Thermo Scientific
CO_2 Incubators

Discovery thrives
in a culture of confidence

Thermo Fisher
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Discovery thrives
in a culture of confidence

More scientists worldwide trust their valuable cultures to **Thermo Scientific™ CO_2 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_2 incubators let you culture with confidence. Day after day. Year after year.**

Choose a CO_2 incubator that can provide you with:

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

Thermo Scientific CO_2 incubators

		1 Select the optimal capacity and chamber design					
		Direct Heat				Water-Jacketed	Compact Size	Large Capacity
		Forma Steri-Cult	**Heracell VIOS**	**Heracell i**	**Forma Steri-Cycle**	**Forma Series 3**	**Midi 40**	**Large Capacity Reach In**
		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.
2 Choose advanced technologies		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	○[1]	●[2]	●[2]	○[1]	○[1]		
Advanced Growth Conditions	THRIVE Active Airflow		●					
	External Humidity Source and Control	●						
	Cell Roll System			○				○
	Advanced O_2 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

[1] Stainless steel interior with optional copper shelves and components
[2] 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_2 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
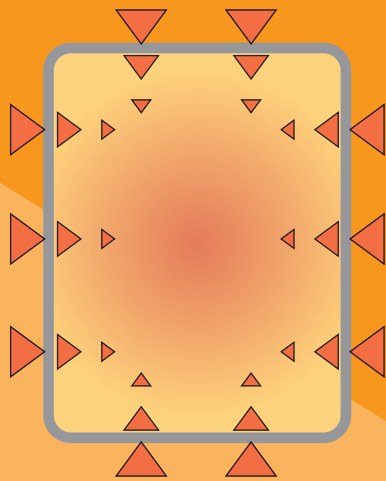
Direct Heat

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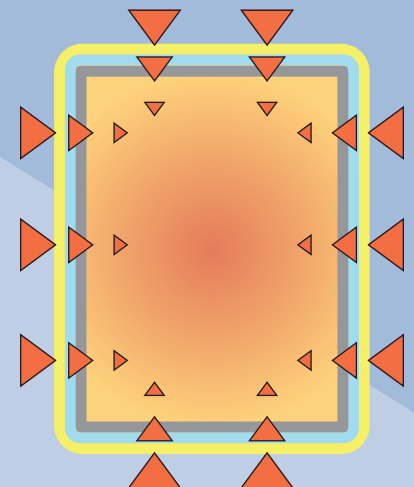
Water Jacketed

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 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 hypoxic environments (for stem cell and IVF applications) or choose to increase oxygen concentration for the ability to operate at hyperoxic levels.

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.

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 infrared (IR) technology for precise monitoring where temperature and humidity levels are less predictable

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

Air Quality Particles ≥0.5 µM

Particle number/m³	Time (minutes after door closing)	ISO Class

(graph: Particle number/m³ on left axis ranging from 35 to 35,200,000; ISO Class on right axis ranging from 3 to 9; Time in minutes after door closing from 0 to 10)
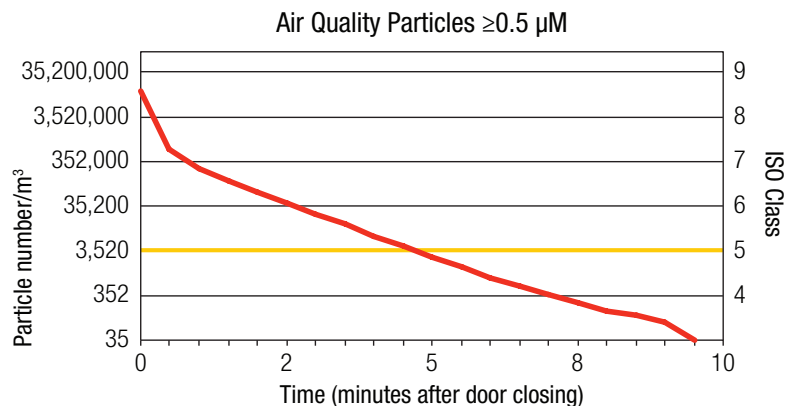
Thermo Scientific
Forma Steri-Cult CO_2 Incubators

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_2 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_2 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.
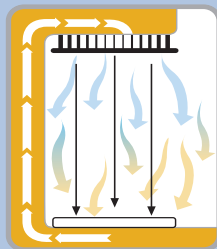
140° C dry heat sterilization

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.

