CO$_2$ incubators

Heracell 150i and 240i CO$_2$ Incubators

Intelligent design, superior cell growth

thermo scientific

Surround your valuable cultures with an environment you can trust

Features that maximize safe, dependable cell growth

Gas sensors

For precise and dependable automatic CO_2 control, you can choose between thermal conductivity (TC) or our patented dual beam infrared (IR) sensor technology, based upon your preferences and experimental needs.

TC sensors help provide accurate CO_2 control in applications where temperature and humidity values are consistent. IR sensors are recommended where temperature and humidity values fluctuate frequently. Both sensors are thermostable, do not require removal for cleaning, and may remain in place during our exclusive ContraCon decontamination routine.

Optional O_2 control

For those seeking to establish hypoxic or hyperoxic culturing conditions, the Thermo Scientific™ Heracell™ CO_2 Incubators offer two optional O_2 control ranges. Choose between 1 to 21% O_2, or a wide-range setting from 5 to 90% O_2. The advanced maintanence free sensor technology is calibrated automatically (auto-cal) and can remain in place during our high temperature ContraCon decontamination.

Integrated gas guard

An optional, integrated gas tank switcher for CO_2 and O_2/N_2 allows the connection of two gas supplies. When the first supply is empty, the controller switches automatically to the second supply.
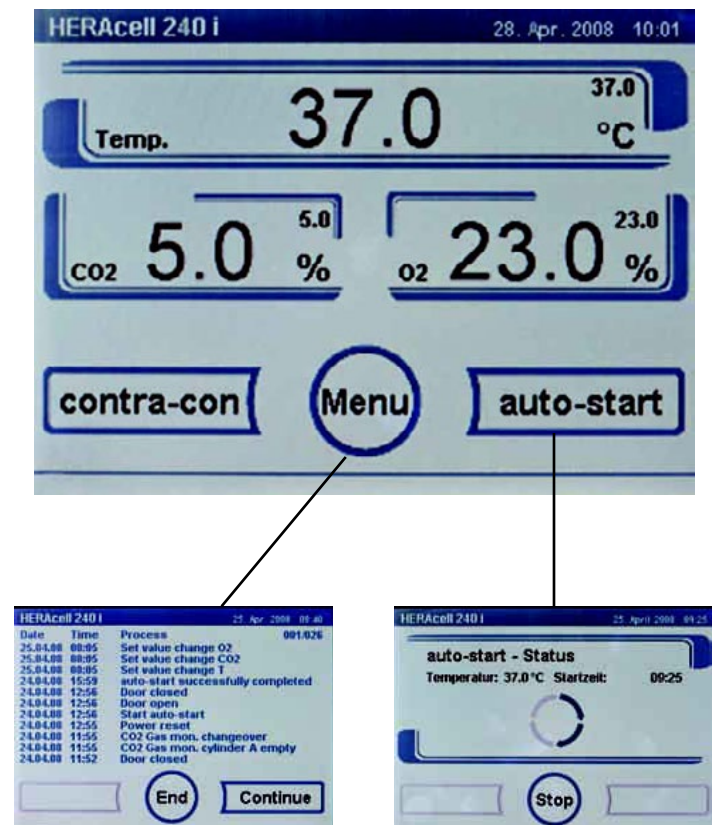
Proprietary humidity system for faster recovery rates

Our Heracell i Incubator incorporates a unique integral humidity water reservoir that facilitates a high relative humidity (rH) and allows rapid recovery of optimal humidity level after door openings. A water level sensor indicates when a refill is needed – via a convenient prompt on the touchscreen display – to avoid the desiccation of important cultures. This pan-less system helps reduce handling and provides recovery rates up to five times faster than ordinary tray humidified incubators, due to:

- A surface area larger than ordinary humidity water pans (provided by a water reservoir with inclined and rounded corners)

- A proprietary floor heating system that operates after door opening

- Direct heat-transfer from heated floor to humidity reservoir

- Short humidity recovery times are critical to cell growth – especially when the incubator door is opened frequently or when low volumes of media are used

- Water level sensor is supported with a prompt on the touchscreen display

iCAN touchscreen improves visibility and control of important incubator information helping you to achieve your culturing goals

The Thermo Scientific™ iCAN™ touchscreen simplifies operations and enables rapid access of important information for each critical parameter in the incubator. iCAN provides trend analysis for convenient evaluation of your unit's performance. The touchscreen allows for alert notifications such as when gas supply is low, or when there are changes to the cell culture environment.

