Thermo Scientific Forma® Steri-Cult® CO_2 Incubators

High volume culturing and ultimate contamination control

Thermo Scientific Forma Steri-Cult CO_2 Incubators
Ultimate contamination control for ideal culturing conditions

The innovative Thermo Scientific Forma Steri-Cult brings leading edge technology into your lab, combining the most advanced components available into a single incubator. With IR CO_2 sensor, precise microprocessor controls, active humidity control, HEPA air filtration and high temperature decontamination capability, its reputation for quality is unmatched, with researchers who demand the best for their work.

- **Maximum Contamination Control** is provided by minimizing the risk of airborne, waterborne and surface contaminants. Steri-Cult features a validatable in-chamber HEPA air filtration system which continuously removes particulates and maintains your important cultures in cleanroom-like Class 100 air quality conditions. Cleaning protocols are simplified with an on-demand 140ºC high temperature sterilization cycle, which reliably eliminates contamination from all internal surfaces, and with a unique design eliminating standing water from within the Steri-Cult, there is no opportunity for waterborne contaminants to threaten your research. No other incubator provides the level of protection for cultures and personnel that the Steri-Cult offers.
- **Active Humidification System** – featuring an exclusive external humidity reservoir, the Steri-Cult allows you to control humidity levels accurately, with no water pan to manage, eliminating a primary breeding ground for contaminants inside an incubator.
- **Largest Stackable Culturing Capacity Available** with two high capacity chamber sizes of 8.2 and 11.4 cu.ft.to choose from, Steri-Cult gives you more room to grow.

LARGE CAPACITY
Steri-Cult is stackable to maximize space (hardware included as standard)

Ultimate Contamination Control – Minimized risk of airborne and waterborne contamination

Designed for easy cleaning

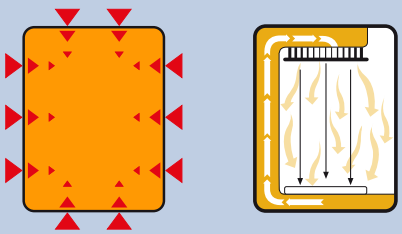
- Polished stainless steel interior with coved corners is easy to clean and sturdy shelves and supports can be readily removed without tools for when desired.
- Microbiological filters on gas inlet, sample port, and water fill bottle's lid.
- Inner door gasket is removable and cleanable, and adjusts continually to ensure a tight seal.
- No internal humidity water pan to manage or disinfect.
- Proven high heat sterilization system reliably destroys all mycoplasma, fungi, molds, yeast bacteria even hard to kill spores.

100 % HEPA filtration for rapid response class 100 air quality

- The patented in-chamber HEPA air filtration system, continuously filters the entire chamber volume every 60 seconds, reducing particulates to Class 100 cleanroom levels, to preserve your aseptic culturing environment.
- The HEPA filter entraps particulate air contaminants and prevents their escape. Airborne contaminants are the primary source of contamination in most cell culture lab settings. Efficiency and long term effectiveness of the HEPA filter Airflow System protects your cultures and minimizes downtime.
- Optimized air flow system design will not interfere with samples or incubator function.
- Class 100 air quality conditions are achieved within 5 minutes following a routine door opening.

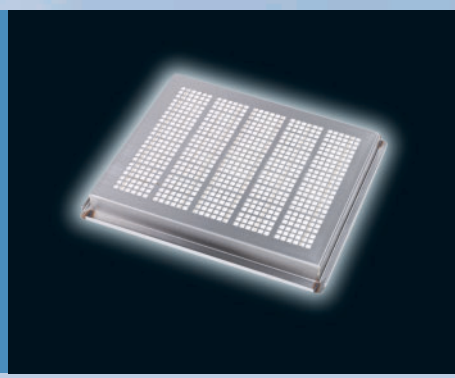
- *Volatile Organic Compounds (VOC) filtration system*
  An optional built-in VOC filtration system removes volatile organic vapors which could pose risk to sensitive cultures. Its molecular sieve technology captures potentially toxic chemicals commonly found in products such as lab solvents, cleaning agents and plastics, which may find their way into the incubator.
- This easily installed, low maintenance filtration system is more effective and longer lasting than activated charcoal systems in high humidity conditions, such as in a CO_2 incubator.
- Examples of chemicals/vapors filtered include alcohols (ethanol and methanol), alkanes (decanes, heptanes, hexanes), aromatics (toluene, xylene, benzene, styrene), and olefins (cyclohexane).