140°C

37°C

| Heat Phase | Sterilizing Phase | Cool Phase |

approximately 14 hours
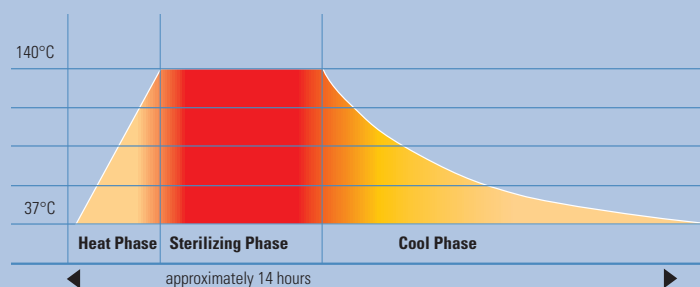
Full humidity control with convenient external water reservoir

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 CO₂ Incubators
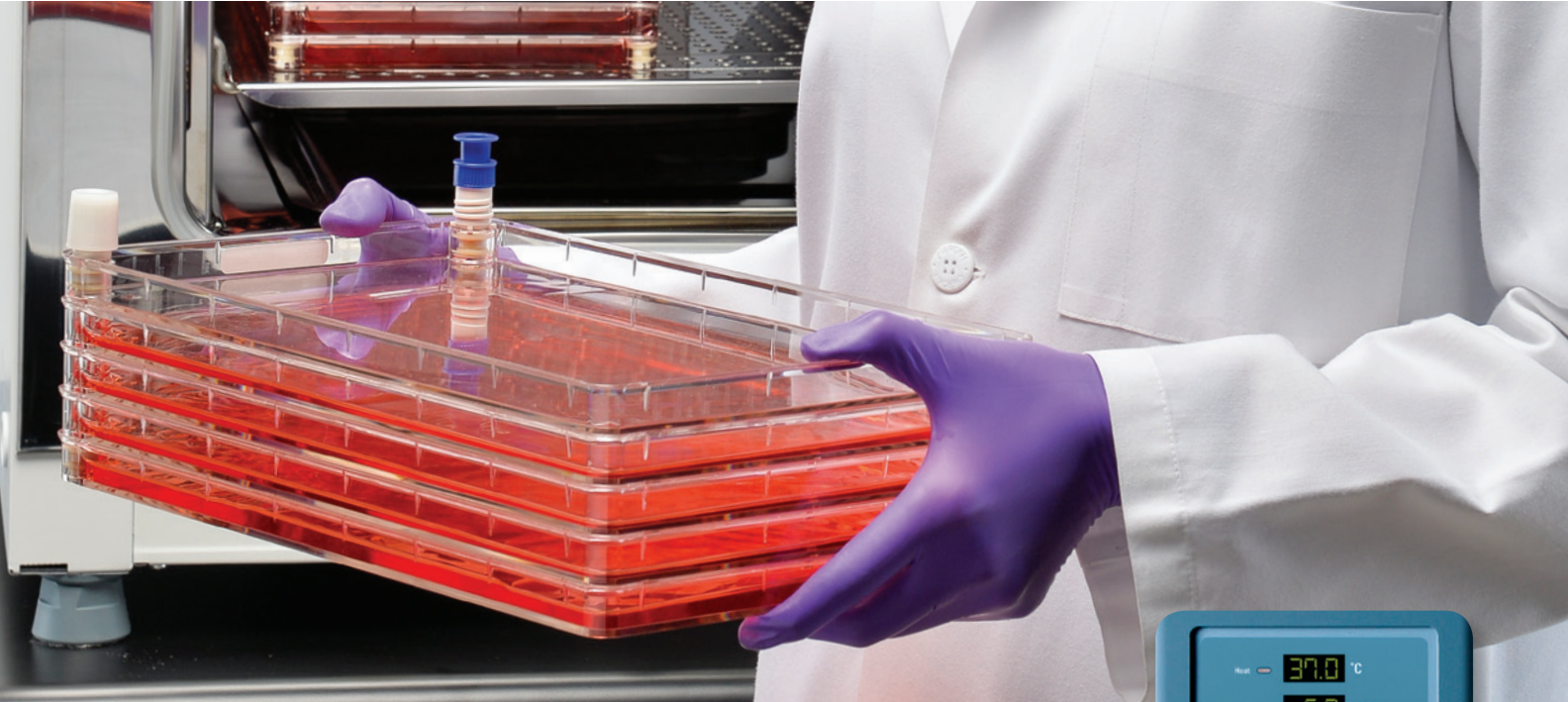
Intelligent construction for maximum sample protection

The top mounted HEPA filter is designed to simplify maintenance and optimize chamber space. Polished stainless steel interior includes coved corners for easy cleaning, an access port for added flexibility, and a filter on the CO_2 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_2 and rH with handy programming controls and audible/visual alarms.

