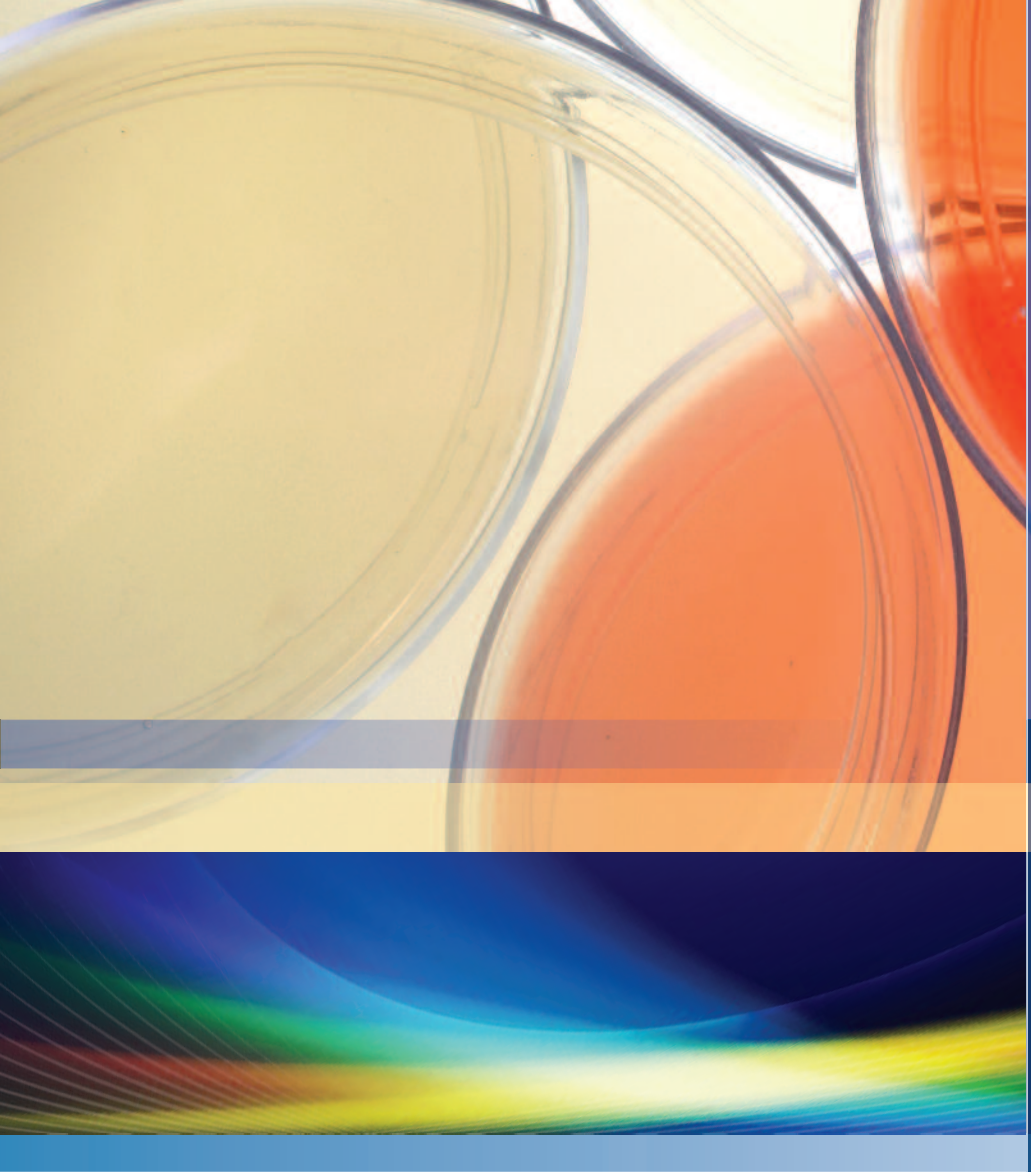


Thermo Scientific CO_2 Incubators

unmatched choice, advanced technology

proven results

Thermo SCIENTIFIC

Thermo Scientific CO_2 Incubators

Your cultures are valuable, often irreplaceable. Surround them with an environment you can trust. Only Thermo Scientific CO_2 incubators deliver everything you need to achieve your cell culturing goals:

Unmatched choice. Advanced technology. Proven results.

Our innovative market-leading designs reflect extensive collaboration with cell culture professionals around the world, enabling us to provide the best application-based solutions ideally suited for your requirements and working environment.

Delivering long-term performance, optimal growth conditions, and proven contamination prevention, each CO_2 incubator is easy to operate and maintain – allowing you to spend more time pursuing your objectives, and less time managing your incubators.

Discover why more laboratories rely upon Thermo Scientific CO_2 incubators than any other brand.

Select the optimal capacity and chamber design. 1

Choose advanced technologies. 2

Direct Heat

From 8.2-11.4 cu. ft.

From 5.4-8.4 cu. ft.

		Forma® Steri-Cult Ultimate protection, control and capacity	**Heracell® i** Interactive touch-screen simplicity
Event Based Decontamination	**Built-in High Temperature Cycle**	●	●
Continuous Contamination Prevention	**In-Chamber Class 100 HEPA Air Filtration**	●	
	100% Pure Copper Antimicrobial Surfaces	○ [1]	● [2]
Advanced Growth Conditions	**External Humidity Source and Control**	●	
	Cell Roll System		○
	Advanced O_2 Control		●
Space Savings	**Stackability**	●	●
		page 7	**page 9**

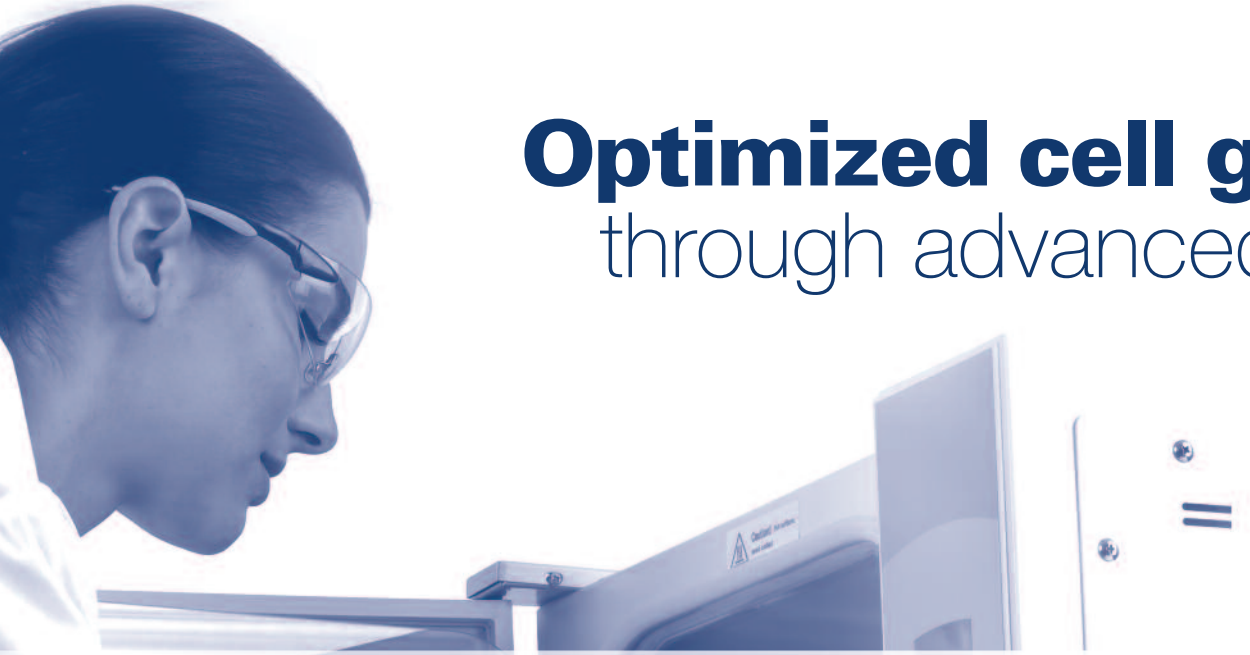
● standard feature ○ optional feature

[1] Stainless steel interior with optional copper shelves and components

[2] Models available with solid copper interior, as well as with stainless steel interior

Trust us with your life.

