

## Thermo Scientific Series 8000 – Direct Heat and Water Jacket CO<sub>2</sub> Incubators



Ultimate cell culture protection



# Series 8000 CO<sub>2</sub> Incubators – Superior Selection, Stability and Protection

CO<sub>2</sub> incubators are essential for optimum cell culture, and versatility is a must.

With the Thermo Scientific Series 8000 CO<sub>2</sub> incubators, you have the ultimate choice of both water jacket (WJ) and direct heat (DH) technology, giving you the flexibility you can depend on for growing cells.

Thermo Scientific Series 8000 CO<sub>2</sub> incubators provide water jacket and direct heat solutions to meet even the most stringent laboratory requirements. With a broad selection, you can choose the incubator to best meet your needs.

Thermo Fisher Scientific is the world leader in analytical instruments and has many years experience in manufacturing CO<sub>2</sub> incubators. With over 100,000 CO<sub>2</sub> incubators in use worldwide, we have established our global leadership in cell culture incubation technologies.

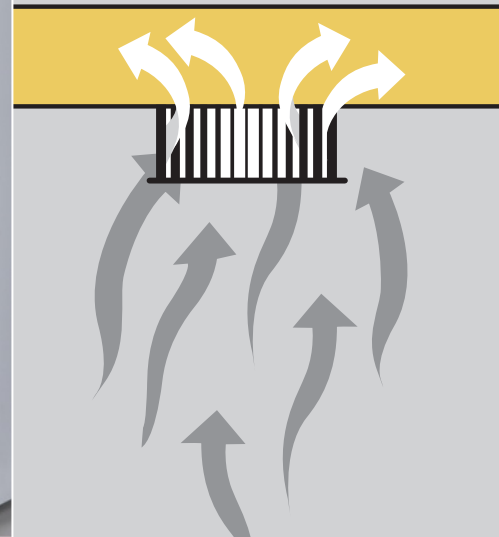
## Thermo Scientific – the Name to Trust

Built to the highest standards of workmanship and backed by unsurpassed service and technical support, the new Thermo Scientific Series 8000 CO<sub>2</sub> incubators are designed to provide total peace of mind. The answer is Thermo Scientific Series 8000 for precise temperature control and stability of all culture parameters.

# Ultimate Protection



In every Thermo Scientific Series 8000 incubator, a HEPA filter inside the chamber filters out contaminants. The HEPA filter is located inside the incubator chamber for optimum filtering, easy access, and simple replacement (no tools needed). An adjustable built-in timer notifies you when to replace the filter.



Stainless steel shelves and supports can be removed without tools for easy cleaning or adjustment.

# Complete Contamination Control

Contamination prevention is better than cure. With the proven contamination prevention technologies of the Thermo Scientific Series 8000 CO<sub>2</sub> incubators, you can save time and money, while keeping your cultures safe.

## Rapid Response Class 100 cleanroom air quality

Product yields and reliability can be affected by airborne contamination.

HEPA Class 100 air quality control reduces particulates to cleanroom levels, minimizing the risk of product loss and downtime. The patented HEPA Filter Airflow System:

- continuously filters chamber volume to provide an aseptic culturing atmosphere
- filters out airborne biological particulates, the primary sources of lab contamination
- ensures Class 100 air quality is achieved within five minutes of door closure

## Time saving easy cleaning

Every aspect of Thermo Scientific Series 8000 CO<sub>2</sub> incubators is designed to be easy to clean.

- polished stainless steel interior with 100% covered corners saves cleaning time and reduces contamination risk
- an adjustable timer, signals when the easy-to-access HEPA filter needs replacement
- disposable snap-fit blower/scroll mounting, stainless steel shelves and supports, and HEPA filters can all be removed easily without tools

Clear and precise: the intuitive user interface provides easy to use controls for all settings, as well as feedback on all vital information via the Message Center and alarm array



Polished stainless steel interior with 100% covered corners is easy to clean, saving time and reducing contamination risk.