Model No.	Description	Interior	Sensor	Volume	Voltage
3307	Steri-Cult CO₂ incubator with external active humidification with ISO 5 HEPA filtration and 140° C sterilization cyle	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_2 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

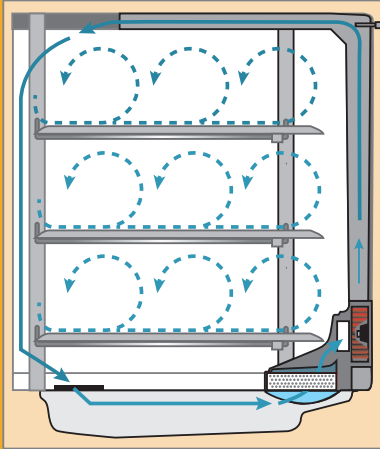• Optional O_2 control with choice of 1-21% or 5-90% ranges

Large capacity 250i model is ideal for high volume culturing

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[3]. 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_2 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.

[3]Based on internal testing with a 30 second door opening, recovery time calculated to 98% of starting value for temperature and CO_2 and 95% of starting value for humidity

▶ Thermo Scientific Heracell VIOS 160i and 250i CO_2 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*
Aspergillus brasiliensis	16404	2.98×10^4	NG**	-4.5
Escherichia coli	25922	2.22×10^4	NG	-4.3
Mycoplasma pneumoniae	15531	1.25×10^6	NG	-6.1
Bacillus atrophaeus spores	51189	2.16×10^7	NG	-7.3
Geobacillus stearothermophilus spores	12980	4.81×10^6	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_2 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_2 incubator	Stainless steel		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_2 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_2 incubator	Stainless steel		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_2 incubators with variable O_2 control**
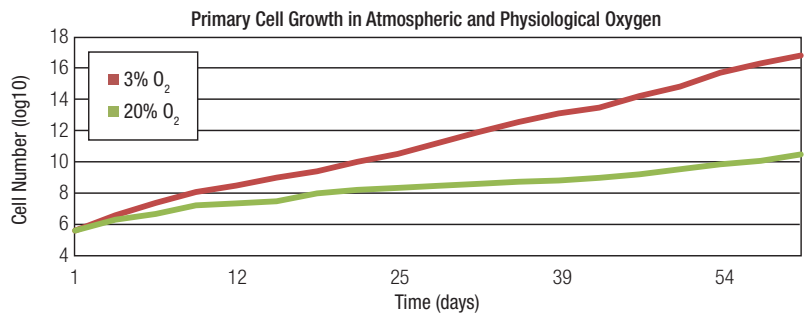
With segmented inner doors, accessing separate sections of the incubator is convenient, minimizing recovery time and contamination risk.

Added culturing flexibility with variable oxygen control

Many cell types thrive best in CO_2 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_2 incubator, you can select the incubator for your O_2 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.

Primary Cell Growth in Atmospheric and Physiological Oxygen

- 3% O_2
- 20% O_2

Cell Number (log10) / Time (days)

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.[4]	Description	Interior	Sensor	Volume	Voltage
51030403	Heracell VIOS 160i tri-gas CO_2 incubator with 1–21% O_2 control	Stainless steel	TC	5.8 cu. ft. (165L)	120V 50/60Hz
51030405			IR		
51031047	Heracell VIOS 250i tri-gas CO_2 incubator with 1–21% O_2 control		TC	9.0 cu. ft. (255L)	120V 50/60Hz
51031160			IR		
51030408	Heracell VIOS 160i tri-gas CO_2 incubator with 1–21% O_2 control	100% copper	TC	5.8 cu. ft. (165L)	120V 50/60Hz
51030410			IR		
51031048	Heracell VIOS 250i tri-gas CO_2 incubator with 1–21% O_2 control		TC	9.0 cu. ft. (255L)	120V 50/60Hz
51031159			IR		

[4] Additional configurations and 230V models are available; contact your sales representative

Thermo Scientific
Heracell 150i and 240i CO_2 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_2 control with choice of 1-21% or 5-90% ranges
- Choose reliable long-life TC or dual-beam IR CO_2 sensors
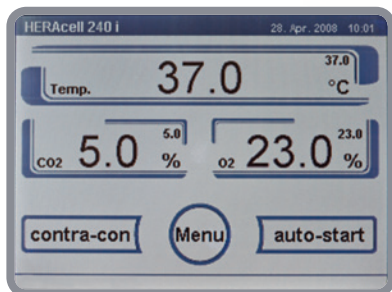
Exclusive Thermo Scientific™ ContraCon™ 90° C disinfection system