		Water-Jacketed	Compact Size	Large Capacity
6.5 cu. ft.	6.5 cu. ft.	6.5 cu. ft.	1.4 cu. ft.	29 cu. ft.
				
Forma Steri-Cycle® HEPA filtration and sterilization	**Forma Series 310** Superior value, basic culturing	**Forma Series II 3110** Unmatched temperature stability	**Midi 40™** Space-savings, small capacity	**Large Capacity Reach In 3950** Maximum volume, high-throughput
●				
●	○	●		
○ [1]	○ [1]	○ [1]		
				○
		●		
●	●	●	●	
page 13	page 15	page 16	page 17	page 18



Optimized cell growth through advanced design

ENHANCED Capacity

From the **largest capacity incubators to a small personal-sized model**, there is a Thermo Scientific CO_2 incubator fit for your laboratory needs.

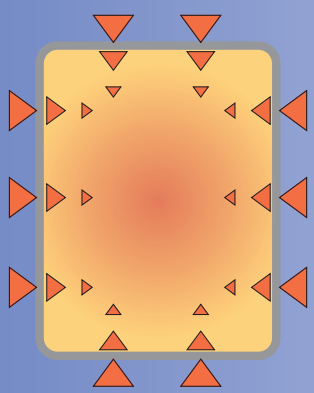
- Choice of volume capacities ranging from 1.4 cu. ft. to 29 cu. ft.
- Conveniently stackable models for space-constrained labs
- Space to accommodate shakers, stirrers, culture devices or large sample throughput

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 provide precise, reliable control and tight uniformity values. All incubators conform to the strictest electrical safety standards.

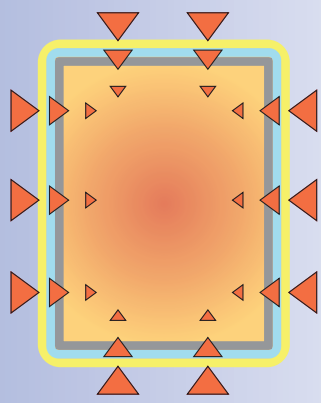
SOLUTIONS FOR THE WAY YOU WORK:

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



DIRECT HEAT

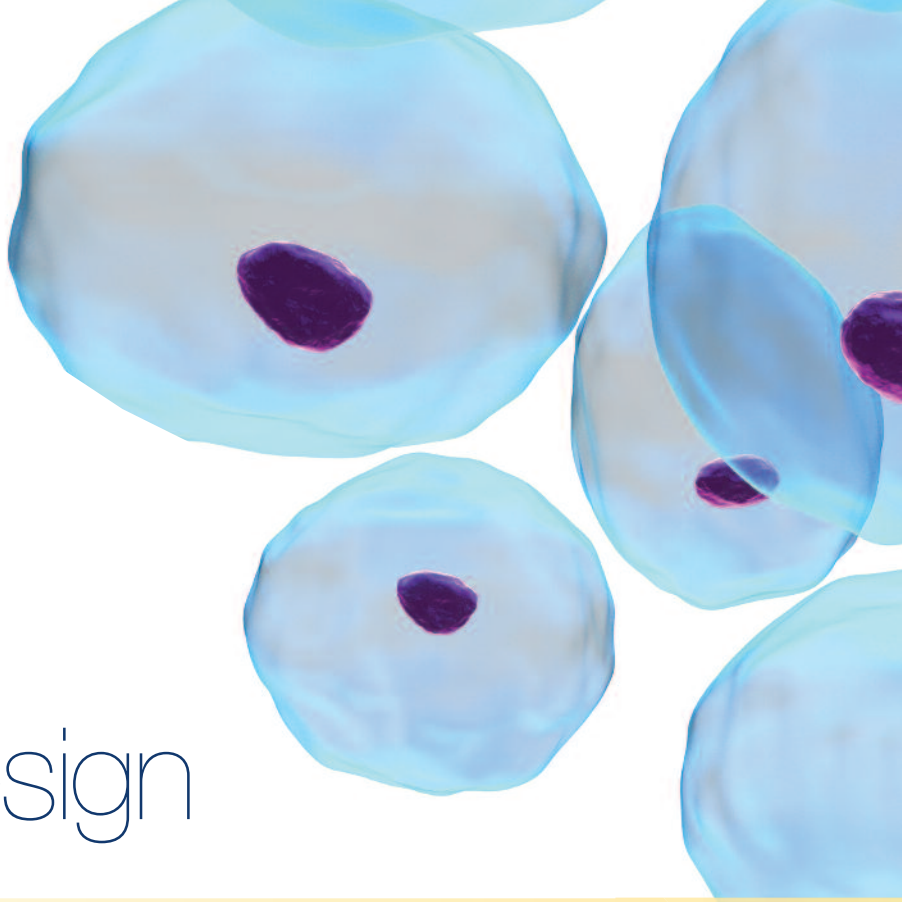
Efficient high-performance heaters located on every chamber surface, provide even temperature distribution throughout the entire chamber



WATER JACKET

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

and technology



Intelligent Design

FOR IMPROVED RESULTS

Choice of In-Chamber CO_2 Measuring Technologies

CO_2 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 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 superior 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.

O_2

Enhanced Flexibilty: Two Available Oxygen Control Ranges

Many cell cultures thrive best in CO_2 incubators with controlled levels of oxygen. Select an O_2 option to simulate physiological or hypoxic environments (for stem cell and IVF applications) or choose to increase oxygen concentration for the ability to operate at hyperoxic levels.

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, all without disrupting culturing activity. Full active rH parameter control is ideal for applications requiring flexibility and precise monitoring of humidity levels.

Proven solutions to support your applications

Protect your cultures

Our advanced contamination control technologies are designed to protect your valuable cultures, eliminate the loss of time and resources, and provide added security for your aseptic techniques. These innovative solutions have been proven effective by independent laboratories in documented studies.

Our key technologies include > > >

Copper

100% SOLID COPPER TO ELIMINATE MICROBES

With its natural bactericidal and fungicidal properties, 100% copper provides continuous protection against contamination on contact.

Our variety of incubator configurations with total copper interiors requires minimal maintenance, while providing non-stop protection. Numerous independent research studies indicate that only 100% pure solid copper quickly and effectively eliminates 99.9% of microbial contaminants.

