226.8 kg (500 lbs)
<b>Shelves</b>				
Dimensions (w x h)	47 x 47 cm (18.5 x 18.5 in)	47 x 47 cm (18.5 x 18.5 in)	34.9 x 29.2 cm (13.5 x 11.5 in)	77.7 x 65.5 cm (30.6 x 25.8 in)
Construction	Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated	Type 304, 2B finish, solid stainless steel
Number provided/maximum	4/17	4/17	4	5/27
<b>Temperature</b>				
Sensor accuracy	(+/-) 0.1° C	(+/-) 0.1° C	(+/-) 0.1° C	(+/-) 0.1° C
Range	5° C above ambient to 50° C	5° C above ambient to 50° C	5° C above ambient to 50° C	5° C above ambient to 50° C
Readability and setability	0.1° C	0.1° C	0.1° C	0.1° C
Uniformity	(+/-) 0.3° C	(+/-) 0.2° C <sup>6</sup>	(+/-) 0.4° C	(+/-) 0.3° C
Decon cycle temperature	Steri-Cycle: 140° C Direct Heat: n/a	n/a	n/a	n/a
Decon cycle length	Steri-Cycle: 12 h Direct Heat: n/a	n/a	n/a	n/a
<b>Humidity</b>				
rH range	>90% @ 37° C	>90% @ 37° C	>90% @ 37° C	>90% @ 37° C, selectable
rH source	3 L (3.2 qt) standard pan	3 L (3.2 qt) standard pan	0.1 L ( 0.105 qt) standard pan	15.1 L (16 qt) reservoir
<b>CO<sub>2</sub></b>				
CO <sub>2</sub> range	0-20%	0-20%	0-20%	0-20%
Control (readability and setability)	0.10%	0.10%	0.10%	0.10%
CO <sub>2</sub> sensor type	TC / IR (optional)	TC / IR (optional)	TC	TC
Gas inlet pressure required	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)
<b>O<sub>2</sub></b>				
O <sub>2</sub> control accuracy	n/a	(+/-)0.1%	n/a	n/a
O <sub>2</sub> range	n/a	1-20%	n/a	n/a
Readability and setability	n/a	0.10%	n/a	n/a
O <sub>2</sub> sensor type	n/a	Fuel cell	n/a	n/a
Gas inlet pressure required	n/a	15 PSIG (1.0 bar)	n/a	n/a
<b>Electrical</b>				
Voltage/frequency/current	115 V, 50/60 Hz	115 V, 50/60 Hz	120 V, 60 Hz	115 V, 50/60 Hz
Alarm contacts	standard	standard	n/a	standard
Data output	optional RS-485, 0-1V, 0-5V, and 4-20 milliamp	optional RS-485, 0-1V, 0-5V, and 4-20 milliamp	RS-485	optional RS-485, 0-1V, 0-5V, and 4-20 milliamp

