thermoscientific



Thermo Scientific CO₂ Incubators

Discovery thrives in a culture of confidence





Discovery thrives in a culture of confidence

More scientists worldwide trust their valuable cultures to **Thermo Scientific** **CO2 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 autoclasiving and reassembly of components. The inside story is simple: our CO2 incubators let you culture with confidence. Day after day. Year after year.

Choose a CO₂ incubator

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

Thermo Scientific CO₂ incubators

			1 Select the optimal capacity and chamber design					
			Direct I	leat		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 au. 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 ac technolog	dvanced les	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	In-Chamber HEPA Air Filtration	•	(·)		•	•		
Prevention	100% Pure Copper Surfaces	O ¹	-2	•2	O ¹	O ¹		
	THRIVE Active Airflow		•					
Advanced Growth	External Humidity Source and Control		4					
Conditions	Cell Roll System			0				0
	Advanced O ₂ Control	71	0	0		0		
	iCAN Interface		•	•		•		
Simplicity	Stackability	•	•	•	•	•	•	
	Reversible Door Swing		•	•	•	•		
		page 8	page 10	page 14	page 15	page 16	page 17	page 18

Statistatio tentime

Optimized cell growth through advanced design and technology

Enhanced capacity

From small personal-sized incubators to large capacity models, there is a Thermo Scientific CO₂ 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

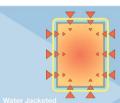
Choose the Ightweight convenience of direct heat technology with available high-temperature decontainmation or the added security of water-jacketed chamber designs for protection against unexpected power outages. Both are designed to provide procese, reliable control and tight uniformity values. All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

Solutions for the way you work

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



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



Water Jacketed

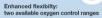
Unique triple wall construction provides outstanding temperature stability supplied by dual layers of water and high-quality insulation.

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.



Many cell cultures thrive best in CO₂ incubators with controlled levels of oxygen. Select an O₂ 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 inculture, in the

Choice of in-chamber CO₂ measuring technologies

CO₂ 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 rumove a potential source of contamination, models with a convenient oxterior reservoir are available to eliminate the water pan and allow replenishment of water without disrupting culturing activity. Active H 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 will peroviding security for your work-four 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 deaning 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 funcal mold and bacteria including mycoclasma
- 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 stainess steel incubators before but the comfort level you can have with the copper is simply smazles.

**Loosetic reasons with A wave of whosepers and in with all bress of mampalian cell loss includes a statement of the copper is simply and applications.

suspension, hybridomas and transformed stem cells,

9

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

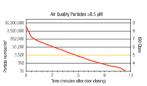
 Durability, reliability, and recyclability makes
- Durability, reliability, and recyclability makes copper a smart, sustainable choice



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 30second door opening.

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



Thermo Scientific Forma Steri-Cult CO2 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 CO₂ 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 CO₂ sensor



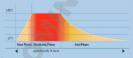
High-efficiency ISO Class 5 air purity

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 coening.



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 deaning protocols and protecting cultures and personnel.





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



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 CO₂ gas port. A water filter provides additional sample protection, and the inner door gasket is removable for easy cleaning.

Alphanumeric display shows temperature, CO₂ and rH with handy programming controls and audible/visual alarms.





3307	Steri-Cult OO ₂ incubator with external active humidification with ISO 5 HEPA filtration and	Stainless steal	IR	8.2 cu. ft.	115V 50/60Hz
3308				(232L)	230V 50/60Hz
3310				11.4 cu. ft. (323L)	115V 50/60Hz
3311	140° C sterilization cyle				230V 50/60Hz

Thermo Scientific Heracell VIOS 160i and 250i CO₂ 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 Scientificⁿ THRIVEⁿ 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 O₂ control with choice of 1-21% or 5-90% ranges



► Thermo Scientific Heracell VIOS 160i and 250i CO₂ Incubators

THRIVE active airflow



n-chamber fan gently and evenly distributes slean, humidfied air broughout the chambersuring all cells experience the same conditions without the breat 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 opening¹. In-chamber fan gently distributes clean, humidfied 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) CO₂ 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.

*Based on internal fasting with a 30 second door opening, recovery time calculated to 98% of starting value for temperature and CO₂ and 95% of starting value for humidity

► Thermo Scientific Heracell VIOS 160i and 250i CO₂ Incubators

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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 dearroom quality ISO Class 5 air within 5 minutes of routine door goening.