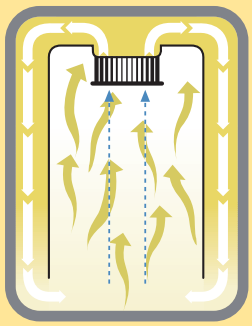
Air Purity

UNMATCHED AIR PURITY WITH IN-CHAMBER HEPA AIR FILTRATION

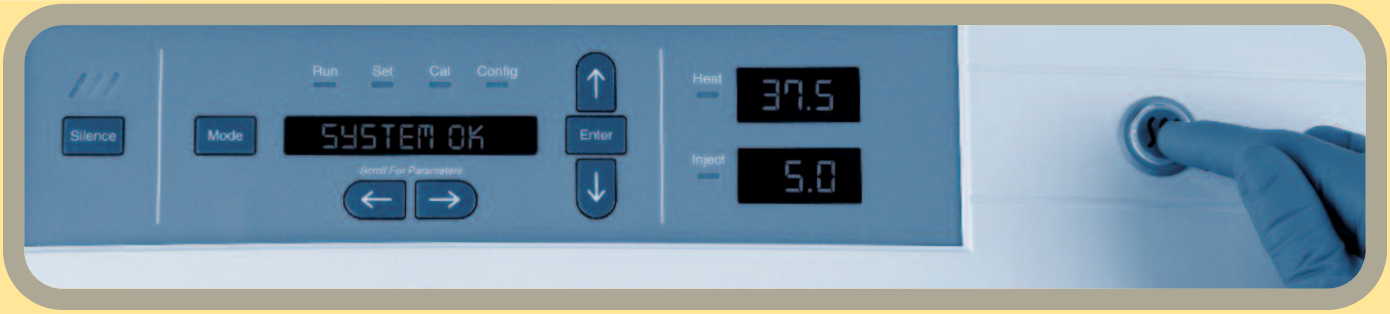
Airborne contaminants are the primary source of contamination in most lab settings. Surround your cultures with our HEPA technology, providing Class 100 (ISO-5) air quality cleanroom conditions within only 5 minutes of a door opening.

VOC-HEPA filters are also available to remove volatile organic vapors. These filters feature advanced molecular sieve technology to capture potentially toxic chemicals commonly found in lab solvents, cleaning agents and plastics.

This exclusive system filters the entire chamber volume every 60 seconds to protect your samples



with proven technologies



HIGH TEMPERATURE Decontamination

FOR EASY CLEANING WITH PUSH-BUTTON SIMPLICITY

Conveniently clean your incubator using high temperatures and eliminate the need for separate autoclaving and re-assembly of components.

- Automatically radiates heat uniformly to all interior surfaces, requiring no post-cycle cleanup, and returns quickly to your selected operating conditions
- Proven technique to eradicate biological contaminants with certainty
- Avoids physical constraints and variation of ultraviolet germicidal lamps
- Eliminates the need for storage, handling and disposal of potentially toxic germicidal chemical agents

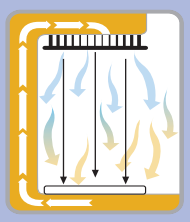
Thermo Scientific Forma Steri-Cult CO_2 Incubators

Ultimate protection, control and capacity for high value cultures

The optimal choice for GMP, bioproduction or large scale culturing of high value samples, the Thermo Scientific Forma Steri-Cult CO_2 incubator brings leading edge technology into your lab.

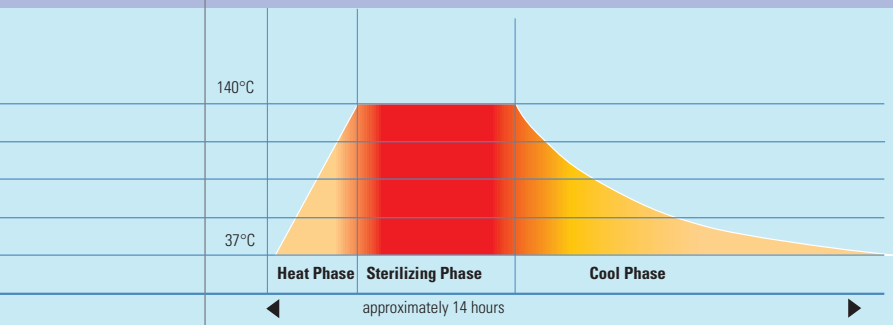
- **Unmatched triple protection with in-chamber HEPA, 140° C dry heat sterilization, and external humidity water reservoir**
- **Active humidity control and IR CO_2 sensor**
- **Convenient sizes of 8.2 cu. ft. and 11.4 cu. ft., the largest stackable lab incubator available**

SUPERIOR 3-WAY PROTECTION AGAINST CONTAMINANTS



High-Efficiency Class 100 Air Purity

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

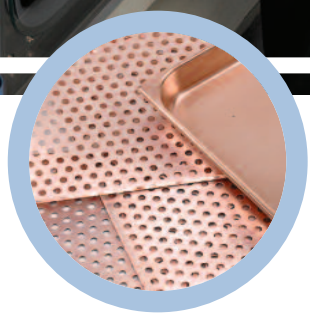


140° C Dry Heat Sterilization

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 also helps prevent sample desiccation.



SOLID COPPER ACCESSORIES
are also available to kill surface microbes on contact

Intelligent Construction for Maximum Sample Protection

Top mounted HEPA filter eases maintenance and optimizes chamber space. Polished, stainless steel interior includes coved corners for thorough disinfection and microbial filters on the gas inlet, sample port and water filter provide additional sample protection. The inner door gasket can even be removed for cleaning to maintain a safe, tight seal.

Microprocessor Messaging Center

Alphanumeric display shows temperature, CO_2 and RH with handy programming controls and audible/visual alarms.

FORMA STERI-CULT THERMO SCIENTIFIC

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
3307	**Steri-Cult CO_2 incubators with external active humidification with Class 100 HEPA air filtration system and 140° C sterilization cycle**	stainless steel	IR	8.2 cu. ft. (232 L)	120V/50/60 Hz
3310				11.4 cu. ft. (323 L)	

Thermo Scientific Heracell i CO_2 Incubators

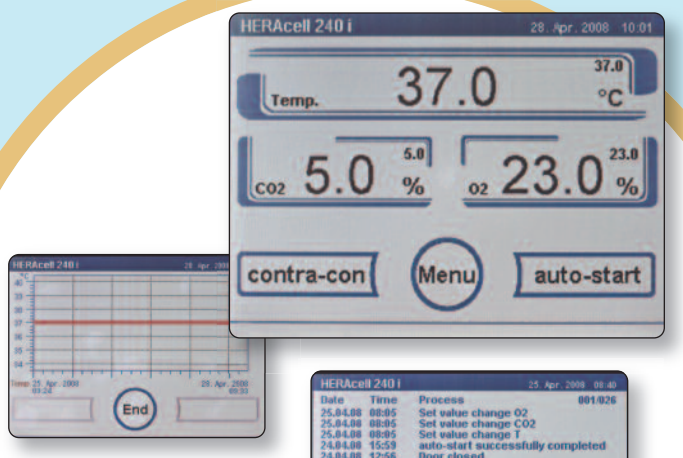
Interactive touch-screen simplicity for superior results

Renowned for their accuracy, uniformity and quick recovery rates, our Heracell i direct heat incubators uniquely combine optimal culturing conditions with simplicity and ease of use.

- **Two convenient stackable sizes (5.3 cu. ft., 8.4 cu. ft.) with electropolished stainless steel or 100% pure antimicrobial copper interior**
- **Intuitive Thermo Scientific iCAN touchscreen interface**
- **Built-in Thermo Scientific ContraCon High Temperature Decontamination Cycle**
- **Choose reliable long life thermal conductivity (TC) or dual beam IR CO_2 sensors**

iCAN™ touch screen interface

Total control at your fingertips lets you culture with confidence. The intelligent iCAN interface provides complete data visibility to monitor all incubator interaction, featuring door-mounted position for easy access, on-screen menu prompts, error and usage logs, data logging, performance trend graphing, and multiple language selection.