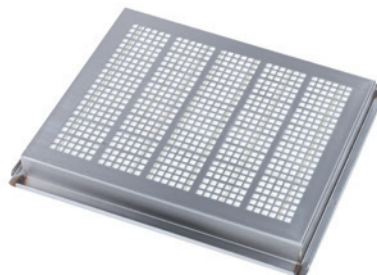
<sup>6</sup> Truncated

# Options and Accessories

Part No.	Description	Factory Installed	Customer Installed
<b>Forma Steri-Cult Accessories</b>			
<b>Support Stands</b>			
<b>1900165</b>	Stand, raise unit 16.5 cm (6.5 in) off the floor for model 3310		●
<b>1900164</b>	Stand, raise unit 16.5 cm (6.5 in) off the floor for model 3307		●
<b>1900163</b>	Stand with casters, raise unit 7.6 cm (3.0 in) off the floor for model 3310		●
<b>1900162</b>	Stand with casters, raise unit 7.6 cm (3.0 in) off the floor for model 3307		●
<b>Interior Components</b>			
<b>1900115</b>	3310 replacement shelf kit with 2 channel brackets		●
<b>1900114</b>	3307 replacement shelf kit with 2 channel brackets		●
<b>1900172</b>	3310 mini shelf rack		●
<b>1900171</b>	3307 mini shelf rack		●
<b>1900170</b>	3310 sealed inner door kit, 6 doors	●	
<b>1900166</b>	Replacement inventory management label kit		●
<b>Filters</b>			
<b>1900160</b>	HEPA filter replacement kit, includes a HEPA and one in-line filter		●
<b>1900161</b>	HEPA <sup>2</sup> VOC filter replacement kit, includes the HEPA <sup>2</sup> and one in-line filter		●
<b>760210</b>	Replacement gas connection inline filters (10 pk)		●
<b>Control Options</b>			
<b>1900153</b>	3310/07 built-in gas guards to monitor CO <sub>2</sub> , automatically switch from one cylinder to the other when supply is exhausted	●	
<b>965010</b>	CO <sub>2</sub> gas regulator		●
<b>3050</b>	Auto gas tank switcher, 120V 50/60HZ		●
<b>Data Output Options</b>			
<b>191761</b>	4-20 milliamp analog interface	●	
<b>191762</b>	0-5V analog interface	●	
<b>191763</b>	0-1V analog interface	●	



Replacement shelf kit with easy glide shelving system



The in-chamber HEPA air filtration system, continuously filters the entire chamber volume every 60 seconds for Class 100 cleanroom standards

## Options and Accessories, continued

Part No.	Description	160i	250i	Factory Installed	Customer Installed
<b>Heracell VIOS 160i and 250i Factory Options<sup>7</sup></b>					
51901139	180° C temperature resistant infrared (IR180Si) CO <sub>2</sub> sensor with silicon MEMS emitter	●	●	●	
51901143	Internal 4–20 mA analog data output	●	●	●	
51900293	Left hinge door configuration	●	●	●	
51900735	Internal gas guard for CO <sub>2</sub>	●	●	●	
51900736	Internal gas guard for N <sub>2</sub> /O <sub>2</sub>	●	●	●	
51901126	Stainless steel external outer casing	●	●	●	
51901144	3 door inner gas tight screen (replaces single inner door configuration) for 160i	●		●	
51901127	6 interior glass doors, gas tight, for separate access for 250i,		●	●	
51901123	Half shelf system 6 half-width in place of 3 full-width in stainless steel for 250i		●	●	
51901122	Half shelf system 6 half-width in place of 3 full-width in copper for 250i		●	●	
51901162	Replacement of 3 standard, reinforced, stainless steel shelves for 250i		●	●	
51900161	Replacement of 3 standard shelves with reinforced shelves, copper, for 250i		●	●	
<b>O<sub>2</sub> Control Options<sup>7</sup></b>					
51901137	1–21% O <sub>2</sub> control	●	●	●	
51901138	5–90% O <sub>2</sub> control	●	●	●	
51901145	1–21% O <sub>2</sub> control with 3 door inner gas tight screen door for 160i	●		●	
51901146	5–90% O <sub>2</sub> control with 3 door inner gas tight screen door for 160i	●		●	
51901133	O <sub>2</sub> control 1–21% with gas tight screen 6 inner glass doors and 1/2 width shelves for 250i		●	●	
51901134	O <sub>2</sub> control 5–90% with gas tight screen 6 inner glass doors and 1/2 width shelves for 250i		●	●	
<b>Stands, Adapters, Filters</b>					
50145394	Support frame for double chamber, 172 mm high (with casters)	●			●
50145435	Support frame for double chamber, 200 mm high (without casters)	●			●
50145436	Support frame for single chamber, 780 mm high (without casters)	●			●
50148171	Adaptor required for stacking 160i models	●			●
50148172	Stacking adaptor configured to stack a Heracell VIOS on top of Heracell 150i	●			●
50145623	Support frame for double chamber, 172 mm high (with casters)		●		●
50149102	Support frame for double chamber, 200 mm high (without casters)		●		●
50149125	Support frame for single chamber, 780 mm high (without casters)		●		●
50148174	Adaptor required for stacking 250i models		●		●
50148175	Stacking adaptor configured to stack a 255L on top of Heracell 240i		●		●
50141920	Replacement in chamber HEPA filter	●	●		●