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[5]	5.3 cu. ft. (150 L)	120V 50/60Hz
51026280					230V 50/60Hz
51026283	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	100% copper			120V 50/60Hz
51026281					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					230V 50/60Hz
51026332	Heracell 240i single chamber with ContraCon moist heat decontamination cycle	100% copper			120V 50/60Hz
51026333					230V 50/60Hz

[5] 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_2 Incubators

Performance and value for everyday culturing

Choice of two direct heat CO_2 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_2 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
370	Forma Steri-Cycle CO_2 Incubator	Stainless Steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
371					230V 50/60Hz
380			IR		120V 50/60Hz
381					230V 50/60Hz
310	Forma Direct Heat CO_2 Incubator		TC		120V 50/60Hz
311					230V 50/60Hz
320			IR		120V 50/60Hz
321					230V 50/60Hz
190858	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_2 Incubators

The best-selling Thermo Scientific CO_2 incubator for temperature stability

Thermo Scientific™ Forma™ Series 2 and Series 3 Water Jacketed CO_2 incubators are designed to deliver dependable thermal protection and quick recovery from swings in ambient temperature and power variations.

- Series 3 water jacketed CO_2 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

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_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 outstanding temperature stability during a power disruption. Sixty minutes after power loss, the Forma Water Jacketed CO_2 incubator dropped only 1° C, maintaining the chamber's specified growing environment.
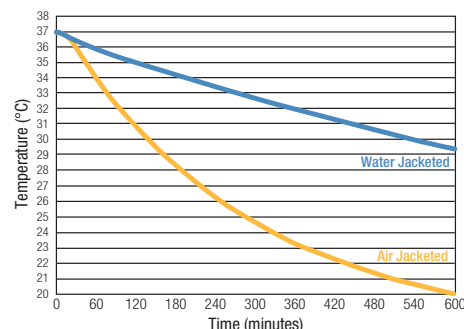
Model No.	Description	Interior	Sensor	Volume	Voltage
4110	Forma Series 3 Water Jacketed CO_2 incubator with ISO Class 5 HEPA filtration and iCAN touchscreen		TC		120V 50/60Hz
4111					230V 50/60Hz
4120			IR		120V 50/60Hz
4121					230V 50/60Hz
4130	Forma Series 3 Water Jacketed CO_2 incubator with 1–21% O_2 control, ISO Class 5 HEPA filtration and iCAN touchscreen		TC		120V 50/60Hz
4131					230V 50/60Hz
4140			IR		120V 50/60Hz
4141					230V 50/60Hz
3110	Forma Series 2 Water Jacketed CO_2 incubator with ISO Class 5 HEPA filtration	Stainless steel	TC	6.5 cu. ft. (184 L)	120V 50/60Hz
3111					230V 50/60Hz
3120			IR		120V 50/60Hz
3121					230V 50/60Hz
3130	Forma Series 2 Water Jacketed CO_2 incubator with 1–21% O_2 control, ISO Class 5 HEPA filtration		TC		120V 50/60Hz
3131					230V 50/60Hz
3140			IR		120V 50/60Hz
3141					230V 50/60Hz

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_2 Incubators

- Intralogic II user interface
- Seamless stainless steel interior with easy-to-clean coved corners
- Key lock-out for control
- Removable water pan
- Tempered inner glass door

Space-savings for small capacity needs

Ideal for space constrained labs, the Thermo Scientific™ Midi™ 40 CO_2 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_2 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_2 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 quaratine or individual studies.
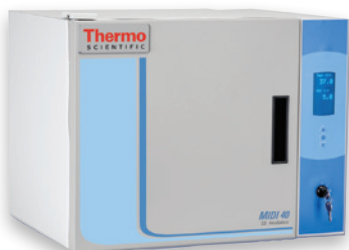
Model No.	Description	Interior	Sensor	Volume	Voltage
3403	Thermo Scientific Midi 40 CO_2 incubator	Stainless steel	TC	1.4 cu. ft. (40L)	120V 50/60Hz
3404					230V 50/60Hz

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Large Capacity Reach-In CO_2 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
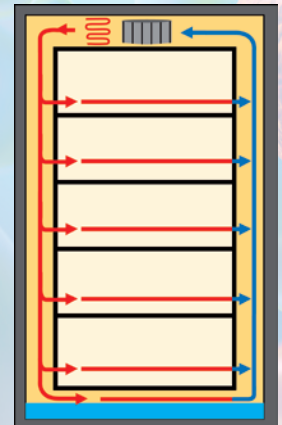
Our Directed Airflow