Easy-to-maintain 100% copper

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

		Average Positive Control*	Number Recovered*	Log Reduction*
Aspergitus arastiensis	16404	2,96x10 ⁴	NG**	-45
Escheriotia cor	25022	222x10"	NG	-4.3
Mycoplasma pheumoniae	15531	1,25x10°	NG	-6.1
Racifus atripriseus spores	51189	2,16x10 ⁷	NG	-7.3
Gentiacilus steamherricpinius spores	12980	4,81x101	NG .	-6.7
"Average based on 3 independs "" NG = No Growth	nt tests perfo	med on differe	int days.	

					votage
51030285		Stainless steel			120V 50/60Hz
51030287	Herapel VIOS 160i COs.	Stairless 51001			230V 50/60Hz
51030284	incubator	100% copper		5.8 cu. ft. (165L)	120V 50/60Hz
51030286		Tuura copper	TC180		230V 50/60Hz
51030964		Stainless steel	10100		120V 50/60Hz
51030966	Herapel VIOS 250i CO ₂	91811 MSS 21681		9.0 cu. ft. (255L)	230V 50/60Hz
51030963	incubator	100% copper			120V 50/60Hz
51030965					230V 50/60Hz
51030400		Stainless steel		5.8 cu. ft. (165t)	120V 50/60Hz
51030478	Herapel VIOS 160i CO;				230V 50/60Hz
51030401	incubator	100% copper			120V 50/60Hz
51030476		Tutana copper	IR180Si		230V 50/60Hz
51030992		Stainless steel	Intropal		120V 50/60Hz
51030994	Herapel 10S 250i CO;	2000 Bess greet		9,0 cu, ft, (255L)	230V 50/60Hz
51030991	incubator	100% copper		8,0 cu, ii, (255t)	120V 50/60Hz
51030993		Tours copper			230V 50/60Hz

►Thermo Scientific Heracell VIOS 160i and 250i CO₂ incubators with variable O₂ control

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

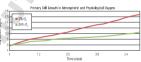
Stem cell researcher at biomedical research institute



Added culturing flexibility with variable oxygen control

Many cell types thrive best in CO₂ 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 "tif-gas") incultatives can generate conditions to help you cells grow fister and healther. With the Heracel VIOS CO2 incubator, you can select the incubator for your O2 range, simulate the youto (1-219) endiroriments for primary cell, stem cell and embryo research applications, or hyperetials (6-90%) condutions for research in Jung, retrials and other spessible villause.



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 180; tri-cas CO;		TC	5,8 cu, ft, (165L)	120V 50/60Hz
51030405	incubator with 1=21% 0 ₂ control	Stainless steel	B	3,6 U.J. II. [163L]	1207 30160112
51031047	Heracell VIOS 250 tri-cas 00y		TC	20 8 107713	120V 50/60Hz
51031160	incubator with 1-21% 0 ₂ control		B	9,0 00, 11, (2006)	
51030408	Heracell VIOS 160 tri-cas CO:		TC	5.8 cu. ft. (165L)	120V 50/60Hz
51030410	neutrator with 1=21% 0 ₂ control		B	SUB DU. II. (16OL)	J 1207 SURBURE
51031048	Heracell VIOS 250i tri-cas CO ₂	100% copper	TC	9.0 cu, ft. (255L)	40004 50 00010-
51031159	incubator with 1-21% 0- control		B	930 GU, II. (200L)	1207 bil/60Hz

"Acid tional configurations and 2007 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 O₂ control with choice of 1-21% or 5-90% ranges
- Choose reliable long-life TC or dual-beam IR CO₂ sensors



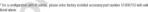
Exclusive Thermo Scientific™ ContraCon™ 90° C disinfection system

Our urique ControCon 90° of most heet on-demend decontamination you'de his seep on ione effective by multiple third party testing labils against jawde range of contaminants including baselies, modis, figural sporses and mycopleans to autocologic or too'c effective are needed: operation is push autocologic or too'c effective are needed: operation is pushbution smple, girll ack seel of require he removal of sensors or other comporters. ControCon simplifies cleaning and eliminates wind bit in distinction.

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 that traditional tray humidified incubators.