<sup>7</sup> Factory installed options are to be ordered with the base single unit part number, not dual stacks or tri-gas part numbers



HEPA filter



Stacking adaptor for VIOS 160i models



Regulator

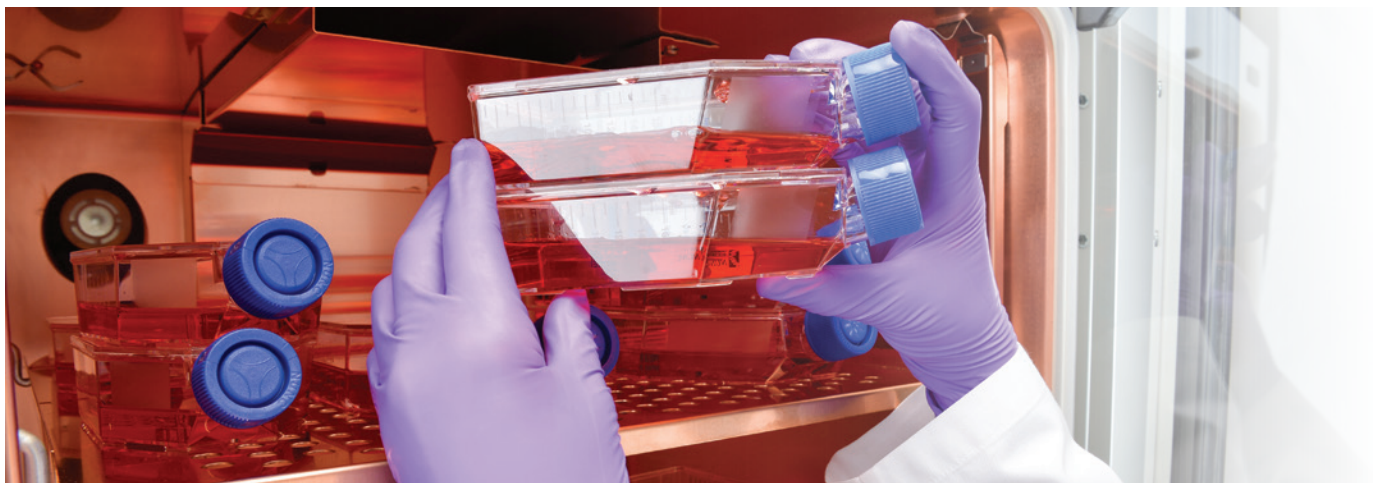
## Options and Accessories, continued

Part No.	Description	150i	240i	Factory Installed	Customer Installed
<b>Heracell 150i and 240i Factory Options<sup>8</sup></b>					
51900734	3-door gas tight screen, 3 interior glass doors for separate access	●	●	●	
51900387	6 interior glass doors, gas tight, for separate access for Heracell 240 with stainless steel or copper inner casing		●	●	
51900733	IR CO <sub>2</sub> sensor 1–20%, high temperature resistant, ContraCon safe, dual beam, auto calibrating	●	●	●	
51900735	Gas guard CO <sub>2</sub> integral gas guard change over for CO <sub>2</sub>	●	●	●	
51900736	Gas guard O <sub>2</sub> integral gas guard change over for O <sub>2</sub>	●	●	●	
51900930	USB interface	●	●	●	
51900293	Door hinged on left (factory installed, standard model is right hinged)	●	●	●	
51900358	Half shelf system 6 half-width in place of 3 full-width in stainless steel		●	●	
51900357	Half shelf system 6 half-width in place of 3 full-width in copper		●	●	
<b>Roller Bottle Turning Options</b>					
51900572	One-level, independently-controlled roller bottle system		●	●	
51900573	Two-level, independently-controlled roller bottle system		●	●	
51900574	Three-level, independently-controlled roller bottle system		●	●	
51900614	Four-level, independently-controlled roller bottle system		●	●	
51900732	Preconfiguration for bottle turning (to allow later addition of rollers)		●	●	
50076354	Bottle-turning device, 1 additional level		●		●
<b>O<sub>2</sub> Control Options</b>					
51900737	O <sub>2</sub> control 1–21% oxygen control with auto calibration using zirconia cell, solid glass inner door	●		●	
51900738	O <sub>2</sub> control 5–90% oxygen control with auto calibration using zirconia cell, solid glass inner door	●		●	
51900739	O <sub>2</sub> control 1–21% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly	●		●	
51900740	O <sub>2</sub> control 5–90% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly	●		●	
51900702	O <sub>2</sub> control 1–21% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly and 1/2 width shelves		●	●	
51900703	O <sub>2</sub> control 5–90% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly and 1/2 width shelves		●	●	
<b>Stands and Adapters</b>					
50057161	Support frame for double chamber, 185 mm high (with castors)	●			●
50051376	Support frame for double chamber, 200 mm high (without castors)	●			●