Intuitive iCAN touchscreen interface

Designed for 24/7 protection against contamination

ContraCon – 90°C moist heat decontamination

Exclusive to all Heracell i Incubators is the ContraCon 90°C moist heat decontamination cycle. ContraCon is an on-demand routine that is proven effective in eliminating bacteria, molds, fungal spores and mycoplasma. ContraCon simplifies cleaning and minimizes variability in disinfection. Also, the cleaning process does not require the disassembly and removal of sensors, hardware or other components for separate autoclaving.

ContraCon has been independently proven to be effective against an assortment of commonly encountered contaminants, including:

- Bacillus subtilis
- Bacillus stearothermophilus (USP 23)
- Enterococcus faecalis
- Escherichia coli
- Pseudomonas aeruginosa
- Staphylococcus epidermidis
- Aspergillus niger

Unique gas-tight segmented door option

For additional contamination protection, all Heracell i Incubators offer an optional three-door (Heracell 150i Incubator) or six-door (Heracell 240i Incubator) inner glass door assembly, which allows access to defined sections of the incubator without disturbing the entire inner atmosphere. This minimizes recovery times, gas usage and the risk of contamination.

Less means more when it comes to cleaning and maintenance

Heracell i Incubators have a completely smooth inner casing with rounded corners, reducing unnecessary internal surfaces where contamination can hide:

- More effective cleaning and disinfection
- Surfaces that could be easily contaminated, such as ceiling panels, air ducts and screws are avoided
- High-quality electropolished stainless steel finish

100% pure naturally effective copper interior available

The Heracell i Incubators offer naturally effective copper interiors that enable maximum protection against contaminants potentially introduced through door openings or sample handling. Ideal for shared-use environments, copper facilitates non-stop bactericidal and fungicidal properties on contact.

- Chamber, fan and shelving systems are constructed of 100% pure naturally effective copper
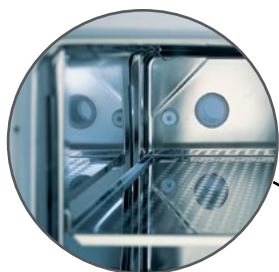- No ineffective copper alloys or plating finishes

Secured

Our ContraCon moist heat decontamination cycle is proven to eliminate contaminants, for simple and reliable cleaning.

Access port

Heracell i Incubators are supplied with a 42 mm (1.6 in) access port as standard. This allows cables, plugs and tubing to be easily passed into or out of the chamber.
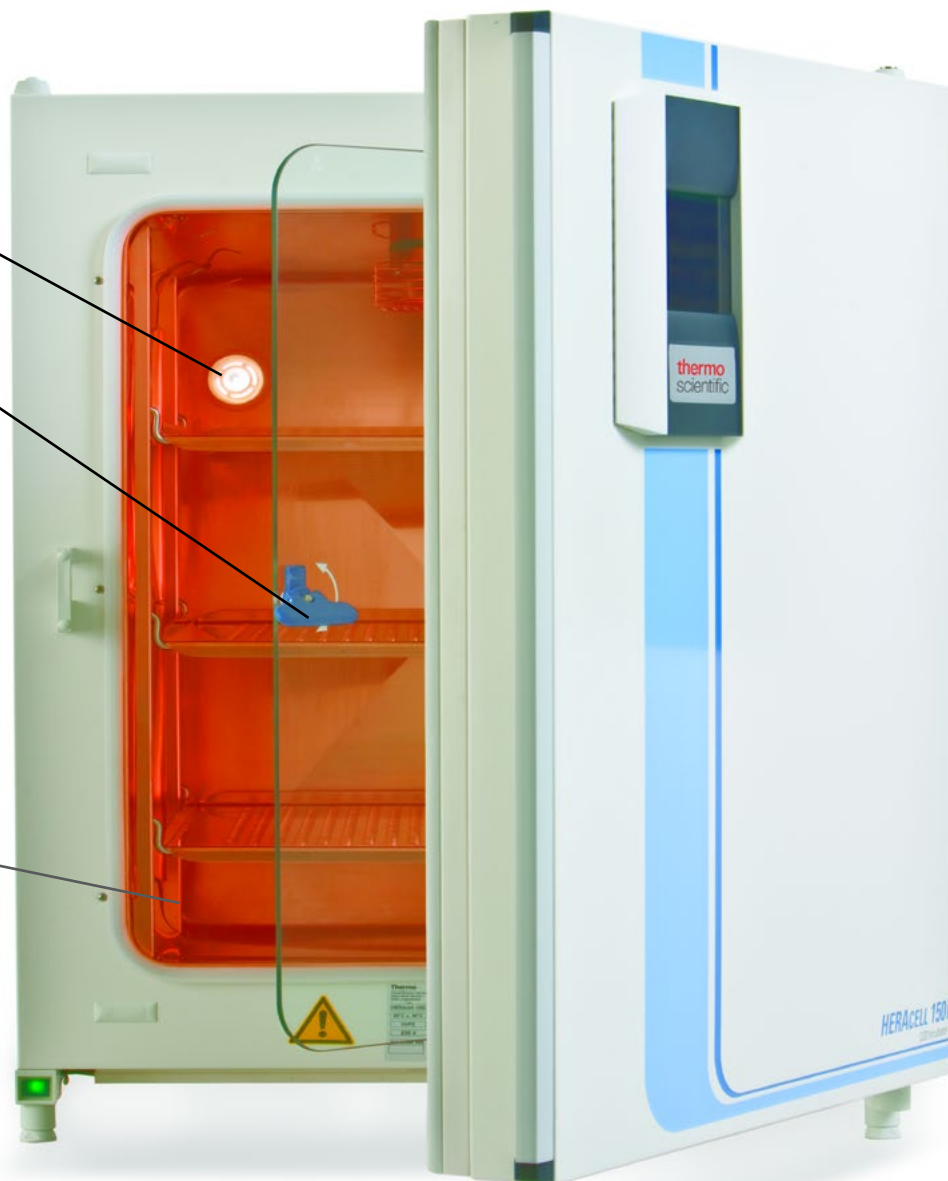
Glass doors have a reliable door latch