Model No.					
51026282	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	Stainless			120V 50/60H
51026280		steel	TC ⁴	5.3 cu. ft. (150 L)	230V 50/60H
51026283	Heracell 150i single chamber with ContraCon moist heat decontamination cycle	100% copper			120V 50/60H
51026281					230V 50/60H
51026331	Heracell 240i single chamber with	Stainless stool		8.4 cu. ft. (240 L)	120V 50/60H
51026330	ContraCon moist heat decontamination cycle				230V 50/60H
51026332	Heracell 240i single chamber with ContraCon moist heat decontamination cycle	100%			120V 50/60H
51026333		copper			230V 50/60H





Thermo Scientific Forma Steri-Cycle and Direct Heat CO₂ Incubators



Choice of two direct heat CO₂ 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 CO₂ control with choice of TC

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 fisating 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 chambles 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

or IR sensors

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

Model No.					Voltage
370		Stainless Steel	TC		120V 50/60Hz
371	Forma		16	6.5 cu. ft. (184 L)	230V 50/60Hz
380	Forma Steri-Cycle CO ₂ Incubator		IR TC		120V 50/60Hz
381					230V 50/60Hz
310					120V 50/60Hz
311					230V 50/60Hz
320			10		120V 50/60Hz
321			IR		230V 50/60Hz
190858			y (factory i	nstalled) for d	firect heat models



Thermo Scientific Forma Series 2 and Series 3 Water Jacketed CO₂ Incubators



ISO Class 5 HEPA filter airflow system

5 (Class 100) cleanroom air quality conditions in only

five minutes for continuous protection from unwanted

Individual O₂ display facilitates set-point and monitoring

measuring the effect of suppressed oxygen concentration.

of desired O2 levels in a range of 1-20%. Ideal for

contaminants from routine door openings.

Available oxygen control

upon their cultures.

In-chamber HEPA air filtration system provides ISO Class.

The best-selling Thermo Scientific CO₂ incubator for temperature stability

Thermo Scientific" Forma" Series 2 and Series 3 Water Jacketed CO₂ incubators are designed to deliver dependable thermal protection and quick recovery from swings in ambient temperature and power variations.

- Series 3 water jacketed CO₂ 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
- Removable humidity pan and choice of TC or IR sensors.

Performance after unexpected power loss ▶ ▶

Triple-wail construction offers outstanding temperature stability during a power disruption. Sixty minutes after power loss, the Formit Water Jacketed CO₂ incubator dropped only 1° C, maintaining the chamber's specified growing environment.



Model No.					Voltage
4110	Forma Series 3 Water Jacketed		TC		120V 56V60Hz
4111	CO ₂ incubator with ISO Class 5		10		230V 50V60Hz
4120	HEPA filtration and iCAN		IR		120V 50V60H
4121	loudracteen		165		230V 50V60H
4130	Forma Series 3 Water Jacketed	Stainless steel	TC IR	6,5 cu. ft. (184 L)	120V 50/60H
4131	CO ₂ incubator with 1–21% O ₂ control, ISO Class 5 HEPA fitration and iCAN touchscreen				230V 50V60H
4140					120V 50V60H
4141	Titration and it. AN touchscreen				230V 50/60H
3110			TC		120V 50/60H
3111	Forma Series 2 Water Jacketed CO ₂ incubator with ISO Class 5		IR		230V 50/60H
3120	HEPA filtration				120V 50/60H
3121					230V 50/60H
3130	Forma Series 2 Water Jacketed		TC		120V 50/60H
3131	CO _v incubator with 1–21% O _v		IR		230V 50V60H
3140	control, ISO Class 5 HEPA				120V 50V60H
3141	filtration				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)



Space-savings for small capacity needs

Ideal for space constrained labs, the Thermo Scientific Midi" 40 CO₂ 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 CO₂ incubator is supplied with four removable perforated shelves. Our advanced Thermo Scientific[®] Intralogic[®] Ill user interface simplifies daily operation and provides a bright, easy-to-read tripolay.

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 CO₂ 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 couratine or individual studies.



3403	Thermo Scientific		TC	1.4 cu. ft. (40L)	120V 50/60Hz
3404	Midi 40 CO ₂ incubator	Stainless steel			230V 50V60Hz

Thermo Scientific Large Capacity Reach-In CO₂ Incubators



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

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

Interior and exterior accessory receptacles provide a convenient power source

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

Leveling feet provide stability for added safety in the lab

Swivel, locking casters ensure easy mobility for installation and cleaning



Our Directed Airflow minimizes the risk of

product desiccation and loss, and improves temperature uniformity and recovery

Maximum volume for high-throughput requirements

The Thermo Scientific Large Capacity Reach-In CO₂ 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 humicity 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 refils.