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 CO_2 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
3950	Thermo Scientific Large Capacity Reach In CO_2 Incubator	Stainless steel	TC	29 cu. ft. (821L)	120V 50/60Hz
3951					230V 50/60Hz

Specifications and Ordering

|	Forma Steri-Cult 3310/3307	Heracell VIOS 160i/250i	Heracell i 150i/240i
Dimensions			
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 bm (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)
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)	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
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	(+/-) 0.3° 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)
Humidity			
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
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	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)
O$_2$			
O$_2$ control accuracy	n/a	(+/-) 0.2%	(+/-) 0.2%
O$_2$ range	n/a	1–21% or 5–90%	1–21% or 5–90%
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	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)
Electrical			
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
Dimensions				
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)
Shelves				
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
Temperature				
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[6]	(+/-) 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
Humidity				
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
CO_2				
CO_2 range	0-20%	0-20%	0–20%	0–20%
Control (readability and setability)	0.10%	0.10%	0.10%	0.10%
CO_2 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)
O_2				
O_2 control accuracy	n/a	(+/-)0.1%	n/a	n/a
O_2 range	n/a	1-20%	n/a	n/a
Readability and setability	n/a	0.10%	n/a	n/a
O_2 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
Electrical				
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

[6] Truncated

Options and Accessories

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	●	
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, 120V 50/60HZ		●
Data Output Options			
191761	4-20 milliamp analog interface	●	
191762	0-5V analog interface	●	
191763	0-1V analog interface	●	
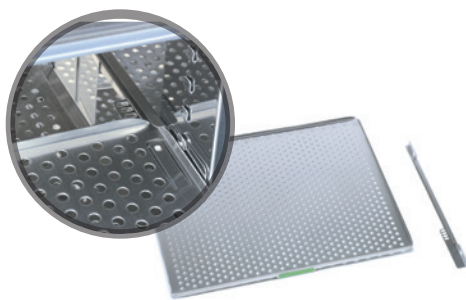
Replacement shelf kit with easy glide shelving system
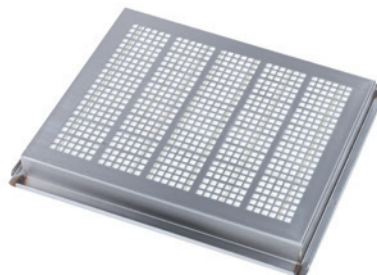
The in-chamber HEPA air filtration system, continuously filters the entire chamber volume every 60 seconds for Class 100 cleanroom standards

Options and Accessories, continued

Part No.	Description	160i	250i	Factory Installed	Customer Installed
Heracell VIOS 160i and 250i Factory Options[7]					
51901139	180° C temperature resistant infrared (IR180Si) CO_2 sensor with silicon MEMS emitter	●	●	●	
51901143	Internal 4–20 mA analog data output	●	●	●	
51900293	Left hinge door configuration	●	●	●	
51900735	Internal gas guard for CO_2	●	●	●	
51900736	Internal gas guard for N_2/O_2	●	●	●	
51901126	Stainless steel external outer casing	●	●	●	
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		●	●	
O_2 Control Options[7]					
51901137	1–21% O_2 control	●	●	●	
51901138	5–90% O_2 control	●	●	●	
51901145	1–21% O_2 control with 3 door inner gas tight screen door for 160i	●		●	
51901146	5–90% O_2 control with 3 door inner gas tight screen door for 160i	●		●	
51901133	O_2 control 1–21% with gas tight screen 6 inner glass doors and 1/2 width shelves for 250i		●	●	
51901134	O_2 control 5–90% with gas tight screen 6 inner glass doors and 1/2 width shelves for 250i		●	●	
Stands, Adapters, Filters					
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	●	●		●

[7] 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
Heracell 150i and 240i Factory Options[8]					
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_2 sensor 1–20%, high temperature resistant, ContraCon safe, dual beam, auto calibrating	●	●	●	
51900735	Gas guard CO_2 integral gas guard change over for CO_2	●	●	●	
51900736	Gas guard O_2 integral gas guard change over for O_2	●	●	●	
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		●	●	
Roller Bottle Turning Options					
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		●		●
O_2 Control Options					
51900737	O_2 control 1–21% oxygen control with auto calibration using zirconia cell, solid glass inner door	●		●	
51900738	O_2 control 5–90% oxygen control with auto calibration using zirconia cell, solid glass inner door	●		●	
51900739	O_2 control 1–21% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly	●		●	
51900740	O_2 control 5–90% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly	●		●	
51900702	O_2 control 1–21% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly and 1/2 width shelves		●	●	
51900703	O_2 control 5–90% oxygen control with auto calibration using zirconia cell, w/gas tight screen assembly and 1/2 width shelves		●	●	
Stands and Adapters					
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		●		●