Preventing the inner door from accidentally not being closed and compromising culture conditions.

Heracell shelves offer integrated tip protection

Shelves slide easily in and out without tipping, offering secure access to cultures further back in the chamber.
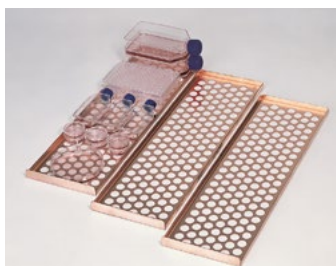
Flexible setup

Doors can be set up for left- or right-handed use to optimize the work space in your laboratory. All door gaskets can be removed by hand and have smooth surfaces for easy cleaning.

Options and accessories

Thermo Scientific™ Heratrays Shelves

Heratrays are shelves for the convenient transportation of your cultures and can be used to divide incubator shelves up to four sections. They work well with a three or six inner glass door configuration. Heratrays are available in stainless steel or copper.

Thermo Scientific™ IR-CO$_2$ Gas Tester

The handheld IR-CO$_2$ gas tester is equipped with a maintenance-free infrared cell to monitor CO$_2$ concentration inside the chamber. Data download and calibration functions are possible by using optional PM-COM software. The IR-CO$_2$ gas tester performs to GMP/GLP standards.

Support frames

The carts help provide protection against floor contamination. Choose between a height of 200 mm (8 in) or 780 mm (31 in). The support frames can also be castor-mounted for easy maneuverability.

Half-width shelves

These can be used to subdivide the Heracell 240i Incubator interior to reduce the possibility of mixing up samples, especially when there are multiple users.

Unique roller bottle system

The Heracell 240i Incubator can be equipped with up to four rows of bottle-turning devices for roller bottles between 58 to 186 mm in diameter, each with independent speed control.

Each unit is lightweight and readily stackable with appropriate hardware.