50051436	Support frame for single chamber, 780 mm high (without castors)	●			●
50056459	Support frame with drawers for single chamber, 780 mm high with 3 drawers complete with 4 swivel locking castors	●			●
50065754	Support frame without castors for double chamber, 200 mm high		●		●
50065753	Support frame without castors for single chamber, 780 mm high		●		●
50067224	Support frame with castors for double chamber, 200 mm high		●		●
50081774	Support frame with castors for single chamber, 780 mm high		●		●
50068677	Stacking adapter for 240i models		●		●

<sup>8</sup> Factory installed options are to be ordered with the base single unit part number, not dual stacks or tri-gas part numbers

## Options and Accessories, continued

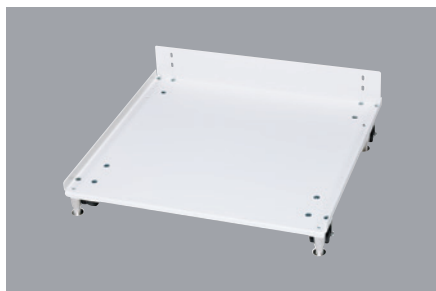
Part No.	Description	160i/150i	250/240i	Factory Installed	Customer Installed
<b>Heracell VIOS and Heracell i CO<sub>2</sub> Incubators Accessories</b>					
<b>51900300</b>	Electrical configuration for Switzerland	●	●	●	
<b>51900303</b>	Electrical configuration for Great Britain	●	●	●	
<b>51900306</b>	Electrical configuration for Italy	●	●	●	
<b>51900449</b>	Electrical configuration for Australia	●	●	●	
<b>51900481</b>	Electrical configuration for Denmark	●	●	●	
<b>51900900</b>	Electrical configuration for China	●	●	●	
<b>Interior Components for Shelves</b>					
<b>50051909</b>	Additional shelf, stainless steel, full-width, 2 support rails	●			
<b>50051910</b>	Additional shelf, solid copper, full-width, with 2 support rails	●			
<b>50065793</b>	Additional shelf, stainless steel, full-width, with 2 support rails		●		
<b>50065794</b>	Additional shelf, solid copper, full-width, with 2 support rails		●		
<b>50150643</b>	Reinforced shelf, stainless steel		●		
<b>50150644</b>	Reinforced shelf, copper		●		
<b>50065795</b>	Additional shelf, stainless steel, half-width, with 2 support rails		●		
<b>50065796</b>	Additional shelf, solid copper, half-width, with 2 support rails		●		
<b>Control Options</b>					
<b>3429937</b>	CO <sub>2</sub> gas regulator, 2-stage for gas tank	●	●		●
<b>3429942</b>	N <sub>2</sub> gas regulator, 2-stage for gas tank	●	●		●
<b>3429943</b>	O <sub>2</sub> gas regulator, 2-stage for gas tank	●	●		●
<b>50059043</b>	External gas tank monitor GM 2, automatic change-over to reserve tank, 120 V, 50/60 Hz, with visual-acoustic signal, central monitoring connection; for wall or table installation	●	●		●
<b>50046033</b>	External gas tank monitor GM 2, automatic change-over to reserve tank, 230 V, 50/60 Hz, with visual-acoustic signal, central monitoring connection; for wall or table installation	●	●		●