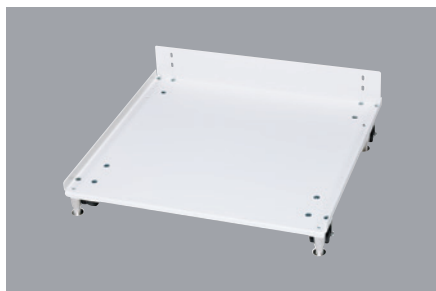[8] Factory installed options are to be ordered with the base single unit part number, not dual stacks or tri-gas part numbers

Options and Accessories, continued

| Part No.	Description	160i/150i	250/240i	Factory Installed	Customer Installed
Heracell VIOS and Heracell i CO_2 Incubators Accessories					
51900300	Electrical configuration for Switzerland	●	●	●	
51900303	Electrical configuration for Great Britain	●	●	●	
51900306	Electrical configuration for Italy	●	●	●	
51900449	Electrical configuration for Australia	●	●	●	
51900481	Electrical configuration for Denmark	●	●	●	
51900900	Electrical configuration for China	●	●	●	
Interior Components for Shelves					
50051909	Additional shelf, stainless steel, full-width, 2 support rails	●			
50051910	Additional shelf, solid copper, full-width, with 2 support rails	●			
50065793	Additional shelf, stainless steel, full-width, with 2 support rails		●		
50065794	Additional shelf, solid copper, full-width, with 2 support rails		●		
50150643	Reinforced shelf, stainless steel		●		
50150644	Reinforced shelf, copper		●		
50065795	Additional shelf, stainless steel, half-width, with 2 support rails		●		
50065796	Additional shelf, solid copper, half-width, with 2 support rails		●		
Control Options					
3429937	CO_2 gas regulator, 2-stage for gas tank	●	●		●
3429942	N_2 gas regulator, 2-stage for gas tank	●	●		●
3429943	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	●	●		●
50046033	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	●	●		●
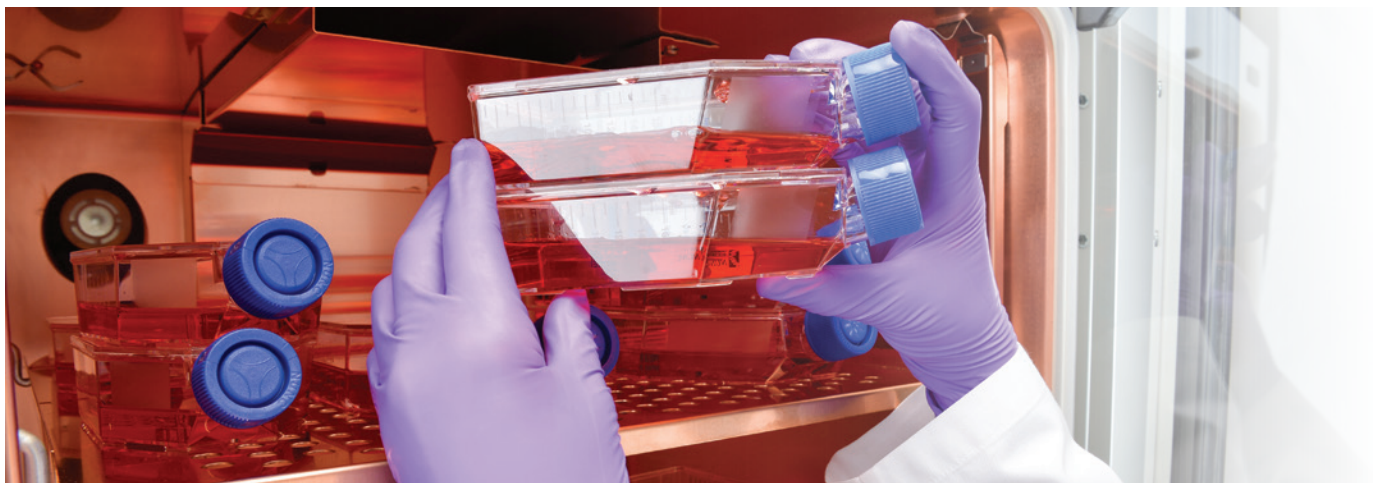
Options and Accessories, continued