Technical specifications

Type	Unit	Heracell 150i model	Heracell 240i model
Dimensions			
Internal volume	L	150	240
	cu. ft.	5.3 cu.ft.	8.4 cu.ft.
External (w x h x d)	mm	637 x 867 x 782	780 x 934 x 834
	inch	25.1 x 34.1 x 30.8	30.7 x 36.8 x 32.8
Internal (w x h x d)	mm	470 x 607 x 530	607 x 670 x 583
	inch	18.5 x 23.9 x 20.9	23.9 x 26.4 x 23.0
Weight (excl. accessories)	kg	70	81
	lbs.	154	178
Shelves			
Shelves full width (w x d)	mm	423 x 465	560 x 500
	inch	16.7 x 18.3	22.0 x 19.7
No. of shelves (standard/maximum)		3/10	3/12
Max. load per shelf/total load	kg	10/30	10/30
	lbs.	22/66	22/66
Shelves half width (w x d)	mm	–	260 x 500
	inch	–	10.2 x 19.7
No. of shelves (standard/maximum)		–	6/16
Max. load per shelf/total load	kg	–	5/30
	lbs.	–	11/66
Material			
Interior chamber		stainless steel/solid copper	stainless steel/solid copper
Shelves, fan impeller		stainless steel/solid copper	stainless steel/solid copper
ContraCon			
ContraCon decontamination routine		verified by accredited laboratories	verified by accredited laboratories
Decontamination phase, on all surfaces °C/hrs	°C/hrs	90/9	90/9
Period (ambient temperature 20°C)	hrs	25	25
Efficiency spectrum		bacteria, fungi, spores (USP 23), mycoplasma	bacteria, fungi, spores (USP 23), mycoplasma
Temperature		**Air jacket temperature control**	**Air jacket temperature control**
Temperature control range	°C	Ambient +3 to 55	Ambient +3 to 55
Temperature deviation, time[2]/spatial[2]	K	± 0.1 / ± 0.5	± 0.1 / ± 0.5
Ambient temperature range	°C	+18 to 33	+18 to 33
Humidity			
Constant humidity[3]	%rH	95 ± 3	95 ± 3
Fill amount/water quality	L	max. 3 distilled/autoclaved and demineralized	max. 4.5 distilled/autoclaved and demineralized
Fill amount/water quality	L	max. 3 distilled/autoclaved and demineralized	max. 4.5 distilled/autoclaved and demineralized

Technical specifications

Type	Unit	Heracell 150i model	Heracell 240i model
CO_2			
Measure and control range	Vol – %	0 to 20	0 to 20
Control accuracy	Vol – %	± 0.1	± 0.1
Inlet pressure	PSIG/bar	12–15 PSIG (0.8–1 bar)	13–15 PSIG (0.8–1 bar)
Gas purity	%	99.5, medical quality min.	99.5, medical quality min.
CO_2 sensor type		TC / IR (optional)	TC / IR (optional)
O_2			
Measure and control range	Vol – %	1 to 21 / 5 to 90	1 to 21 or 5 to 90
Control	Vol – %	± 0.1	± 0.1
Inlet pressure	PSIG/bar	12–15 PSIG (0.8–1 bar)	13–15 PSIG (0.8–1 bar)
Gas purity	%	99.5; industrial quality min.	99.5; industrial quality min.
O_2 sensor type		Zirconium oxide	Zirconium oxide
Electrical Data			
Rated voltage	V	1/N/PE AC; 230 (120)	1/N/PE AC; 230 (120)
Rated output	kW	0.58 (0.62)	0.64 (0.65)
Rated frequency	Hz	50/60	50/60
Heat emission to environment at 37°C	kWh/h	0.06	0.07
with ContraCon	kWh/h	0.11	0.25
Alarm contacts		Standard	Standard
Data output		RS232, USB optional	RS232, USB optional

[1] Ambient temperature.
[2] Determined according to DIN 12880 for the standard configuration. For details refer to calibration instructions.
[3] The relative humidity inside the incubator may increase during incubation of open culture vessels.