▶ *View performance trend graphs for all major parameters right on the display screen*

▶ *Automatically logs all incubator interactions to better monitor culturing conditions*

Rapid Response Humidity System

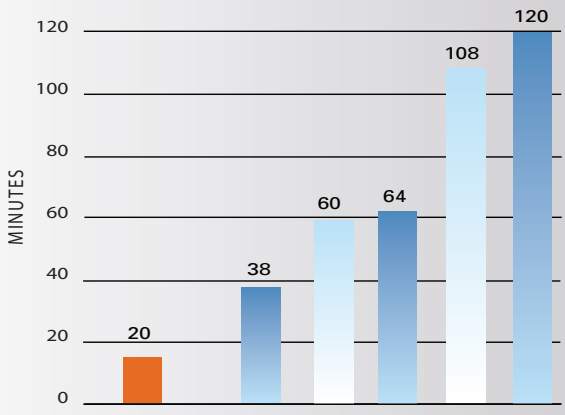
Our unique integral humidity water reservoir provides a high relative humidity (rH) and allows rapid recovery of optimal humidity level after door openings. This pan-less system reduces handling and provides recovery rates up to 5x faster than ordinary tray humidified incubators.

Features include:

- Surface area larger than ordinary humidity water pans (provided by a water reservoir with inclined and rounded corners)
- Floor heating system that operates after door opening
- Direct heat-transfer from heated floor to humidity reservoir
- Water level sensor indicates when a refill is needed – via a convenient prompt on the touchscreen display – to avoid desiccation of important cultures.

UNSURPASSED HUMIDITY RECOVERY TIMES

Typical humidity recovery time measured in competitive comparison* ▼



** based on 30-second door opening*

Exclusive 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.

100% Pure Copper Interiors

Heracell i is available with 100% pure copper interiors for maximum protection against contaminants potentially introduced through door openings or sample handling. Ideal for shared use environments, copper kills bacteria, molds and other microbes on contact for nonstop sample protection. Independent research proves that no copper alloy works as effectively or as quickly as 100% copper.

THERMO SCIENTIFIC HERACELL 150i AND HERACELL 240i

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
51026282	**Heracell 150i single chamber**	stainless steel	TC	5.3 cu. ft. (150 L)	120V/50/60 Hz
51026283		100% pure copper			
51026406		stainless steel	IR		
51026534		100% pure copper			
50116048	**Heracell 150i dual chamber, complete with 185 mm castor mounted support frame**	stainless steel	TC		
50116050		100% pure copper			
51026331	**Heracell 240i single chamber**	stainless steel	TC	8.4 cu. ft. (240 L)	
51026332		100% pure copper			
51026420		stainless steel	IR		
51026419		100% pure copper			

Thermo Scientific Heracell i CO_2 Incubators Oxygen Control

Precise environmental control for O_2-sensitive cell lines

Available in the same sizes and feature sets as the standard Heracell i incubators, the Heracell i with oxygen control delivers enhanced cell viability while stimulating cell behaviors that are more predictive of the *in vivo* environment.

- **FDA 510k registration for use with human patient samples**
- **Unsurpassed performance for culturing primary cells, including stem cells**
- **Ideal for advanced culturing, cancer research and IVF applications**

Flexible ranges of O_2 control

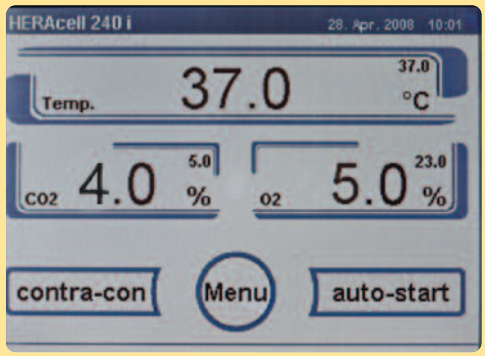
Select 1 - 21% for control at physiological or hypoxic levels, or 5 - 90% for added research flexibility and hyperoxic studies.

Advanced O_2 Monitoring

Our maintenance-free zirconia oxide sensor technology is calibrated automatically (auto-cal) and remains in place even during ContraCon high temperature disinfection routines to simplify cleaning.

Exclusive iCAN Touch-Screen Display

O_2 data can be conveniently selected, monitored and displayed, along with other operational parameters, with quick access to important trending data, to optimize your results.

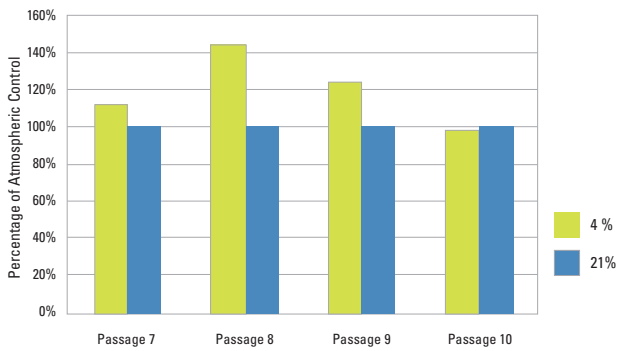


Innovative Design

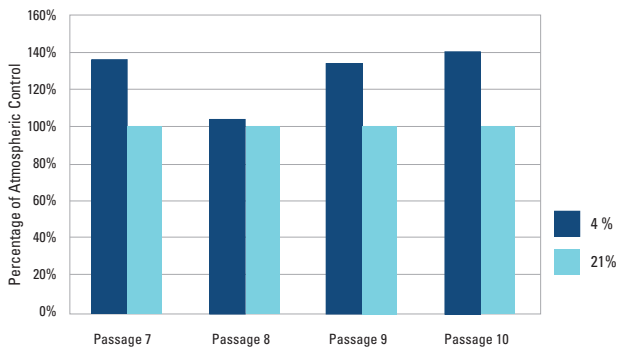
Speeds Recovery Time, Optimizes Cost

Unique gas-tight segmented inner door assembly, enables access to selected sections of the chamber without disturbing the entire environment to minimize recovery time, contamination risk and operational costs.

Precisely Controlled Oxygen Levels Benefit Stem Cell Cultures



Growth Comparison of Adipose Derived MSCs
Hypoxic (4% O_2) vs Atmospheric (21% O_2)
Viable cell counts expressed as percentage of control.

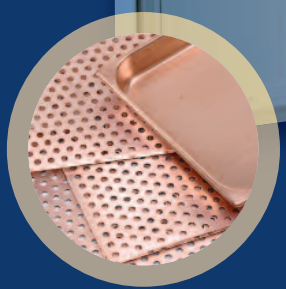


Growth Comparison of Bone Marrow Derived MSCs
Hypoxic (4% O_2) Vs atmospheric (21% O_2)
Viable cell counts expressed as percentage of control.