# Thermo Scientific Series 8000 WJ

## Simply More Security



### Maximum thermal protection

With a triple wall construction and large volume of water, Thermo Scientific Series 8000 WJ, water jacket CO<sub>2</sub> incubators provide unsurpassed temperature stability and protection against heat loss.

The water jacket technology holds the temperature for extended periods of time, which is critical during power failures. Under test conditions, the temperature dropped initially at only 1 °C per hour and just 7.6 °C in 10 hours.

Thermo Scientific Series 8000 WJ CO<sub>2</sub> incubators also provide fast temperature recovery. The patented, heated, dual pane glass inner door is more responsive than standard doors and minimizes condensation.

### Easy set up

The incubator Message Center controls are powerful and intuitive. The remote alarm contacts and an optional digital rH display enable continual monitoring for humidity dependent applications.

# Water Jacket

**System Configuration** – Configure Audible On/Off, Access Code, HEPA Filter Change Reminder, Remote Alarm Contacts, Tracking Low Temp and High and Low CO<sub>2</sub> Alarms.

**Main Switch** – Series 8000 DH on front Series 8000 WJ on side

Alarms

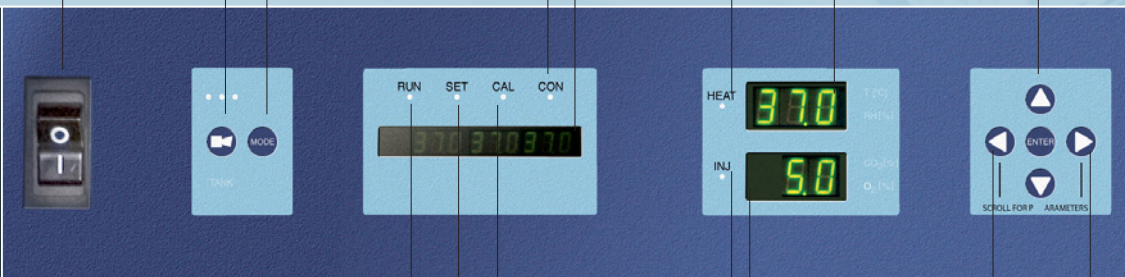
Mode Select

Message Center

Heater On Indicator

Programming buttons

Temperature Display/  
rH display (optional)



**Run** – CLASS 100 timing reminder appears after door is closed for five minutes, message changes to describe alarm conditions

**Setpoint** – Set Temp, Overtemp, CO<sub>2</sub>

**Calibration** – Calibrate Temp, CO<sub>2</sub>, rH (optional)

Scroll for Program  
Parameters

Gas Inject Indicator

CO<sub>2</sub> Display/O<sub>2</sub> Display (optional)

# Thermo Scientific Series 8000 DH

## Culture with Confidence



### On-demand sterilization

Thermo Scientific Series 8000 DH, direct heat CO<sub>2</sub> incubators include an easy-to-use, safe and proven sterilization system to destroy all forms of microbial life inside the chamber. The automatic high temperature decontamination cycle is ideal for overnight sterilization and ensures consistent sterilization time after time. Audible alarms and access codes ensure laboratory and product safety as well as security.

### The mobile answer

Thermo Scientific Series 8000 DH CO<sub>2</sub> incubators are light in weight. With the roller base accessory, these advanced incubators can be moved quickly to where needed within your laboratory.

### Easy to configure and use

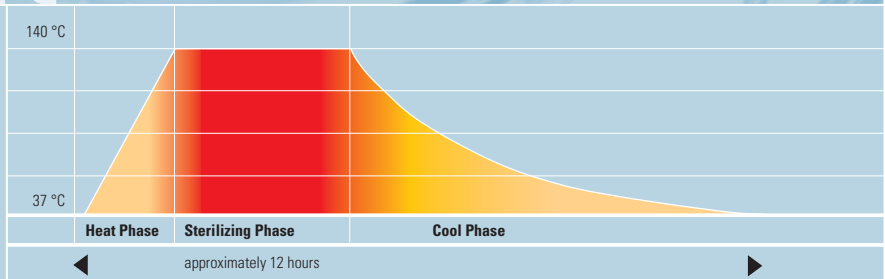
Thermo Scientific Series 8000 CO<sub>2</sub> incubators use a microprocessor controlled monitoring system Message Center. The message center is highly intuitive and

extremely user friendly. For example, the sterilization cycle is started by the simple press of one button. Options available include a digital rH display, to enable continual monitoring for humidity dependent applications.