Model No.	Description	Interior	Sensor	Volume	Voltage
3950	Thermo Scientific Large Capacity	Stainless steel	TC	00 - 0 - 00411	120V 50/60Hz
3951	Reach In CO ₂ Incubator	Starriess steet		29 cu ft. (\$21L)	230V 50/60Hz

Specifications and Ordering

	Forma Sterl-Cult 3310/3307	Heracell VIOS 1601/250	Herace I i 150i/240i
Chamber capacity	3310: 322.8 L (11.4 cu. ft.) 3307: 232.2 L (8.2 cu. ft.)	160k 165L (5.8 cu. ft.) 250k 255L (9.0 cu. ft.)	150k 150L (5.3 cu. ft.) 240k 240L (9.4 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 ln) 3307: 20.8 x 32.8 x 20.6 cm (52.8 x 83.3 x 52.3 ln)	160: 47 x 60.7 x 57.6 cm (18.5 x 23.9 x 22.7 ir) 250: 60.7 x 67.0 x 62.9 cm (23.9 x 26.4 x 24.8 ir)	150; 47 x 60,7 x 53 cm (18,5 x 23,9 x 29,9 m) 240; 60,7 x 67,0 x 58,3 cm (23,9 x 25,4 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)	160b 63.7 x 90.0 x 88.0 cm (25.1 x 35.4 x 34.6 ir) 250b: 77.4 x 96.8 x 93.4 bm (30.5 x 38.1 x 36.8 ir)	150: 63.7 x 86.7 x 76.6 cm (25 x 34 x 30.2 in) 240: 78.0 x 83.4 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)	160± 83 kg (183 lbs) 250± 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)	160k 42.3 x 44.5 cm (16.7 x 17.5 in) 250i: 56 x 50 cm (22.0 x 19.7 in)	150l: 42.3 x 44.5 cm (16.7 x 17.5 in 240l: 56 x 50 cm (22 x 19.7 in)
Construction	Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated
Number shipped/maximum	5/22	160: 3/10 250: 3/12	150: 3/10 240: 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
Joiformity	(+/-) 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 (93° C hold for 9h)
Humidity			
ri I range	>90% @ 37° C, with active control	≥ 93% © 37° C	>90% @ 37° €
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 reservo
002	<u> </u>		
CO ₂ range	0-20%	0-20%	0-20%
Control (readability and setability)	0.10%	0.10%	0.10%
CO ₂ sensor type	B	TC180/IR190Si	TC / IR (optional)
Sas inlet pressure required	15 PSIG (1.0 bor)	160: 12–15 PSIG (0.8–1 bar) 250: 13–15 PSIG (0.8–1 bar)	150: 12–15 PSIG (0.8–1 bar) 240: 13–15 PSIG (0.8–1 bar)
0;			
O ₂ control accuracy	n/a	(+/-) 0.2%	(+/-) 0.2%
0₂ range	n/s	1-21% or 5-90%	1-21% or 5-90%
Readability and setability	n/a	0.10%	0.10%
O _z sensor type	n/a	Ziroonium axide	Zirconium oxide
Gas inlet pressure required	n/s	160: 12–5 PSIG (0.8–1 bar) 250: 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	1601: 120 V, 50/60 Hz, 5.2 A 2501: 120 V, 50/60 Hz, 5.6 A	150: 120 V, 50/60 Hz, 5.2 A 240: 120 V, 50/60 Hz, 5.6 A
Alarm contacts	Standard	Standard	Standard
Data output	Optional RS-485, 0-1V, 0-5V, and	USB standard, optional 4-20mA	RS232, USB optional