Uniform direct heat Steri-Cult chamber

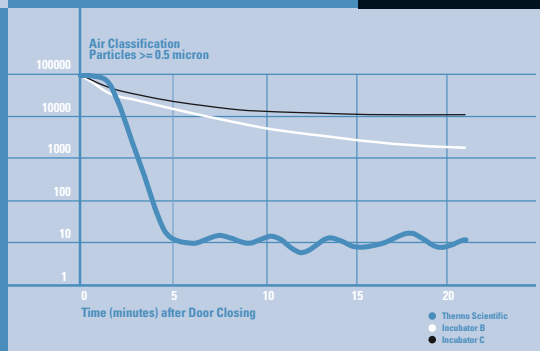


Validatable Class 100 air quality
Product yields and reliability can be affected by airborne contamination, costing you time and money. Particulates are reduced to cleanroom levels, minimizing the risk of product loss and downtime.

HEPA filter



AIR QUALITY DEFINED
Federal Standard 209E and International Standard ISO 14644-1 define air quality classifications (e.g., Class 1, 10, 100 and ISO Class 1, 2, etc.). The Federal Standard classification number is the maximum allowable number of particles 0.5 microns and larger per cubic foot of air. ISO Class 2 correlates most closely to Federal Standard Class 100.



Particulate count reduction in a Steri-Cult with Class 100 HEPA filtration versus competitive units with non-rated HEPA filtration systems

On Demand Sterilization Cycle
for event based sterilization with proven reliability, there is no substitute for high temperature to erradicate unwanted microbial contaminants. Steri-Cult incorporates a convenient automatic sterilization program at 140°C, to simplify your cleaning procedures.

Easy to Use

- Activate program with the touch of a button. Thermo Scientific Enviro-Scan® messaging center guides you through the entire process… no chance for error.
- Simply remove the HEPA filter and RH and IR sensors prior to activating the cycle.

Fast

- Convenient overnight sterilization with limited downtime (approximate cycle length 14 hours).
- Post-cycle cleanup is not required, saving time. The incubator returns to your regular operating conditions at the end of the cycle.

Safe

- Audible alarm activates if the outer door is opened during the cycle and the temperature is 60°C (140F) or greater, ensuring safety in the lab.
- Access code prevents accidental initiation of the cycle or changes to the operating parameters.

Effective

Unlike UV decontamination systems and manual disinfection processes, heat sterilization destroys all forms of microbial contamination easily and with certainty.

External humidification system

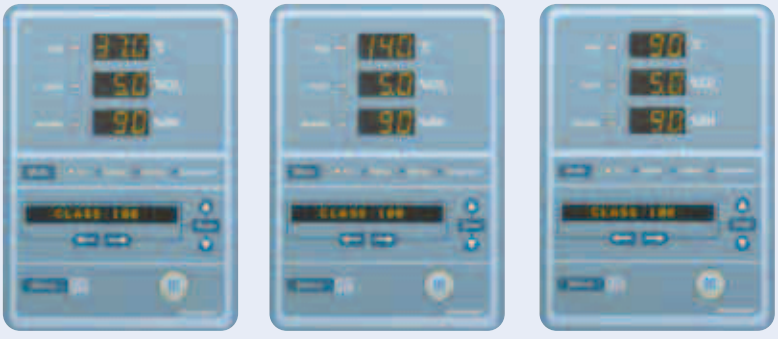
- Humidification water supply is located outside the chamber, reducing the risk of waterborne contamination in the culture area.
- No water pan to check or handle, no relying on a mechanical switch on a humidity pan to warn you that water is low.
- At-a-glance water level monitoring eliminates the need to open the incubator's outer and inner doors, reducing the risk of contamination.
- Blue backlighting attracts your eye and serves as a subtle reminder to check the humidity supply (light blinks if water is low or water fill bottle is empty).

The Cycle Starts with the Press of a Button!
During the heat sterilization process, the Microprocessor Control/Monitoring System's message center guides you through the cycle with start-up and cycle status messages. The three sterilization cycle phases are heat, sterilizing (hold), and cool.

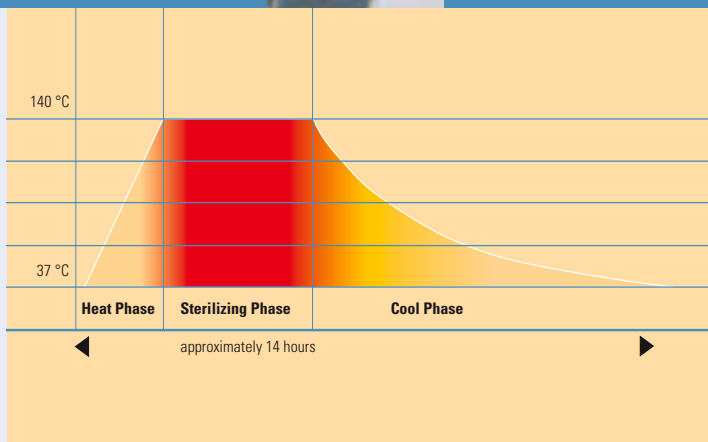
Heat Phase – Incubator is ramping to the heat sterilization temperature