# Options and Accessories, continued

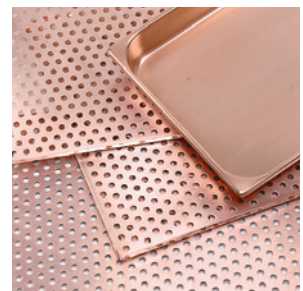
Part No.	Description	Forma Steri-Cycle Direct Heat	Forma Series Direct Heat	Forma Series 3 Water Jacket	Forma Series 2 Water jacket	Factory Installed	Customer Installed
<b>Forma Steri-Cycle, Direct Heat and Water Jacket Accessories</b>							
<b>Support Stands</b>							
190648	Support stand with adjustable leveling feet, 165 mm high (6.5 in)			●	●		●
190647	Support stand with locking casters, 71 mm high (2.8 in)			●	●		●
1900063	Support stand with locking casters, 76 mm high (3 in)	●	●				●
<b>HEPA and Replacement Filters</b>							
190858	Optional HEPA filter assembly (For direct heat model)		●			●	
760175	Replacement HEPA filter (1 pc)	●	●	●	●		●
760209	Spare HEPA filter value pack (4 pcs)	●	●	●	●		●
760210	Replacement gas connection inline filters (10 pk)	●	●	●	●		●
1900067	Incubator filter replacement kit, includes in-chamber HEPA, gas connection inline filter and access port filters	●	●	●	●		●
760200	Replacement HEPA <sup>2</sup> VOC Filter	●		●	●		●
<b>Interior Components</b>							
190884	Additional single stainless steel shelf (with installation channel)	●	●	●	●		●
190656	Solid copper interior ductwork (in place of stainless steel components) includes copper interior ductwork, four shelves, and humidity pan	●		●	●	●	
190645	Chamber cooling coil, use with refrigerated water bath/circulator to operate incubator at lower than ambient temperatures			●	●	●	
237020	Copper humidity pan	●	●	●	●		●
190879	Copper shelf kit, one shelf and brackets, customer installed	●	●	●	●		●
190650	8 segment inner glass door kit	●	●	●	●		●
190646	Security lock for standard inner glass door	●	●	●	●		●
<b>Control Options</b>							
190643	Humidity (rH) display, readable in 1% increments, includes low rH programmable alarm (alerts you of need to add water to humidity pan)		●		●	●	
1900587				●		●	
1900091		●				●	
190640	Built-in gas guards to monitor CO <sub>2</sub> , automatically switch from one cylinder to the other when supply is exhausted		●		●	●	
1900589				●		●	
1900086		●				●	
190642	Built-in gas guards to monitor N <sub>2</sub> , automatically switch from one cylinder to the other when supply is exhausted				●	●	
1900590				●			
3050	Auto gas tank switcher, external mount, 120V,60Hz	●	●	●	●		●
965010	CO <sub>2</sub> gas regulator, 2 stage, w/ barbed connection and shut-off valve	●	●	●	●		●
961027	N <sub>2</sub> gas regulator, 2 stage, w/ barbed connection and shut-off valve (for use with Tri-gas models)			●	●		●
<b>Data Output Options</b>							
192078	4–20 milliamp, analog			●		●	
190512	4–20 milliamp, analog	●	●		●	●	
190543	0–5V analog	●	●		●	●	
190544	0–1V analog	●	●		●	●	