Reference: Wernerspach, D. , Morris, J. and Wright, M. Oxygen: Too much of a good thing. Laboratory Equipment. November 2009

THERMO SCIENTIFIC HERACELL 150i AND 240i TRI-GAS

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
51026410	**Heracell 150i, Tri-gas incubator O_2 control range 1-21%, with 3 door inner glass door assembly**	stainless steel	TC	5.3 cu. ft. (150 L)	120V/50/60 Hz
51026408		100% pure copper			
51026402		stainless steel	IR		
51026537		100% pure copper			
51026529	**Heracell 150i, Tri-gas incubator, O_2 control range 5-90%, with 3 door inner glass door assembly**	stainless steel	TC		
51026536		100% pure copper			
51026423	**Heracell 240i, Tri-gas incubator, O_2 control range 1-21%, with 6 door inner glass door assembly and 1/2 width shelves**	stainless steel	TC	8.4 cu. ft. (240 L)	
51026422		100% pure copper			
51026556		stainless steel	IR		
51026533		100% pure copper			



◀ **SOLID COPPER ACCESSORIES**
solid copper accessories are also available to kill microbes on surface contact

THERMO SCIENTIFIC FORMA STERI-CYCLE CO_2 INCUBATOR

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
370	**Forma Steri-Cycle CO_2 Incubator with Class 100 HEPA air filtration system and 140° C sterilization cycle**	stainless steel	TC	6.5 cu. ft. (184 L)	120V/50/60 Hz
380			IR		

Right Hand Door Swing available upon request (Part No. 190666)

Thermo Scientific Forma Steri-Cycle CO_2 Incubators

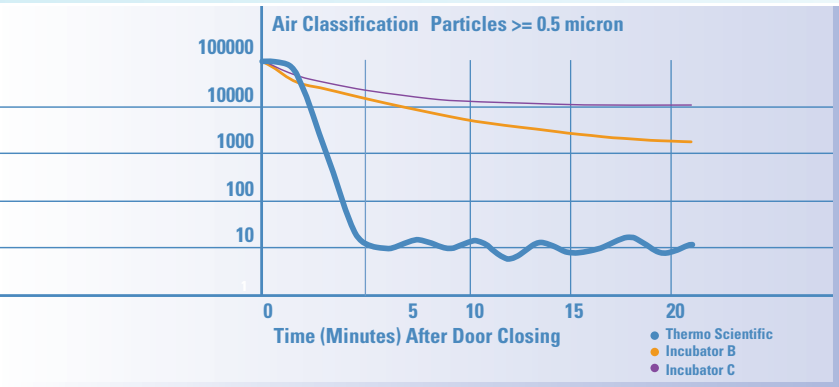
The benchmark for HEPA filtration and sterilization

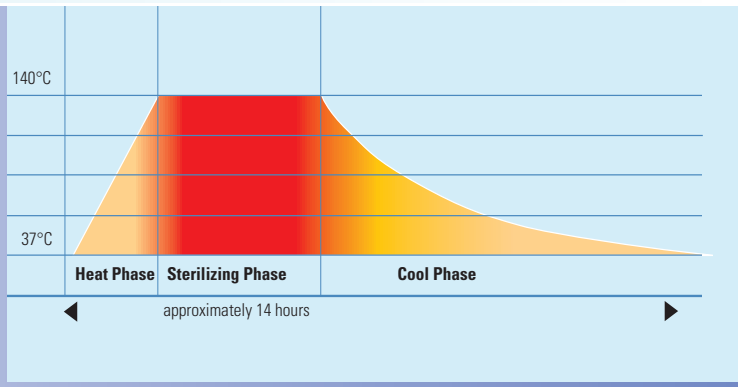
Featuring direct heat technology, our Steri-Cycle CO_2 incubator is a favorite of researchers seeking the benefits of full contamination control and dependable long term performance.

- **Complete 140° C contamination control with in-chamber HEPA air filtration system and on-demand high temperature sterilization**
- **Precise CO_2 control with a choice of TC or IR sensors**
- **Easy stackability and 6.5 cu. ft. capacity**
- **Easy to use and configure with field reversible doors, alpha numeric Thermo Scientific Enviro Scan control panel**

Information-Rich Messaging Center

Lets you easily monitor temperature, CO_2, and RH (optional) operating parameters via the bright alphanumeric display including humidity level indicators, process and alarm status messages.





Continuous Cleanroom Air Quality

Our highly efficient in chamber HEPA air filtration system protects your cultures and minimizes downtime. Continuously filters the entire chamber volume every 60 seconds and provides Class 100 (ISO Class 5) cleanroom air quality conditions within 5 minutes following a door opening. An optional VOC filter removes chemical contaminants and volatile organic vapors, which can pose risk to sensitive cultures.

140° C Dry Heat Sterilization

This overnight cycle delivers innovative high temperature sterilization safely and effectively. It destroys all contaminating organisms with exposure to 140° C without requiring dissasembly of components, autoclaving or use of toxic chemicals. Proven to effectively eliminate bacteria, mold, yeast, mycoplasma and even resistant spores as validated thru independent testing.

Thermo Scientific Forma Series 310 Direct Heat CO_2 Incubators

Superior value for everyday culturing

The Thermo Scientific Forma Direct Heat CO_2 incubator is the economical solution of choice for routine cell culturing.

- **Stackable unit with 6.5 cu. ft. capacity**
- **Choice of TC or IR CO_2 sensors**
- **Optional HEPA filter protection for culturing environment**

Large capacity and easy maintenance

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

Proven direct heat technology

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

Optional HEPA filter airflow system

HEPA filter airflow constantly manages air quality within the chamber to protect cultures against airborne contamination. Class 100 (ISO Class 5) air quality standard is achieved within five minutes after each door opening.

Easy-to-read **MESSAGING CENTER**

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

THERMO SCIENTIFIC FORMA SERIES 310 DIRECT HEAT CO_2 INCUBATOR

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
310	**Forma Direct Heat CO_2 Incubator**	stainless steel	TC	6.5 cu. ft. (184 L)	120V/50/60 Hz
320			IR		

Right Hand Door Swing available upon request (Part No. 190666)

Thermo Scientific Forma Series II Water Jacketed CO_2 Incubators

The best-selling CO_2 incubator for temperature stability

Thermo Scientific Forma Series II Water Jacketed CO_2 incubators deliver dependable thermal protection and quick recovery from swings in ambient temperature and power variations.

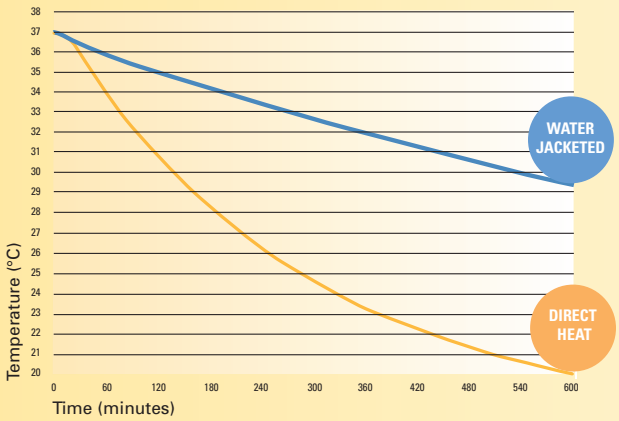
- **Unique triple wall construction provides superior temperature uniformity and stability**
- **FDA 510k registered as suitable for use with patient samples**
- **Large 6.5 cu. ft. capacity chamber readily stackable**
- **Removable humidity pan and choice of TC or IR sensors**

Class 100 HEPA filter airflow system

Unmatched in-chamber HEPA air filtration system provides Class 100 (ISO Class 5) cleanroom air quality conditions in only five minutes for continuous protection from unwanted contaminants from routine door openings. Simple to access and replace when needed.

Available Oxygen Control

Individual O_2 display facilitates set point and monitoring of desired O_2 levels in a range of 1 - 20%. Ideal for measuring the effect of suppressed oxygen concentration upon their cultures.



PERFORMANCE AFTER UNEXPECTED POWER LOSS

Triple-wall construction offers superior temperature stability during a power disruption. After 60 minutes after power loss, the Forma Series II Water Jacketed CO2 incubator dropped only 1° C, maintaining the chamber's specified growing environment.