Sterilizing Phase – Chamber has reached the sterilization temperature and all microbial life is destroyed

Cool Phase – Incubator is cooling to normal operating temperature; you are then prompted to replace the HEPA filter and sensor, if applicable



Sterilization temperature profile



Snap-open humidification chamber provides convenient access to the water fill bottle, ensuring ease of maintenance and less disturbance to your cultures.

Thermo Scientific Enviro-Scan Microprocessor Message Center

Displays Temp, CO_2, and RH, includes handy programming controls, and provides the peace of mind of audible/visual alarms and a silence button

Heat Indicator and Temp Display – Lights when heaters are on and displays the temperature

Run – Normal operating mode, message changes to describe alarm conditions and status updates

Inject Indicator and CO_2 Display – Lights when CO_2 is being injected and displays the percent CO_2

Humidity Indicator and RH Display – Lights when humidity is required, displays percent humidity

Mode – Select Run, Settings, Calibrate, or Configuration mode

Settings – Set temp, overtemp, CO_2, RH

Configuration – Configure Audible On/Off, Access Code, Remote Alarm Contacts, Tracking Low Temp Alarm, Tracking High and Low CO_2 Alarm, Tracking High and Low RH Alarm, Replace HEPA Alarm Configuration, and the following options: RS-485 Interface, Automatic Tank Selector

Message Center – Easy-to-read, alpha-numeric LED displays setpoints, CLASS 100 during normal operation, and other messages

Alarm Silence and Indicator – Silences the alarm and indicates (pulses on/off) an alarm condition

Conveniently Located Chamber Gas Sample Port

Programming Buttons

Optional Built-In Datalogger – Designed to meet U.S. FDA guidelines cGLP 21 CFR Part 58, Software Validation 21 CFR Part 820, and Electronic Records 21 CFR Part 11

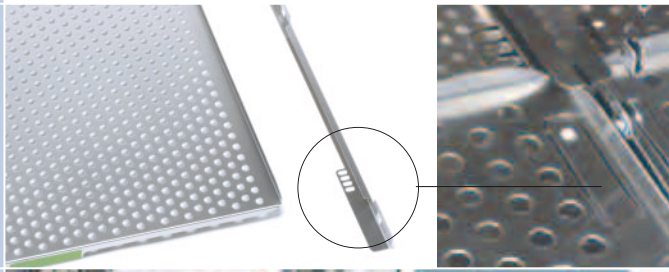
Scroll for Program Parameters

Sterilization Cycle Button – Starts the sterilization cycle (press and hold)

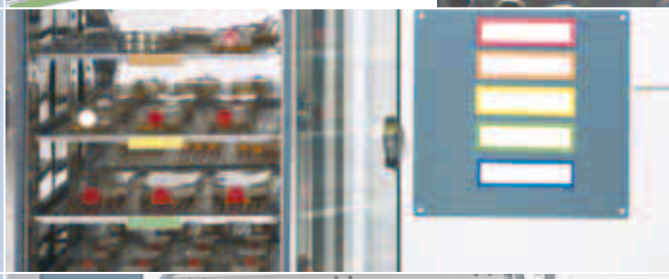
Calibrate – Calibrate temp, CO_2, RH

Options and Accessories

Easy gliding shelving system with "Soft Stop"
Centralized pull point requires less effort to slide shelves out. "Soft Stop" indicates when the shelf is fully extended so you know when to stop sliding the shelf forward.

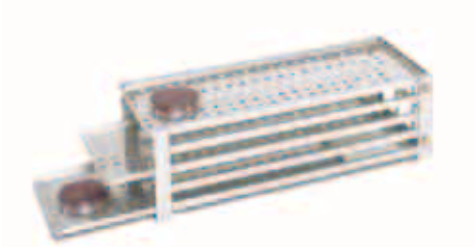


Color-coded inventory management
Our unique inventory management kit includes five color-coded magnets[1] and shelf labels. You can establish an organized inventory system, which is especially helpful when sharing the incubator. The reusable magnets on the inside of the outer door allow you to write (with a dry erase marker) and correlate notes to samples on a specific shelf, easily making changes as needed.



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

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



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

Handy, Tilt-Out Storage Pocket
Pocket on the front of the incubator can be used to keep inventory magnets, markers, a manual, etc. within easy reach.