Support stand (heavy-duty, powder coated steel base) with dual-wheel, swivel locking casters and leveling feet



Independent inner glass door kit (eight glass doors with latches), mounts inside heated inner glass door, is removable and can be autoclaved



Copper humidity pans and shelves

## Options and Accessories, continued

Part No.	Description	Factory Installed	Customer Installed
<b>Midi 40 CO<sub>2</sub> Incubator Accessories</b>			
<b>290225</b>	Stacking kit		●
<b>770001</b>	Replacement gas inlet filters, 0.3 micron		●
<b>188053</b>	Additional stainless steel shelf		●
<b>Control Options</b>			
<b>3050</b>	External automatic CO <sub>2</sub> gas tank switching module, 120V, 60Hz		●
<b>965010</b>	CO <sub>2</sub> gas regulator		●
<b>Large Capacity Reach-In CO<sub>2</sub> Incubator Accessories</b>			
<b>Interior Components</b>			
<b>190239</b>	Lexan inner door kit	●	
<b>190591</b>	Universal door cover for glass doors	●	
<b>224139</b>	Stainless steel shelf kit		●
<b>224155</b>	Perforated shelf kit		●
<b>224161</b>	Reinforced stainless steel shelf system, 150 lbs load, (2 per unit maximum and NOT for shakers)		●
<b>1900005</b>	Reinforced stainless steel shelf and floor to accommodate two shakers	●	
<b>505099</b>	Duplex outlet kit, 120V	●	
<b>190164</b>	Additional thru-wall access port 61 mm (2.4 in) ID	●	
<b>190514</b>	Door lock	●	
<b>Optional Cell Roller</b>			
<b>4862</b>	15 position cell roller, 120V, 60 Hz		●
<b>190049</b>	5 position add-on tier for cell rollers		●
<b>500182</b>	Reinforced floor/ramp to accommodate cell roller system		●
<b>190777</b>	Reinforced floor/ramp to accommodate cell roller system	●	
<b>228077</b>	Rotation alarm system for cell rollers	●	
<b>228078</b>	Battery back-up for cell rollers	●	
<b>Control Options</b>			
<b>1900000</b>	Built-In CO <sub>2</sub> gas guard	●	
<b>191596</b>	Carboy kit, 7.8 L (2 gallon), autoclavable with valve, adaptor hose and mounting bracket		●
<b>965010</b>	CO <sub>2</sub> gas regulator		●
<b>Data Output Options</b>			
<b>190512</b>	4-20 milliamp interface	●	
<b>190523</b>	RS-485 interface	●	
<b>190543</b>	0-5V interface	●	
<b>190544</b>	0-1V interface	●	
<b>CO<sub>2</sub> Incubator Gas Testing Equipment for All Models</b>			
<b>50121515</b>	IR gas tester with travel case (for advanced calibration and testing purposes)		●
<b>50145789</b>	IR gas tester for both CO <sub>2</sub> and O <sub>2</sub> levels		●
<b>6310TA</b>	Fyrite gas tester kit (for basic calibration and testing purposes)		●
<b>6312</b>	Replacement fyrite CO <sub>2</sub> fluid		●