THERMO SCIENTIFIC FORMA SERIES II WATER JACKETED CO_2 INCUBATOR

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
3110	**Forma Water Jacketed CO_2 Incubator with Class 100 HEPA air filtration system**	stainless steel	TC	6.5 cu. ft. (184 L)	120V/50/60 Hz
3120			IR		
3130	**Forma Water Jacketed CO_2 Incubator with Class 100 HEPA air filtration system, 1-21% O_2 Control**		TC		
3140			IR		

Right Hand Door Swing available upon request (Part No. 190666)

Thermo Scientific Midi 40 CO_2 Incubators

Space-savings for small capacity needs

Ideal for space constrained labs, the Midi 40 is the right size for small workloads and those seeking a personalized workspace.

- **Convenient 1.4 cu. ft. capacity**
- **Small footprint – 24 x 18 in.**
- **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_2 incubator is supplied with four removable perforated shelves. Our advanced 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 sensor mounted within the culture chamber enables precise CO_2 control and optimal results. A heated inner glass door provides sample security while preventing unwanted condensation.

Designed for personalized workspace

This cost-effective single user alternative eliminates the need for shared-use culturing and the potential impact on your samples from multiple user access. Dedicated incubator ideal for specific cell lines and individual studies, when separation of samples is essential.

THERMO SCIENTIFIC MIDI 40 CO_2 INCUBATOR

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
3403	**Midi 40 Small Capacity CO_2 Incubator**	stainless steel	TC	1.4 cu. ft. (40 L)	120V/50/60 Hz

Thermo Scientific Large Capacity Reach-In CO_2 Incubators

Maximum volume for high-throughput requirements

The Thermo Scientific Large Capacity Reach-In CO_2 incubator provides the extra space required for large experiments and long-term, valuable sample storage.

- **Convenient larger 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 unwanted condensation**
- **Casters for easy mobility**

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

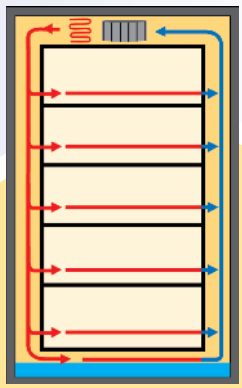
Standard remote alarm contacts and available data outputs allow connection to an in-house monitor/alarm

Interior and exterior accessory receptacles provide a convenient power source

Two thru-wall access ports (one on right and left sidewalls) for 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 wasted time and money due to poor temperature uniformity and recovery

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.

THERMO SCIENTIFIC LARGE CAPACITY REACH IN CO_2 INCUBATOR

Thermo Scientific Model No.	Description	Interior	Sensor	Volume	Voltage
3950	**Large Capacity Reach In CO_2 incubator**	stainless steel	TC	29 cu. ft. (821 L)	115V, 50/60Hz

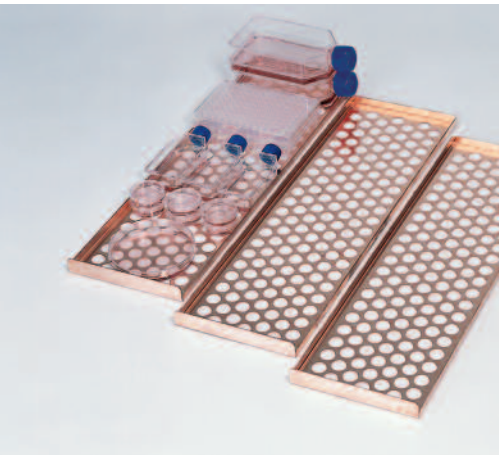
Specifications and Ordering

	Forma Steri-Cult 3310/3307	Heracell 150i	Heracell 240i
Dimensions			
Chamber Capacity	3310: 322.8 L (11.4 cu. ft.) 3307: 232.2 L (8.2 cu. ft.)	150 L (5.3 cu. ft.)	240 L (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)	47 x 60.7 x 53 cm (18.5 x 23.9 x 20.9 in)	607 x 670 x 583 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)	63.7 x 86.7 x 76.6 cm (25 x 34 x 30.2 in)	780 x 934 x 834 cm (30.7 x 36.8 x 32.8 in)
Weight	3310: 186 kg (410 lbs) 3307: 149.7 kg (330 lbs)	70 kg (154 lbs)	81 kg (178 lbs)
Shelves			
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)	42.3 x 44.5 cm (16.7 x 17.5 in)	56 x 50 cm (22 x 19.7 in)
Construction	Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated
Number standard/maximum	5/22	3/10	3/10
Temperature			
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	(+/-) 0.2° C	(+/-) 0.5° C	(+/-) 0.5° C
Decon cycle temperature	140° C dry heat	90° C (moistured heat)	90° C (moistured heat)
Decon cycle length	14h for complete cycle (140° C hold for 3h)	25h for complete cycle (90° C hold for 9h)	25h for complete cycle (90° C hold for 9h)
Humidity			
RH range	>90% @ 37° C, with active control	>90% @ 37° C	>90% @ 37° C
RH source	3.8 L (4 qt)	3 L (3.2 qt) pan-less reservoir	4.5 L (4.75 qt) pan-less reservoir
CO_2			
CO_2 Range	0-20%	0-20%	0-20%
Control (readability and setability)	0.10%	0.10%	0.10%
CO_2 Sensor Type	IR	TC / IR (optional)	TC / IR (optional)
Gas inlet pressure required	15 PSIG (1.0 bar)	12 - 15 PSIG (0.8 - 1bar)	13 - 15 PSIG (0.8 - 1bar)
O_2			
O_2 Control Accuracy	n/a	(+/-) 0.2%	(+/-) 0.2%
O_2 Range	n/a	1 to 21% or 5 to 90%	1 to 21% or 5 to 90%
Readability and Setability	n/a	0.10%	0.10%
O_2 Sensor Type	n/a	Zirconium Oxide	Zirconium Oxide
Gas inlet pressure required	n/a	12 - 15 PSIG (0.8 - 1bar)	13 - 15 PSIG (0.8 - 1bar)
Electrical			
Voltage/ Frequency/Current	115 V, 50/60 Hz	120 V, 50/60 Hz, 5.2 A	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	RS232	RS232

Forma Series 310 Direct Heat	Forma Steri-Cycle	Forma Water Jacket	Midi 40	Large Capacity Reach-In
184 L (6.5 cu. ft.)	184 L (6.5 cu. ft.)	184 L (6.5 cu. ft.)	40 L (1.4 cuft)	821 L (29 cu. ft.)
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)	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)
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 (26.3 x 39.5 x 25.0 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)
95.3 kg (210 lbs)	117.9 kg (260lbs)	166 kg (365 lbs)	28 kg (60 lbs)	226.8 kg (500 lbs)
47 x 47 cm (18.5 x 18.5 in)	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)
Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated	Type 304, 2B finish, solid stainless steel
4/17	4/17	4/17	4	4/17
(+/-) 0.1° C	(+/-) 0.1° C	(+/-) 0.1° C	(+/-) 0.1° C	(+/-) 0.1° C
3° 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	5° C above ambient to 50° C
0.1° C	0.1° C	0.1° C	0.1° C	0.1° C
(+/-) 0.3° C	(+/-) 0.3° C	(+/-) 0.2° C	(+/-) 0.4° C	(+/-) 0.3° C
n/a	140° C dry heat	n/a	n/a	n/a
n/a	12h for complete cycle (140° C hold for 3h)	n/a	n/a	n/a
>90% @ 37° C	>90% @ 37° C	>90% @ 37° C	>90% @ 37° C	>90% @ 37° C, selectable
3 L (3.2 qt) standard pan	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
0-20%	0-20%	0-20%	0-20%	0-20%
0.10%	0.10%	0.10%	0.10%	0.10%
TC / IR (optional)	TC / IR (optional)	TC / IR (optional)	TC	TC
15 PSIG (1.0 bar)	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)
n/a	n/a	(+/-)0.1%	n/a	n/a
n/a	n/a	1-20%	n/a	n/a
n/a	n/a	0.10%	n/a	n/a
n/a	n/a	Fuel cell	n/a	n/a
n/a	n/a	15 PSIG (1.0 bar)	n/a	n/a
115 V, 50/60 Hz	115 V, 50/60 Hz	115 V, 50/60 Hz	120 V, 60 Hz	115 V, 50/60 Hz
standard	standard	standard	n/a	standard
optional RS-485, 0-1V, 0-5V, and 4-20 milliamp	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

Options and Accessories

Support stands provide elevation to protect against floor contamination and casters offer easy mobility.