Built-In Datalogger[2]
You can monitor your results and avoid opening the incubator door unnecessarily and disturbing your cultures.

[1] To color code more than five shelves, order Replacement Inventory Management Kit No. 1900166.
[2] Without evaluation software

Thermo Scientific Steri-Cult® CO_2 incubators

Description	Cat. No.
Accessories are customer installed unless indicated otherwise. We will also manufacture custom accessories to meet your specific requirements. Contact us for details.	
Filters*	
Replacement HEPA Filter	760207
HEPA Filter Replacement Kit, includes a HEPA and one in-line filter	1900160
HEPA[2] VOC Filter	760208
HEPA[2] VOC Filter Replacement Kit, includes the HEPA[2] and one in-line filter	1900161
Door Kits and Shelving	
Sealed Inner Glass Door Kits (replace the existing inner glass door), include separate glass doors with gaskets and latches –	
Three doors for Model 3307 (3308), factory installed	1900169
Six doors for Model 3310 (3311), factory installed	1900170
Three doors for Model 3307 (3308), customer installed**	1900269
Six doors for Model 3310 (3311), customer installed**	1900270
Mini Shelf Racks, include three shelves and five shelf channels with 1.3" (3.3cm) spacing, may be used with or without inner door kits	
Rack with Shelves for Inner Door Kit No. 1900169 and 1900269, max.: 3 racks per Model 3307 (3308)	1900171
Rack Dimensions: 11.8"W x 6.6"H x 19.8"F-B (30.0cm x 16.8cm x 50.3cm)	
Usable Shelf Space: 10.6"W x 19.6"F-B (26.9cm x 49.8cm)	
Rack with Shelves for Inner Door Kit No. 1900170 and 1900270, max.: 6 racks per Model 3310 (3311)	1900172
Rack Dimensions: 8.6"W x 6.6"H x 19.8"F-B (21.8cm x 16.8cm x 50.3cm)	
Usable Shelf Space: 7.4"W x 19.6"F-B (18.8cm x 49.8cm)	
Monitoring and Alarm Systems	
Monitor/Alarm System, interfaces with as many as 24 products (channels) to monitor and display equipment conditions up to 2,000 ft. away	1535
Sensaphone® Telephone Dialing Systems, interface with standard touch-tone phone	
For up to four input channels	400047
For up to eight input channels	400134
Dataloggers, -50°C to 140°C (-58F to 284F), designed to meet U.S. FDA guidelines cGLP 21 CFR Part 58, Software Validation 21 CFR Part 820, and Electronic Records 21 CFR Part 11; contact our Services Department (888-213-1790) for an implementation quotation –	
Built-In Datalogger, without evaluation software, factory installed	201912
Built-In Datalogger, with evaluation software and PC data cable, factory installed	201266
Evaluation Software	201200
PC Data Cable, 6 ft. long	201254
Roller Dollies and Floor Stands	
Roller Dollies, heavy-duty, powder coated steel base with dual-wheel, swivel locking casters and leveling feet; raise unit 3.0" (7.6cm) off the floor –	
For one or two (stacked) Model 3307 (3308)	1900162
For one or two (stacked) Model 3310 (3311)	1900163
Floor Stands, heavy-duty steel with adjustable leveling feet, raise unit 6.5" (16.5cm) off the floor	
For one or two (stacked) , Model 3307 (3308)	1900164
For one or two (stacked) , Model 3310 (3311)	1900165
CO_2 Accessories	
Two-Stage CO_2 Gas Regulator with barbed connection and shutoff valve	965010
Gas Guard Kit, includes two external and one internal outlet, and a harness, factory installed	1900153
Wall Clamp for a CO_2	950316
Bottle, includes cylinder holder with web strap	
CO_2 Fyrite® Analyzer Kit, 0-20%	155021
Data Outputs (select one), factory installed	
RS-485 interface	1900152
4-20 milliamp	191761
0-5V analog	191762
0-1V analog	191763
Miscellaneous Accessories	
Replacement Inventory Management	1900166
Kit, includes five color coded labels and magnets	
Sealed Modular Incubator Chamber,	190043
purge with any gas mixture to create a "mini-incubator" inside your incubator for unusual gas and temperature controlled experiments,	
dimensions: 12.0" (30.5cm) circular chamber, 4.7" (11.9cm) high	
IQ/OQ, MS Windows®-compatible document disk for process customization and detailed checklists to qualify unit setup and operation	6003310

[1]HEPA and HEPA[2] filters are rated a minimum 99.97% efficient at 0.3 microns. Filters are easily replaced without tools.
[2]Must be installed by qualified personnel