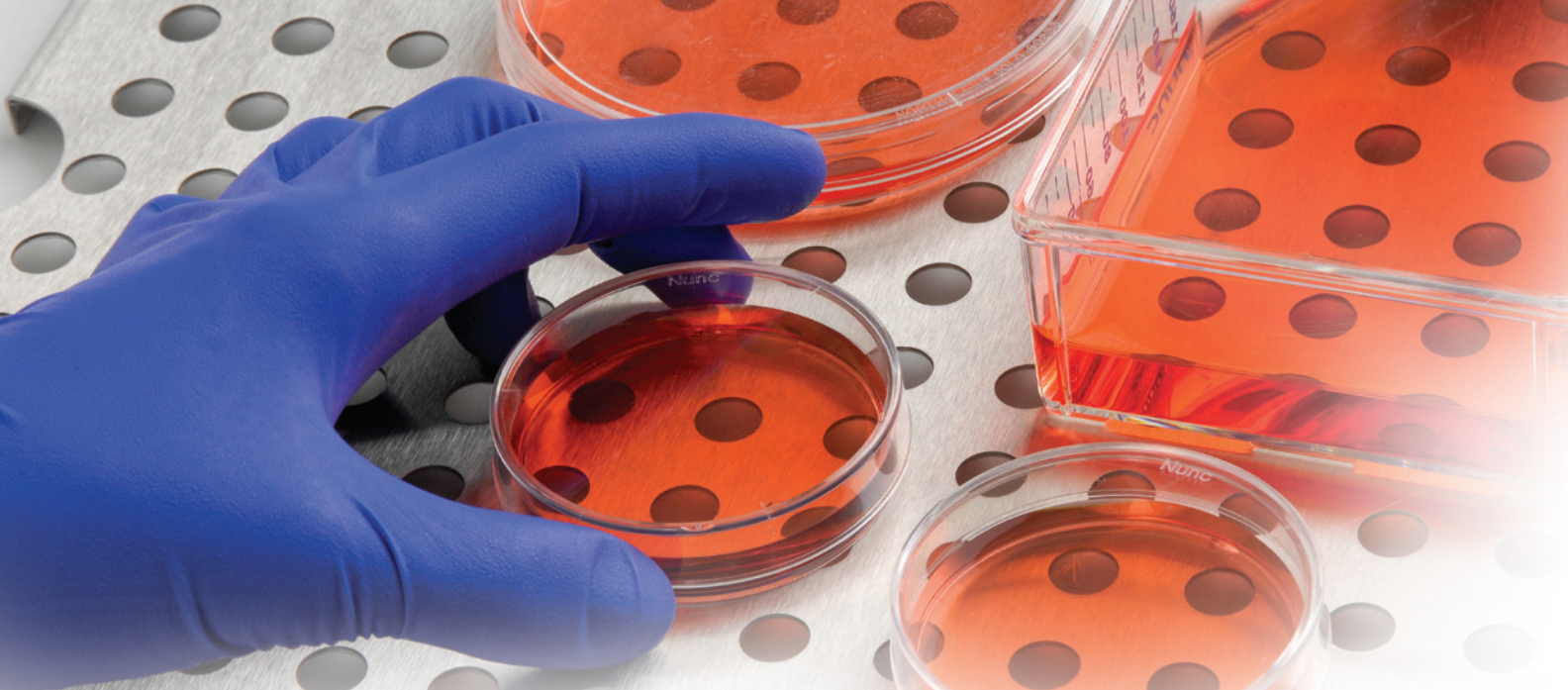
Carboy kit simplifies filling and can be carried to the water source or filled while mounted



IR-CO<sub>2</sub> gas tester features a maintenance-free infrared cell to monitor CO<sub>2</sub> level inside the chamber



Cell roller system allows extensive production of cell cultures in standard vessels



Choose the right cell culture product to meet your needs.