# Direct Heat

### High Temperature Uniformity

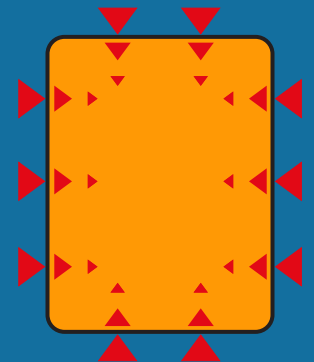
Directed airflow and direct chamber heating maintain optimum uniformity for an ideal culturing environment. During the sterilization cycle, the same system ensures that your incubator's entire chamber is sterilized – all contamination is eliminated.



**Direct Heat Sterilization Cycle** – 120 minutes at 140°C – ensures the elimination of all microorganisms and fungal spores from every incubator surface (ANSI/AAMI/ISO 11134). This claim has been validated with suspensions from *B. subtilis* spores calibrated for dry heat processes, because these are most resistant against dry heat sterilization and therefore the recommended indicator organism (U.S. Pharmacopoeia, ch. 1035). All spores applied to the different surfaces of the incubator – chamber wall (stainless steel), door (glass) and door gasket (tempered silicone), have been reliably eliminated with the sterilization cycle after 120 minutes at 140°C.



▲ The sterilization cycle starts with the simple press of the white button! During the heat sterilization process, the message center guides you through the cycle with start-up and cycle status messages.



▲ Stable and uniform temperature distribution through heating of all 6 sides of the chamber, during incubation as well as during sterilization.

# Accessories

Accessories are customer installed unless indicated otherwise. In addition to providing a standard line of equipment and accessories, we will manufacture custom accessories to meet your specific requirements. Contact us for details.

## Thermo Scientific Series 8000 Water Jacket CO<sub>2</sub> Incubators

Cat No.	Description
190884	Stainless Steel Shelf and Channels
760175	Replacement HEPA filter ( <b>Fig. 02</b> )
760209	HEPA Value Pack (four filters)
760210	10 Disposable In-Line Filters
1900067	HEPA Filter Replacement Kit (inline and access port filters)
190650	Independent inner Glass Door Kit
190646	Door Lock for Inner Glass Door
965010	CO <sub>2</sub> Gas Regulator ( <b>Fig. 04</b> )
962027	N <sub>2</sub> Gas Regulator
3050	External Automatic Gas Tank Interchange ( <b>Fig. 03</b> )
190647	Roller Base ( <b>Fig. 01</b> )
190648	Floor Stand
190666	Right Hand Door Swing, factory installed at time of order
190643	Humidity (RH) Display, factory installed at time of order

## Thermo Scientific Series 8000 Direct Heat CO<sub>2</sub> Incubators

Cat No.	Description
190884	Stainless Steel Shelf and Channels
760175	Replacement HEPA filter ( <b>Fig. 02</b> )
760209	HEPA Value Pack (four filters)
760210	10 Disposable In-Line Filters
1900067	HEPA Filter Replacement Kit (inline and access port filters)
190650	Independent inner Glass Door Kit
965010	CO <sub>2</sub> Gas Regulator ( <b>Fig. 04</b> )
3050	External Automatic Gas Tank Interchange ( <b>Fig. 03</b> )
1900063	Roller Base ( <b>Fig. 01</b> )
190666	Right Hand Door Swing, factory installed at time of order
1900091	Humidity (RH) Display, factory installed at time of order

**Fig. 01 | Roller Base**

Heavy-duty, dual-caster base with swivel-locks and leveling feet, raising unit by 3.0" (7.6 cm). Supports up to two stacked units.