Thermo Scientific Steri-Cult® CO_2 Incubators

Specifications

Temperature	
Control	±0.1°C @ 37°C (98.6F)
Range	5°C over ambient to 50°C (122F)
Sensor	Thermistor
Controller	Microprocessor
Setpoint	Digital
Display	Digital LED
Readability & Setability	0.1°C
Uniformity	±0.2°C @ 37°C (98.6F)
Temperature Safety	
Sensor	Thermistor
Controller	Microprocessor
Setability	0.1°C
CO_2	
Control	±0.1% @ 5.0%
Range	0-20%
Calibration	Auto-zero
Inlet Pressure	15 PSIG (1.0 bar)
Filter	0.2 micron, disposable
Sensor	Dual beam IR
Controller	Microprocessor
Display	Digital LED
Readability & Setability	0.1%
Tracking Alarm	User programmable high/low
Controlled RH	
RH	Ambient to 95% RH, non-condensing
Humidity Control	±2.0%
Sensor	Capacitive
Controller	Microprocessor
Readability & Setability	1%
Humidity Reservoir	1.0 gal. (3.8 liters)
Tracking Alarm	User programmable high/low
Fittings	
Drain Port	3/8" barbed with shutoff
Access Port	1.4" (3.6cm) with removable silicone plug
CO_2 Inlet	1/4" hose (barbed)
Unit Heat Load	
Typical Operation	
33 07	824 BTUH (242 Watt)
3310	848 BTUH (249 Watt)
3308	902 BTUH (265 Watt)
3311	926 BTUH (272 Watt)
Sterilization Cycle Operation	
3307	2472 BTUH (727 Watt)
3310	2544 BTUH (748 Watt)
3308	2706 BTUH (796 Watt)
3311	2778 BTUH (817 Watt)

Exterior Dimensions	
Width (3307/3308)	35.0" (88.9cm)
Width (3310/3311)	43.0" (109.2cm)
Height	39.4" (100.1cm)
F-B	27.0" (68.6cm)
Interior Dimensions	
Width (3307/3308)	20.8" (52.8cm)
Width (3310/3311)	28.8" (73.2cm)
Height	32.8" (83.3cm)
F-B	20.6" (52.3cm)
Shelves	
Standard, Maximum	5, 22
Dimensions	
	3307/3308 17.7" x 19.9" (45.2cm x 50.5cm)
	3310/3311 25.7" x 19.9" (65.5cm x 50.5cm)
Construction	Perforated stainless steel
Surface Area	
	3307/3308 2.4 sq. ft. (0.2 sq. m) per shelf
	3310/3311 3.6 sq. ft. (0.3 sq. m) per shelf
Loading	50 lbs. (22.7 kg), stationary
Construction	
Interior Volume	
	3307/3308 8.2 cu. ft. (232.2 liters)
	3310/3311 11.4 cu. ft. (322.8 liters)
Interior	Type 304 mirror finish, stainless steel
Exterior	18 gauge, cold-rolled steel, powder coated
Inner Door	1/4" (0.6cm) fully tempered safety glass with cam action latch
Outer Door Gasket	Four-sided, molded, magnetic vinyl
Inner Door Gasket	Feather, silicone
Electrical	
3307	115V, 50/60 Hz, 10.5 FLA (Operating range 90-125V)
3310	115V, 50/60 Hz, 11.5 FLA (Operating range 90-125V)
3308	230V, 50/60 Hz, 5.4 FLA (Operating range 180-250V)
3311	230V, 50/60 Hz, 5.9 FLA (Operating range 180-250V)
Power Switch	2 Pole
Convenience	75 Watts maximum (receptacle matches cabinet voltage)
Plug	115V: NEMA 5-15P Plug
	230V: CEE 7/7 Plug
Alarm Contacts	Deviation of temp, CO2, RH, and power failure;
	accessed using RJ11 jack on rear of unit
Data Outputs (opt.)	RS-485, 0-1V, 0-5V, 4-20 milliamp (select one)
Weight	
Net	3307/3308 330 lbs. (149.7 kg)
	3310/3311 410 lbs. (186.0 kg)
Shipping (Motor)	3307/3308 445 lbs. (201.9 kg)
	3310/3311 490 lbs. (222.3 kg)

Cat. No.	Capacity	Voltage
3307	8.2 cu. ft. (232.2 liters)	115
3308	8.2 cu. ft. (232.2 liters)	230
3310	11.4 cu. ft. (322.8 liters)	115
3311	11.4 cu. ft. (322.8 liters)	230

All units are UL Listed to United States and Canadian requirements and bear the CE Mark.

WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct.
If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.