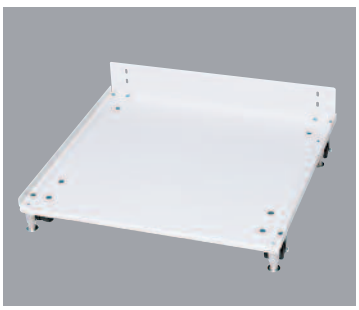


Thermo Scientific Heratrays enable easy transport of your cultures and can divide shelves up to four sections.

Two-Stage CO_2 Gas Regulator with barbed connection and shut off valve

Thermo Scientific Part No.	Description	Factory Installed	Customer Installed
Heracell 150i Accessories			
Support Stands			
50057161	Support stand for double chamber, 185 mm high (7.28 in) (with castors)		•
50051376	Support stand for double chamber, 200 mm high (7.87 in) (without castors)		•
50051436	Support stand for single chamber, 780 mm high (30.7 in) (without castors)		•
50056459	Support stand with drawers for single chamber, 780 mm high (30.7 in) with 3 drawers complete with 4 swivel locking castors		•
Interior Components			
50051909	Additional stainless steel shelf, full-width, 2 support rails		•
50051910	Additional shelf, solid copper, full-width, with 2 support rails		•
50051913	Set of 3 Heratrays in stainless steel (autoclaveable)		•
50051914	Set of 3 Heratrays in solid copper		•
50058672	Set of 2 Heratrays, 1/2 width, in stainless steel (autoclaveable) (Tri-Gas Only)		•
50061050	Set of 2 Heratrays, 1/2 width, in copper (Tri-Gas only)		•
Heracell 240i Accessories			
Support Stands			
50065754	Support stand without castors for double chamber, 200 mm high (7.87 in)		•
50065753	Support stand without castors for single chamber, 780 mm high (30.7 in)		•
50067224	Support stand with castors for double chamber, 200 mm high (7.87 in)		•
50081774	Support stand with castors for single chamber, 780 mm high (30.7 in)		•
Interior Components			
50065793	Additional shelf, stainless steel, full-width, with 2 support rails		•
50065794	Additional shelf, solid copper, full-width, with 2 support rails		•
50077367	1 stainless steel strengthened shelf, with 2 support rails		•
50077365	1 solid copper strengthened shelf, with 2 support rails		•
50065795	Additional shelf, stainless steel, half-width, with 2 support rails (Tri-Gas only)		•
50065796	Additional shelf, solid copper, half-width, with 2 support rails (Tri-Gas only)		•
50065805	Set of 3 Heratrays, 1/3 width, in stainless steel		•
50065807	Set of 4 Heratrays, 1/4 width, in stainless steel		•
50065809	Set of 4 Heratrays, 1/2 width, in stainless steel		•
50065806	Set of 3 Heratrays, 1/3 width, in copper		•
50065808	Set of 4 Heratrays, 1/4 width, in copper		•
50065810	Set of 4 Heratrays, 1/2 width, in copper		•
50068677	Stack Adapter for Heracell 240i		•
Optional Cell Roller			
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)	•	
Data Output Options (150i and 240i)			
50076266	Heraline, digital to analog signal convertor, 4-20 milliamps		•
50055160	Heraline, digital to analog signal convertor, 0-1 volt		•
Control Options (150i and 240i)			
95001012	CO_2 gas regulator, 2-stage, for gas tank		•
95001013	N_2 gas regulator, 2-stage for gas tank		•
95001014	O_2 gas regulator, 2-stage for gas tank		•
50059043	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		•

Thermo Scientific Part No.	Description	Forma Steri-Cycle	Forma Series 310 Direct-Heat	Forma WJ	Factory Installed	Customer Installed
Forma Steri Cycle, Direct Heat and Water Jacket Accessories						
Support Stands						
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)	•	•			•
HEPA and Replacement Filters						
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	•	•	•		•
190651	Complete decontamination kit, includes HEPA filters, replacement gasket and miscellaneous components	•	•	•		•
1900094	HEPA^2 VOC Filter Replacement Kit, includes HEPA^2, in-line and access port filters	•		•		•
760200	Replacement HEPA^2 VOC Filter	•		•		•
Interior Components						
190884	Additional single stainless steel shelf (w/ installation channel)	•	•	•		•
1900095	Copper interior components kit includes side ducts, shelf channels, four shelves, and humidity pan	•			•	
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		•	•		•
Control Options						
190643	Humidity (RH) display, readable in 1% increments, includes low RH programmable alarm (alerts you of need to add water to humidity pan)		•	•	•	
1900091		•			•	
190640	Built-in gas guards to monitor CO_2, automatically switch from one cylinder to the other when supply is exhausted		•	•	•	
1900086		•			•	
190642	Built-in gas guards to monitor N_2, automatically switch from one cylinder to the other when supply is exhausted			•	•	
3050	Auto gas tank switcher, external mount, 120V,60Hz	•	•	•		•
965010	CO_2 gas regulator, 2 stage, w/ barbed connection and shut-off valve	•	•	•		•
961027	N_2 gas regulator, 2 stage, w/ barbed connection and shut-off valve (for use with Tri-gas models)			•		•
Data Output Options						
190512	4-20 milliamp analog	•	•	•	•	
190543	0-5V analog	•	•	•	•	
190544	0-1V analog	•	•	•	•	

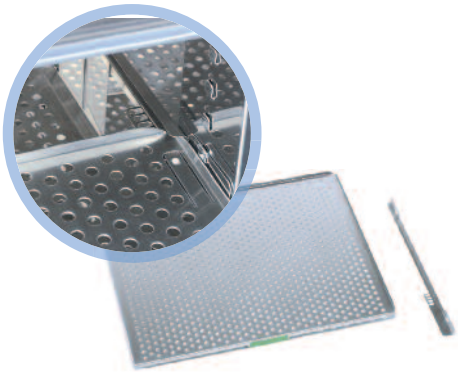


Support Stand (heavy-duty, powder coated steel base) with dual-wheel, swivel locking casters and leveling feet

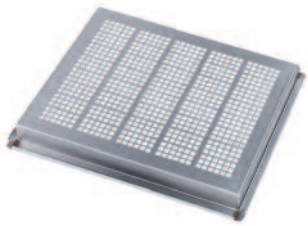
Independent Inner Glass Door Kit (eight glass doors with latches), mounts inside heated inner glass door, is removable and can be autoclaved