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
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	●	●	●	●		●
760200	Replacement HEPA^2 VOC Filter	●		●	●		●
Interior Components							
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	●	●	●	●		●
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)		●		●	●	
1900587				●	●	●	
1900091		●				●	
190640	Built-in gas guards to monitor CO$_2$, automatically switch from one cylinder to the other when supply is exhausted		●		●	●	
1900589				●		●	
1900086		●				●	
190642	Built-in gas guards to monitor N$_2$, automatically switch from one cylinder to the other when supply is exhausted				●	●	
1900590				●			
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							
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
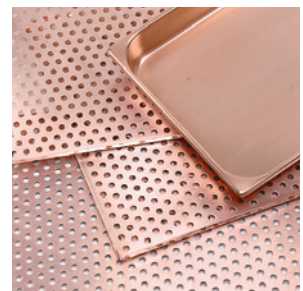
Copper humidity pans and shelves

Options and Accessories, continued

| Part No.	Description	Factory Installed	Customer Installed
Midi 40 CO$_2$ Incubator Accessories			
290225	Stacking kit		●
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		●
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, (2 per unit maximum and NOT for shakers)		●
1900005	Reinforced stainless steel shelf and floor to accommodate two shakers	●	
505099	Duplex outlet kit, 120V	●	
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	●	
228077	Rotation alarm system for cell rollers	●	
228078	Battery back-up for cell rollers	●	
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	●	
CO$_2$ Incubator Gas Testing Equipment for All Models			
50121515	IR gas tester with travel case (for advanced calibration and testing purposes)		●
50145789	IR gas tester for both CO$_2$ and O$_2$ levels		●
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
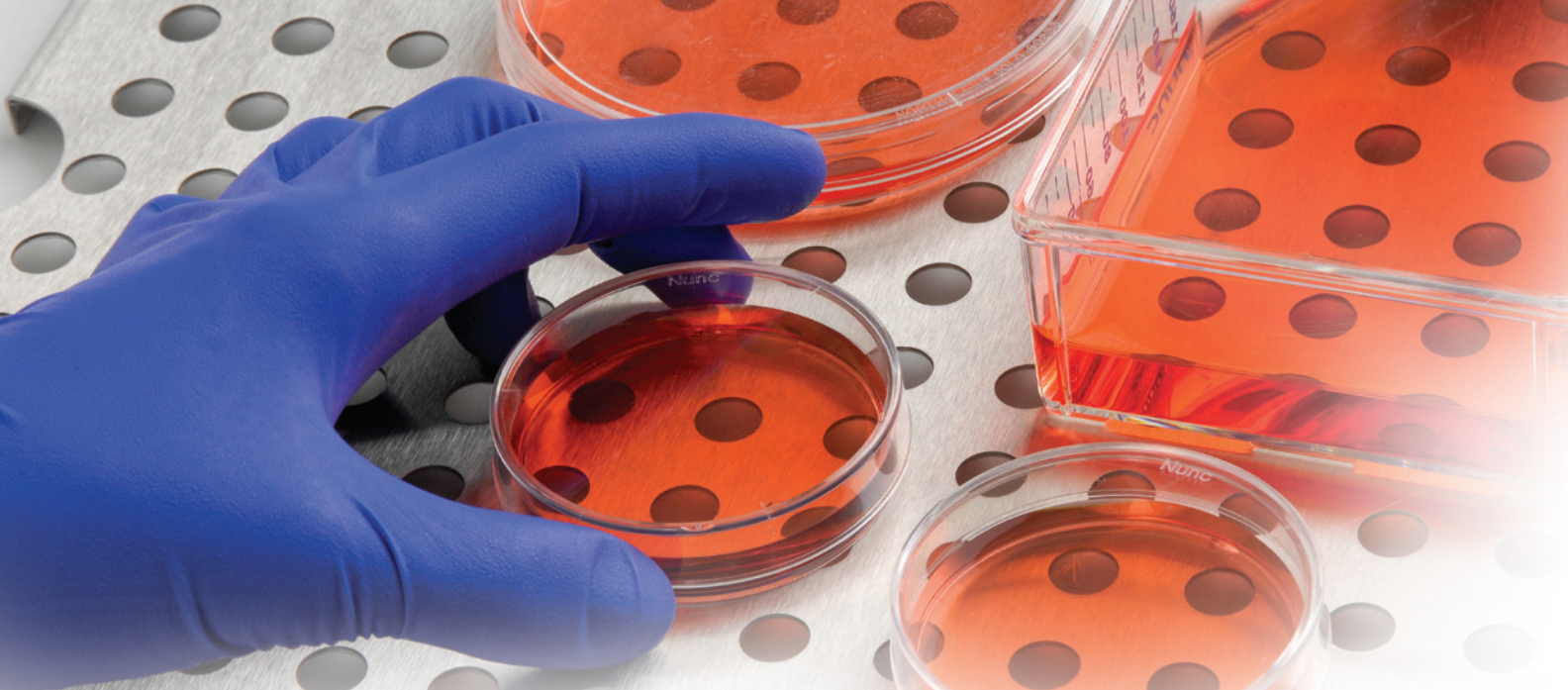
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* The increase in yield may vary depending on the type of cells cultured