Specifications and Ordering

	Forma Steri-Cycle Direct Heat	Forma Water Jacket Series 2 and Series 3		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 iri)	30,5 x 46,5 x 35,5 cm (12 x 14 x 14 in)	78,7 x 152.4 x 65,6 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 26.9 x 20 in Direct Heal: 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 iri)	96,5 x 203,2 x 83,8 cm (38 x 80 x 33 in)
Weight	Steri-Cycle: 117.9 Kg (250 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 iri)	34.9 x 29.2 cm (13.6 x 11.5 in)	77.7 x 65.5 cm (90.6 x 25.8 in)
Construction	Stainless steel, perforated	Stainless steel, perforated	Stainless steel, perforated	Type 304, 26 finish, solid stainless steel
Number provided/maximum	4/17	4/17	4	5/27
Sensor accuracy	(+/-) 0.1° C	(+/4) 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	0.116	0.1° C	0.1° C
Uniformity	(+/+) 0.3° C	(+/-) 0.2° °C°	(+/+) 0.4° C	(+/+) 0.3° C
Decon cycle temperature	Steri-Cycle: 140° C Direct Heat: n/s	n/a	n/a	m/a
Decon cycle length	Steri-Cycle: 12 h Direct Heat: n/s	u,a	n/s	n/s
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 of) standard pan	0.1 L (0.105 gt) standard pan	15.1 L (16 gf) reservoir
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 / (R.(ootlonal)	TC / IR (optional)	TC	TC
Gas inlet pressure required	15 PSI6 (1,0 ber)	15 PSI6 (1.0 bar)	15 PSIG (1.0 bar)	15 PSIG (1.0 bar)
O ₂ control accuracy	n/s	(+/-)0.1%	n/a	n/a
D ₂ range	n/a	1-20%	n/a	n/a
Readability and setability	n/a	0,10%	n/s	n/s
O ₂ sensor type	n/s	Fuel cell	n/a	n/a
Gas inlet pressure required	n/s	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
Deta output	optional RS-485, 0-1V, 0-5V, and 4-20 milliamp	optional RS-485, 0-1V, 0-5V, and 4-20 milliamp	PS-495	optional RS-485, 0=1V, 0=6V, and 4=20 mHamp

Options and Accessories

Part No.		Factory Installed	Customer Installed
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		•
1900115	3310 replacement shelf lot with 2 channel brackets		•
1900114	3907 replacement shelf lot with 2 channel brackets		•
1900172	3310 mini shelf rack		•
1900171	3307 mini shell rack		•
1900170	3310 sealed inner door kit, 6 doors	•	
1900166	Replacement inventory management label kit		•
1900160	HEPA filter replacement kit, includes a HEPA and one in-line filter		•
1900161	HEPA' VOC filer replacement kit, includes the HEPA' and one in-line filer		•
760210	Replacement, gas connection infine filters (10 pk)		•
1900153	3310/07 built-in gas guards to monitor CO ₂ , automatically switch from one cylinder to the other when supply is exhausted	•	
965010	CO₂ gas regulator		•
3050	Auto gas tank switcher, 120V 50V60HZ		•
191761	4-20 milliamp analog interface	•	
191762	0-5V analog interface	•	
191763	0-1V analog interface	•	







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

				Factory Installed	Customer Installe
51901139	180° C temperature resistant infrared (R180S) CO ₂ sensor with slicen MEMS emitter	•	•	•	S
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	•	•	•	
51901128	Stainless steel external cuter casing	•	•	•	
51901144	3 door inner gas tight screen (replaces single inner door configuration) for 160i	•		•	7
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-midth 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 2501	_			
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 250l		•	•	
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 1601 models	•			•
50148172	Stacking adaptor configured to stack a Heracel MOS on top of Heracel 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 2501 models		•		•
50148175	Stacking adaptor configured to stack a 255L on top of Heracell 240i		•		•
50141920	Raplacement in chamber HEPA filter	•	•		•

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







cking adapter for VIOS 160i models

Part No.	Description	150i	2406	Factory Installed	Customer Installed
Heracell 150i and 24	0i Factory Options*				
51900734	3-door gas tight screen, 3 interior glass doors for separate scoess	•	•	•	
51900387	6 Interior glass doors, gas tight, for separate access for Heracell 240 with stainless steel or copper inner casing		•	•	
51900733	Pi CO, sensor 1—20%, high temperature resistant, ContraCon safe, dual beam, suto 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	•	•	•	1-1
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		• /	•	
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)	A	•	•	
50076354	Bottle-turning device, 1 additional level		•		•
51900737	O ₂ control 1–21% exygen control with auto calibration using zirconia cell, solid glass inner door	•		•	
51900738	O ₂ control 5—90% oxygen control with suto calibration using zirconia cell, solid glass inner door	•		•	
51900739	O _c control 1–21% coygen control with auto call bration using zirconia cell, wigas light screen assembly	•		•	
51900740	O ₂ control 5–90% oxygen control with auto calibration using zirconia cell, w/gas bight screen assembly	•		•	
51900702	O ₂ control 1–21% oxygen control with auto calibration using zirconia cell, w/gas light screen assembly and 1/2 width stylves		•	•	
51900703	D ₂ control 5–90% oxygen control with sufo call bristion using zirconia cell, wigas tight screen assembly, and 172 width shelves		•	•	
Stands and Adapter					
50057161	Support frame for double chamber, 185 mm high (nith castors)	•			•
50051376	Support frame for double chamber, 200 mm high (nithout 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 swivet 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 casters for double chamber, 200 mm high		•		•
50081774	Support frame with castors for single chamber, 780 mm high		•		•
50068677	Stacking adapter for 240i models		•		•