Copper Humidity Pans and Shelves

Options and Accessories



Replacement Shelf Kit
with easy glide shelving system



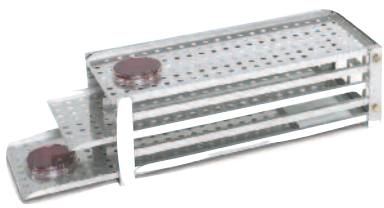
The in-chamber **HEPA air filtration system,** continuously filters the entire chamber volume every 60 seconds for Class 100 cleanroom standards

Thermo Scientific Part No.	Description	Factory Installed	Customer Installed
Forma Steri-Cult Accessories			
Support Stands			
1900165	Stand, raise unit 16.5 cm (6.5 in) off the floor for Model 3310		•
1900164	Stand, raise unit 16.5 cm (6.5 in) off the floor for Model 3307		•
1900163	Stand with casters, raise unit 7.6 cm (3.0 in) off the floor for Model 3310		•
1900162	Stand with casters, raise unit 7.6 cm (3.0 in) off the floor for Model 3307		•
Interior Components			
1900115	3310 Replacement Shelf Kit with 2 channel brackets		•
1900114	3307 Replacement Shelf Kit with 2 channel brackets		•
1900172	3310 Mini Shelf Rack		•
1900171	3307 Mini Shelf Rack		•
1900170	3310 Sealed inner door kit, 6 doors	•	
1900169	3307 Sealed inner door kit, 3 doors	•	
1900166	Replacement Inventory Management Label Kit		•
Filters			
1900160	HEPA filter replacement kit, includes a HEPA and one in-line filter		•
1900161	HEPA^2 VOC filter replacement kit, includes the HEPA^2 and one in-line filter		•
760210	Replacement gas connection inline filters (10 pk)		•
Control Options			
1900153	3310/07 Built-in gas guards to monitor CO_2, automatically switch from one cylinder to the other when supply is exhausted	•	•
965010	CO_2 gas regulator		•
3050	Auto gas tank switcher		•
Data Output Options			
191761	4-20 milliamp analog interface	•	
191762	0-5V analog interface	•	
191763	0-1V analog interface	•	

Sealed Inner Glass Door Kits minimize fluctuations in temperature, CO_2, and RH during door openings. The small sealed inner doors feature gaskets and latches for a tight fit and maximum sample protection. Glass construction ensures high visibility of your sample.

Using Mini Shelf Racks with Inner Glass Door Kits allows you to slide the shelves through a specific door opening, eliminating the need to handle large shelves. This rack and door combination provides efficient, easy access to small amounts of your sample before you move to the benchtop.

The **Mini Shelf Racks** with three adjustable shelves each are designed for space efficiency and easy access to your sample.



Our unique **Replacement Inventory Management Label Kit** includes five color-coded magnets and shelf labels. The reusable magnets on the inside of the outer door allow you to write (with a dry erase marker) and correlate notes to samples on a specific shelf, easily making changes as needed. This kit comes standard with the Steri-Cult model.

Thermo Scientific Part No.	Description	Factory Installed	Customer Installed
Large Capacity Reach-In CO_2 Incubator Accessories			
Interior Components			
190239	Lexan inner door kit	•	
190591	Universal door cover for glass doors	•	
224139	Stainless steel shelf kit		•
224155	Perforated shelf kit		•
224161	Reinforced stainless steel shelf system, 150 lbs load, custom installed (2 per unit maximum and NOT for shakers)		•
1900005	Reinforced stainless steel shelf and floor to accommodate two shakers	•	
505099	Duplex outlet kit, 120V, factory installed	•	
190164	Additional thru-wall access port 61 mm (2.4 in) ID	•	
190514	Door lock	•	
Optional Cell Roller			
4862	15 position cell roller, 120V, 60 Hz		•
190049	5 position add-on tier for Cell Rollers		•
500182	Reinforced floor/ramp to accommodate cell roller system		•
190777	Reinforced floor/ramp to accommodate cell roller system	•	
228076	Rotation alarm for cell roller	•	
228077	Alarm system for cell rollers	•	
228078	Battery back-up for cell rollers	•	
475560	110 x 285 mm bottle for cell rollers, 4 per case		•
Control Options			
1900000	Built-In CO_2 gas guard	•	
191596	Carboy Kit, 7.8 L (2 gallon), autoclavable with valve, adaptor hose and mounting bracket		•
965010	CO_2 gas regulator		•
Data Output Options			
190512	4-20 milliamp interface	•	
190523	RS-485 interface	•	
190543	0-5V interface	•	
190544	0-1V interface	•	

Midi 40 Accessories			
Interior			
770001	Replacement gas inlet filters, 0.3 micron		•
188053	Additional stainless steel shelf		•
Control Options			
3050	External automatic CO_2 gas tank switching module, 120V, 60Hz		•
965010	CO_2 gas regulator		•

CO_2 Incubator Gas Testing Equipment for All Models			
50121515	IR gas tester with travel case (for advanced calibration and testing purposes)		•
50122015	IR gas tester interface kit (Windows Vista and XP compatible)		•
6310TA	Fyrite gas tester kit (for basic calibration and testing purposes)		•
6312	Replacement Fyrite CO_2 fluid		•

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

IR-CO_2 Gas Tester
features a maintenance-free infrared cell to monitor CO_2 level inside the chamber

Cell Roller System
allows extensive production of cell cultures in standard vessels

Enhance your CO_2 Incubators
with Thermo Scientific Labware

In your lab, quality correlates with reproducibility, so trust your cell cultures only to the most dependable materials.

Complement your Thermo Scientific CO_2 Incubators with Thermo Scientific Nunc tissue culture flasks and Cell Factories for your research and production scale culturing requirements with the lot-to-lot predictability you need to produce consistent results.

Reliability:
All products are extensively tested and certified.

Capability:
Unique, patented Thermo Scientific Nunclon cell culture surfaces are preferred by researchers.

Scalability:
Highest quality from the smallest research volumes to full-scale production.

Visit **www.thermoscientific.com/cellgrowth** to learn more and to request free samples.

Tissue Culture Flasks

All Thermo Scientific Nunc tissue culture flasks are made from certified polystyrene and tested using four cell lines. This testing ensures unfailing monolayer formation and consistent cloning efficiency.

Thermo Scientific Nunc EasYFlask features an angled neck for access to the entire growth surface. Available in surface areas ranging from 25cm^2 to 225cm^2, EasYFlask® is an extremely versatile cell culture tool. EasYFlask is available with four surface treatment options: Nunclon Delta, Poly-D-Lysine, Collagen, and untreated.

The space-saving Thermo Scientific Nunc TripleFlask provides 500cm^2 of surface area in a 175cm^2 footprint, maximizing incubator space. The productivity of TripleFlask offers you a bridge from research to production.

Cell Factory

The compact design of the Thermo Scientific Nunc Cell Factory offers reliable industrial scale production of vaccines, monoclonal antibodies or pharmaceuticals in a 205 x 335mm footprint. Available in 1-, 2-, 4-, 10-, and 40-layer formats, the Cell Factory offers a variety of scale-up options.

The EasyFill Cell Factory offers all the benefits of the 1- through 10-layer Cell Factories, with additional convenience of easy filling and emptying. Ready to use, with no accessories needed, the EasyFill offers plug 'n' play convenience to save you time.

Given the importance of your efforts and the depth of your commitment, it only makes sense to reach for the best when it comes to your culture ware.

Worldwide Service and Support

We are committed to keeping your lab equipment working at peak performance levels. Our goal is to help you lower ownership costs, manage labs more effectively, and increase productivity. Contact your Thermo Scientific representative to learn more about our service offerings, including service agreements, preventative maintenance, onsite field repair, depot repair, compliance services and educational services.

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