Thermo Scientific™ CO_2 resistant shakers provide reliable around-the-clock operation ideally suited to keep your cells alive and flourishing within your working environment.
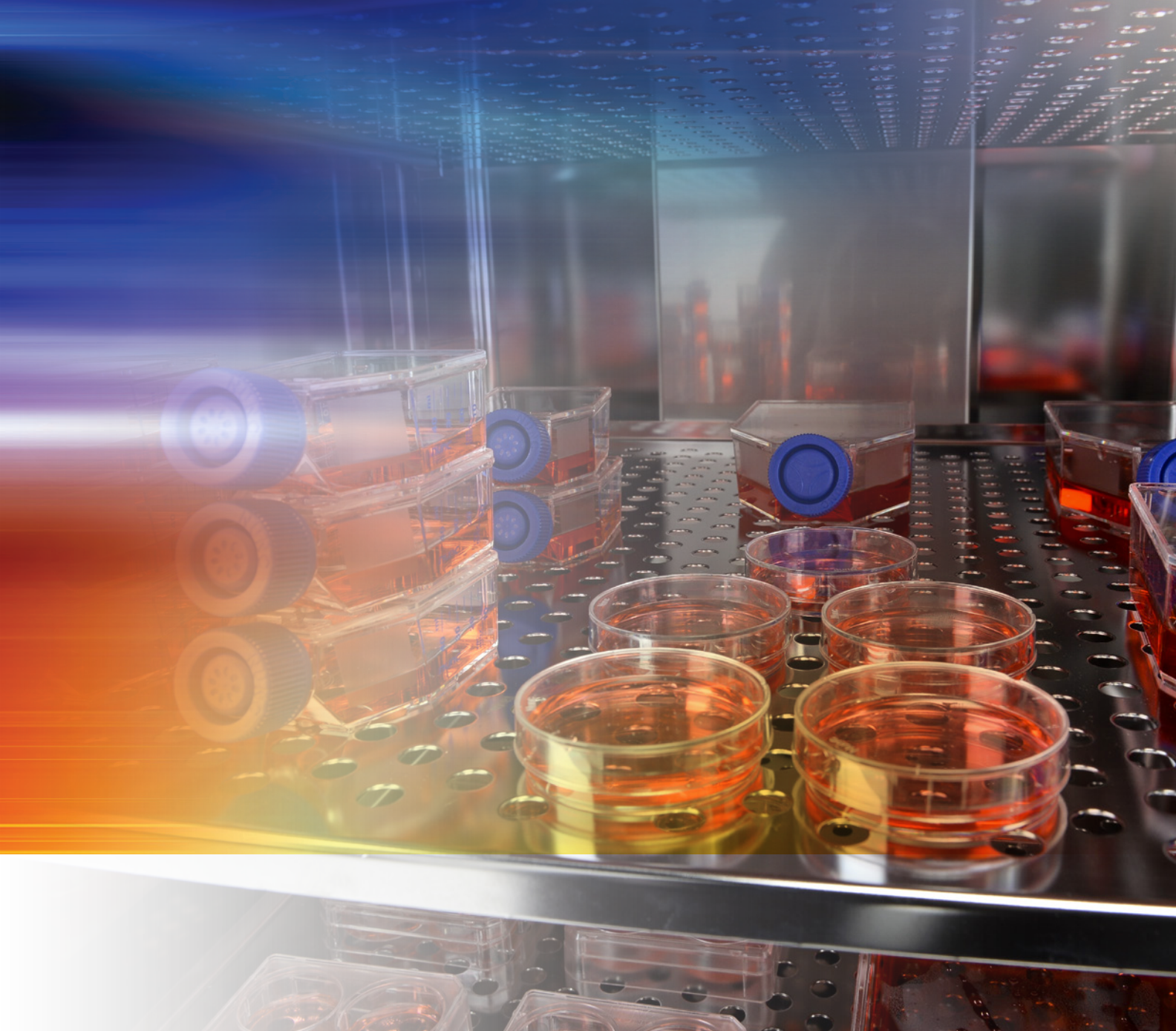
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Nordic/Baltic/CIS countries
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