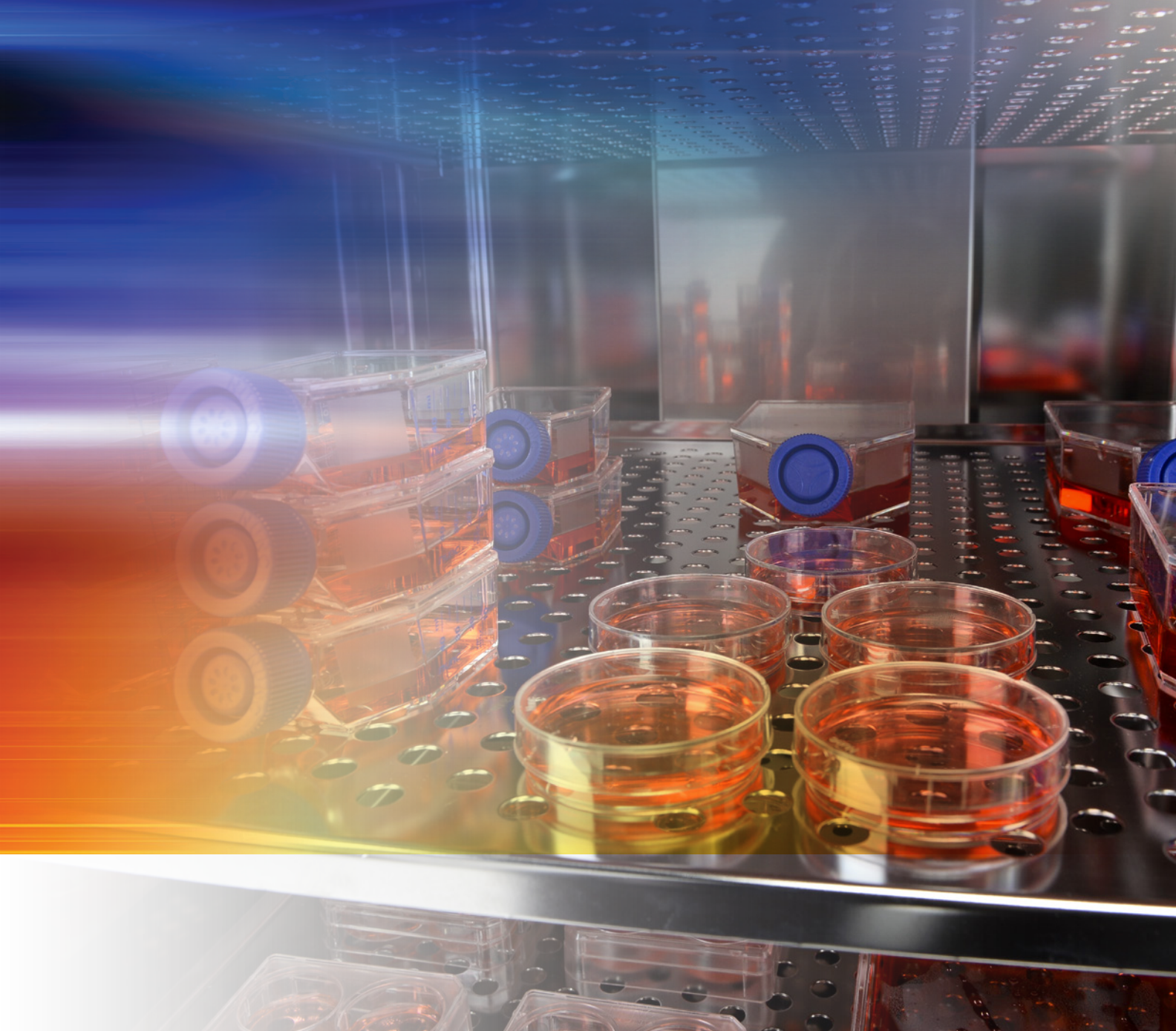
**Gibco™ media, sera and other cell culture reagents** are designed to deliver reproducibility and performance for results you count on every day. Trust your precious cultures with Gibco and Thermo Scientific products, a perfect partnership for confident culture.

**Thermo Scientific™ Nunc™ High Density Cell Factory™ System** offers 30% more surface area and yield\* than the standard Cell Factory system or similar multi-tray systems for adherent cell culture. It enables you to optimize your cell culture manufacturing footprint, reduce material usage and labor-consumption as well as increase your cell culture yield.

\* The increase in yield may vary depending on the type of cells cultured



**Thermo Scientific™ CO<sub>2</sub> resistant shakers** provide reliable around-the-clock operation ideally suited to keep your cells alive and flourishing within your working environment.



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