Part No.	Description		250/240i	Factory Installed	Oustomer Inst
51900300	Bectrical configuration for Switzerland		•	•	
51900303	Bectrical configuration for Great Britain				- 7
51900306	Bectrical configuration for Italy	•	•	•	
51900449	Bectrical configuration for Australia	•		• 7	
51900481	Bectrical configuration for Denmark		•	• /-	
51900900	Bectrical configuration for China	•	•		
Interior Compon	ents for Shelves		- 4	1 7	
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	منبر	•		
50065796	Additional shelf, solid copper, half-width, with 2 support rails		•		
3429937	CO ₂ gas regulator, 2-stage for gas tank	•	•		•
3429942	N₂ 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 Rz, with visual-accustic, signal, central menitoring 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-accustic signal, central monitoring connection; for wail or table installation.		•		



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 S							
190648	Support stand with adjustable leveling feet, 165 mm high (6.5 in)			•	•		7 •
190647	Support stand with locking casters, 71 mm high (2.8 in)			•	•		•
1900063	Support stand with locking casters, 76 mm high (3 in)	•	•				•
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)	•	•	• 4	•		•
1900067	Incubator filter replacement kit, includes in-chamber HEPA, gas connection inline filter and access port filters	•	•	•			•
760200	Replacement HEPA' VCC Filter	•		•			•
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 coll, use with refrigerated water battivicirculator to operate incubator at lower than ambient temperatures			•	•	•	
237020	Copper humicity pen	•	•	•	•		•
190879	Copper shelf kilt, one shelf and brackets, customer installed	•	•	•	•		•
190650	8 segment inner glass door kit	•	•	•	•		•
190646	Security lock for standard inner glass door	•	•	•	•		•
190643					•	•	
1900587	Humidity (H) display, readable in 1% increments, includes low H programmable alarm (alerts you of need to add water to humidity pan).	74.4		•		•	
1900091	programmatic atom process you or rost a to use mater to harmony part					•	
190640			•		•	•	
1900589	Built-in gas guards to monitor CO ₃ , automatically switch from one cylinder to the other when supply is exhausted			•		•	
1900086	one cynnoer to the other when supply is exhausted	•				•	
190642	Built-in gas guards to monitor N., automatically switch from				•	•	
1900590	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 shuf-off valve (for use with Tri-gas models)			•	•		•
192078	4-20 mHamp, analog			•		•	
190512	4-20 milliamp, analog	•	•		•	•	
190543	0-5V areloc	•	•		•	•	
190544	0-1V analog	•	•		•	•	



Support stand (heavy-duty) powder coated steel base) with duel-wheel, swivellocking casters and laveling feet.



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



Copper humidity pans and shelves

Part No.	Description	Factory Installed	Customer Installe
290225	Stacking kit.		•
770001	Replacement gas inlet filters, 0.3 micron		
188053	Additional stainless steel shelf		•
Control Options			
1050	External automatic CO ₂ gas tank switching module, 120V, 60Hz		
65010	CO ₂ gas regulator		•
	Reach-In CO ₂ Incubator Accessories		
90239	Lexan inner door kit	•	
90591	Universal door cover for glass doors		
224139	Stainless steel shelf kit		•
224155	Perforated shelf kit		•
224161	Reinforced stainless stret shelf system, 150 lbs load, (2 per unit maximum and NOT for shakers)		•
900005	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 look	•	
1862	15 position cell roller, 120V, 60 Hz		•
90049	5 position add-on tier for cell rollers		•
00182	Reinforced floor/ramp to accommodate cell roller system		•
90777	Reinforced floor/ramp to accommodate cell roller system	•	
228077	Rotation alarm system for cell rollers	•	
228078	Battery back-up for cell rollers	•	
900000	Built-In CO, gas guard	•	
191596	Carboy kit, 7.8 L (2 gallon), autoclassible with relive, adaptor hose and mounting bracket		•
965010	CO ₂ gas regulator		•
190512	4-20 milliamp interface	•	
90523	RS-485 interface	•	
190543	0-5V intertace	•	
190544	0-1V intertace	•	
50121515	Rigas tester with travel case (for advanced calibration and testing purposes)		•
50145789	Rigas tester for both CO ₂ and O ₂ levels		•
ATOLES	Evrite risc tester withfor hasin relibration and testing numbers:		



Replacement furite COs fluid





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