**Fig. 02 | HEPA Air-Filter**

The High Efficiency Particulate Air-filter (HEPA) removes more than 99.97% of all particles 0.3 microns and greater in size. Consequently, 'Class 100' air quality (<100 particles per cubic foot of air) is achieved within 5 minutes of door closure.



**Fig. 03 | External Automatic Gas Tank Interchange**

Monitors CO<sub>2</sub> and automatically switches from one cylinder to the other when the supply is exhausted.



**Fig. 04 | Two-Stage CO<sub>2</sub> Gas Regulator**

Regulators with barbed connection and shut off valve.



## Thermo Scientific Series 8000 WJ CO<sub>2</sub> Incubators Specifications and Ordering Information



### Technical Specifications

Temperature	
Control	±0.1 °C
Range	5 °C above ambient to 55 °C (131 F)*
Uniformity	±0.2 °C @ 37 °C (98.6 F)
Tracking Alarm	User-programmable high/low
Temperature Safety	
Sensor	Precision thermistor
Controller	Independent analog electronic
Setability	0.1 °C
CO <sub>2</sub> /O <sub>2</sub>	
CO <sub>2</sub> /O <sub>2</sub> Control	Better than ±0.1 %
CO <sub>2</sub> Range	0-20 %
O <sub>2</sub> Range	1-20 %
Inlet Pressure	15 PSIG (1.0 bar)
CO <sub>2</sub> Sensor	T/C or IR
O <sub>2</sub> Sensor	Fuel cell
Readability & Setability	0.1 %
Tracking Alarm	User-programmable high/low
Humidity	
rH	Ambient to 95 % @ 37 °C (98.6 F)
Humidity Pan	3.2 qt. (3.0 liters) standard
Display (opt.)	In 1% increments
Fittings	
Fill Port	3/8" hose (barbed)
Drain Port	1/4" hose (barbed)
Access Port	1.3" (3.3 cm) with removable silicone plug with filter
CO <sub>2</sub> Inlet	1/4" hose (barbed)
Unit Heat Load	
115 V/230 V	344 BTUH (100 Watt)

### Shelves (Continued)

Dimensions	18.5" x 18.5" (47.0 cm x 47.0 cm)
Construction	Stainless steel, perforated
Surface Area	2.4 sq. ft. (0.2 sq. m)
Max. per Chamber	40.8 sq. ft. (3.8 sq. m)
Standard, Maximum	4, 17

### Construction

Water Jacket Volume	11.7 gal. (43.5 liters)
Interior Volume	6.5 cu. ft. (184.1 liters)
Interior	Type 304, mirror finish, stainless steel
Exterior	18 gauge, cold-rolled steel, powder coated
Outer Door Gasket	Four-sided, molded, magnetic vinyl
Inner Door Gasket	Removable, cleanable, feather-edged, silicone

### Electrical

All	115 V, 50/60 Hz, 3.6 FLA (Operating range 90-125 V) 230V, 50/60 Hz, 2.0 FLA (Operating range 180-250V)
Circuit Breaker/Power Switch	6 Amps/2 Pole
Convenience	75 Watts max. (one per Receptacle chamber)
Plug	115 V: NEMA 5-15P Plug; 230 V: CEE 7/7 Plug
Alarm Contacts	Power interruption; deviation of temp. CO <sub>2</sub> , O <sub>2</sub> , rH; customer connections through jack on back of unit
Data Outputs (opt.)	RS-485, 0-1 V, 0-5 V, 4-20 milliamp (select one)

### Dimensions

Exterior (w x h x f-b) inch/cm	26.0 x 39.5 x 25.0 / (66.0 x 100.3 x 63.5)
Interior (w x h x f-b) inch/cm	21.3 x 26.8 x 20.0 / (54.1 x 68.1 x 50.8)

### Weight

Net	265 lbs. (120.2 kg)
Net Operational	365 lbs. (165.6 kg)
Shipping (Motor)	324 lbs. (147.0 kg)

### Ordering Information

Cat No.	CO <sub>2</sub>	O <sub>2</sub>	Voltage	Cat No.	CO <sub>2</sub>	O <sub>2</sub>	Voltage
3428	TC	–	115 VAC	3429	TC	–	230 VAC
3422	IR	–	115 VAC	3423	IR	–	230 VAC
3424	TC	yes	115 VAC	3425	TC	yes	230 VAC
3426	IR	yes	115 VAC	3427	IR	yes	230 VAC

### Choice of T/C or IR Sensor

Select a T/C sensor when chamber temp and rH are relatively constant. Typically, a T/C sensor has a longer life than an IR sensor.