Ordering information

Standard equipment	Description	Cat. No. Heracell 150i model	Cat. No. Heracell 240i model
FDA Class II Medical Device for IVF: Not available in all regions			
Heracell Incubator	stainless steel inner chamber, 230 V, 50/60 Hz	51026280	51026333
Heracell Incubator	stainless steel inner chamber, 120 V, 50/60 Hz	51026282	51026331
Heracell Incubator	solid copper inner chamber, 230 V, 50/60 Hz	51026281	51026334
Heracell Incubator	solid copper inner chamber, 120 V, 50/60 Hz	51026283	51026332
General purpose use			
Heracell GP Incubator	stainless steel inner chamber, 230 V, 50/60 Hz	51032719	51032875
Heracell GP Incubator	stainless steel inner chamber, 120 V, 50/60 Hz	51032871	51032877
Heracell GP Incubator	solid copper inner chamber, 230 V, 50/60 Hz	51032720	51032876
Heracell GP Incubator	solid copper inner chamber, 120 V, 50/60 Hz	51032872	51032878
Options (factory installed: order with standard equipment)			
Door hinged	left	51900293	51900293
IR-CO_2 sensor		51900733	51900733
O_2 control	Vol-% 1 to 21 incl. three gas tight inner doors	51900739	–
O_2 control	Vol-% 5 to 90 incl. three gas tight inner doors	51900740	–
O_2 control	Vol-% 1 to 21 incl. six gas tight inner doors and half-width shelves	–	51900702
O_2 control	Vol-% 5 to 90 incl. six gas tight inner doors and half-width shelves	–	51900703
3 gas tight inner doors[2]		51900734	–
6 gas tight inner doors[2]		–	51900387
Half-width shelves, stainless steel		–	51900358
Half-width shelves, solid copper		–	51900357
Full-width shelves, stainless steel		–	51900753
Full-width shelves, solid copper		–	51900754
Gas guard CO_2		51900735	51900735
Gas guard O_2/N_2		51900736	51900736
Roller bottle system	One level (replacing one shelf)	–	51900572
	Two levels (replacing two shelves)	–	51900573
	Three levels (replacing three shelves)	–	51900574
	Four levels (replacing three shelves)	–	51900614
	Factory installed outlet option for field retrofit of up to 4 levels (comes with 3 shelves)	–	51900732
USB Interface	For data documentation	51900930	51900930

Ordering information

Standard equipment	Description	Cat. No. Heracell 150i model	Cat. No. Heracell 240i model
Upgrade kit (field installed)			
3 gas tight inner doors[2, 3]	for segmented access for stainless steel/copper incubator	50115496	–
6 gas tight inner doors[2, 3]	for segmented access for stainless steel/copper incubator	–	50115495
Shelves, half-width, stainless steel	instead of full-width shelves	–	50067226
Shelves, half-width, copper[3]	instead of full-width shelves	–	50067227
Retrofit kit IR sensor[3]		50054735	50054735
Change door hinge[3]		50116852	50116852
USB interface[3]		50116853	50116853
Retrofit kit door lock		50072430	50072430
Accessories			
Support frame	200 mm / 7.9 in (without castors)	50051376	50065754
Support frame	185 mm / 7.3 in (with castors, height incl. castors)	50057161	50067224
Support frame	780 mm / 30.7 in (without castors)	50051436	50065753
Support cart with drawers/castors	780 mm / 30.7 in, three drawers, with four castors	50056459	50081774
Castor set	100 mm / 3.9 in, four castors for support frames no. 50051376, 50051436, 50065753 and 50065754	50052528	50052528
Stack adapter	for 150i unit: to stack up with BB16	50051938	–
	for 240i unit: to stack up with BB 6220 or B 5060/B 5061	–	50066094
	for 240i unit: for stacking two Heracell 240	–	50068677
Heratray, stainless steel	shelf tray 1/2 width; two pieces	50058672	–
	shelf tray 1/3 width; three pieces	50051913	50065805
	shelf tray 1/4 width, four pieces	–	50065807
	shelf tray 1/2 width for half-width shelf, four pieces	–	50065809
Heratray, all copper	shelf tray 1/2; two pieces	50061050	–
	shelf tray 1/3 width; three pieces	50051914	50065806
	shelf tray 1/4 width, four pieces	–	50065808
	shelf tray 1/2 width for half-width shelf, four pieces	–	50065810
Additional shelf, full-width	stainless steel, incl. two support bars	50051909	50065793
	stainless steel, reinforced, incl. two support bars	–	50077367
Additional shelf, half-width	stainless steel, incl. two support bars	–	50065795
Additional shelf, full-width	copper, incl. two support bars	50051910	50065794
	copper, reinforced, incl. two support bars	–	50077365
Additional shelf, half-width	copper, incl. two support bars	–	50065796
IR-CO_2 Gas Testing Equipment	IR gas tester with travel case (for advanced calibration and testing purposes)	50121515	50121515
	IR gas tester for both CO_2 and O_2 levels	50145789	50145789
	five spare inlet port filters	50060287	50060287

1. Standard equipment includes air-jacket heating, ContraCon decontamination routine, right hinged door.
2. Without inner glass door. Our recommendation: apply 6 gas tight inner doors only in combination with half-width shelves or Heratrays.
3. Fitted by service engineers.

Learn more at **thermofisher.com/co2**

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