Select an IR sensor when temp and rH levels are changed frequently. With either sensor, elevated rH is critical to prevent desiccation.





## Thermo Scientific Series 8000 DH CO<sub>2</sub> Incubators Specifications and Ordering Information



### Technical Specifications

Temperature	
Control	±0.1 °C
Range	5 °C above ambient to 50 °C (122 F)*
Uniformity	±0.3 °C @ 37 °C (98.6 F)
Tracking Alarm	User-programmable high/low
Overtemperature	
Sensor	Precision thermistor
Setability	0.1 °C
Function	Shuts off heat
Temperature Safety	
Sensor	Precision thermistor
Controller	Independent analog electronic
CO <sub>2</sub>	
CO <sub>2</sub> Control	Better than ±0.1 %
CO <sub>2</sub> Range	0-20 %
Inlet Pressure	15 PSIG (1.0 bar)
Sensor	T/C or IR
Readability & Setability	0.1 %
Tracking Alarm	User-programmable high/low
Humidity	
rH	Ambient to 95 % @ 37 °C (98.6 F)
Humidity Pan	3.2 qt. (3.0 liters) standard
Display (opt.)	In 1% increments
Fittings	
Access Port	1.3" (3.3 cm) with removable silicone plug with filter
CO <sub>2</sub> Inlet	1/4" hose (barbed)
Unit Heat Load	
115 V/230 V	293 BTUH (86 Watt)

Shelves	
Dimensions	18.5" x 18.5" (47.0 cm x 47.0 cm)
Construction	Stainless steel, perforated
Surface Area	2.4 sq. ft. (0.2 sq. m)
Max. per Chamber	36.0 sq. ft. (3.3 sq. m)
Standard, Maximum	4, 15
Construction	
Interior Volume	6.5 cu. ft. (184.1 liters)
Interior	Type 304, mirror finish, stainless steel
Exterior	18 gauge, cold-rolled steel, powder coated
Outer Door Gasket	Four-sided, molded, magnetic vinyl
Inner Door Gasket	Removable, cleanable, feather-edged, silicone
Electrical	
All	115 V, 50/60 Hz, 9.6 FLA (Operating range 90-125 V) 230V, 50/60 Hz, 4.4 FLA (Operating range 180-250V)
Circuit Breaker/Power Switch	12 Amps/2 Pole
Convenience/Receptacle	75 Watts max. (matches cabinet voltage)
Plug	115 V: NEMA 5-15P Plug; 230 V: CEE 7/7 Plug
Alarm Contacts	Power interruption; deviation of temp, CO <sub>2</sub> , rH; customer connections through jack on back of unit
Data Outputs (opt.)	RS-485, 0-1 V, 0-5 V, 4-20 milliamp (select one)
Dimensions	
Exterior (w x h x f-b)	26.3" x 39.5" x 25.0" (66.8 cm x 100.3 cm x 63.5 cm)
Interior (w x h x f-b)	21.3" x 26.8" x 20.0" (54.1 cm x 68.1 cm x 50.8 cm)
Weight	
Net	260 lbs. (117.9 kg)
Shipping (Motor)	315 lbs. (142.9 kg)

### Ordering Information

Cat No.	CO <sub>2</sub>	Voltage
3540	TC	115 VAC
3542	IR	115 VAC
3541	TC	230 VAC
3543	IR	230 VAC

### Choice of T/C or IR Sensor

Select a T/C sensor when chamber temp and rH are relatively constant. Typically, a T/C sensor has a longer life than an IR sensor.

Select an IR sensor when temp and rH levels are changed frequently. With either sensor, elevated rH is critical to prevent desiccation.



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