Thermo Scientific Forma Environmental Chambers

Controlled Temperature Storage Solutions

Optimum uniformity
plus a wide
temperature range

Thermo
SCIENTIFIC

A Choice of Environmental Chambers to Meet Your Specific Needs

From stability testing to cell culturing, CO_2, RH, and refrigeration control to temperature-only, and 11.0 to 29.0 cu. ft., Thermo Scientific Forma environmental chambers are built to last and will meet your needs now and in the future.

If you require a high precision cabinet to meet ICH, FDA, TAPPI, ASTM or national testing standards our 3920/3940/3911 Series is the ideal choice.

- Optimum uniformity and a wide temperature range for easy compliance with regulatory requirements.

- Rugged construction and durable shelving for long life.

- Broad range of options to create the perfect fit for your applications.

Consider our 3960 Reach-In Incubator/ Environmental Chamber if you are focused on elevated temperature-only segments of drug stability and culture.

- Optimum uniformity and an elevated temperature range for easy compliance with regulatory requirements.

- Rugged construction and durable shelving for long life.

- Valuable features for flexibility and cost-effectiveness.

At-A-Glance Chamber Comparison

Type	Thermo Scientific Cat. No.	Temp Range	Uniformity	RH	Size (Cu. Ft.)	CO_2	Lights
Stability	3940 (3949)	0°C TO 60°C	±0.3°C @ 25°C to 37°C	Above ambient to 95% @ 37°C	29.0	Optional	Optional*
	3920	0°C TO 60°C	±0.3°C @ 25°C to 37°C	N/A	29.0	Optional	Optional*
	3911 (3913)	0°C TO 60°C	±0.3°C @ 25°C to 37°C	Above ambient to 95% @ 37°C	11.0	Optional	N/A
	3960 (3961)	5°C above ambient to 60°C	±0.4°C @ 30°C ±0.3°C @ 37°C ±0.5°C @ 45°C	N/A	29.0	N/A	N/A

*Lights (Cat. No. 190032) do not meet ICH guidelines.

Thermo Scientific 3920/3940/3911 Series Stability Chambers for a Multitude of Applications

This series of environmental chambers meets International Conference on Harmonization (ICH) guidelines for drug substance and product storage testing. The units are ideal for drug stability studies, shelf life testing for packaged products, and insect and other large-scale biological research.

Optimum uniformity and a wide temperature range for easy compliance with regulatory requirements

These chambers feature a 0°C to 60°C (32°F to 140°F) temperature range that can be set in 0.1°C increments. The broad temperature range, and optimum temperature uniformity and recovery contribute to an ideal test environment, even when the chamber contains large product loads and low output, heat-generating equipment.

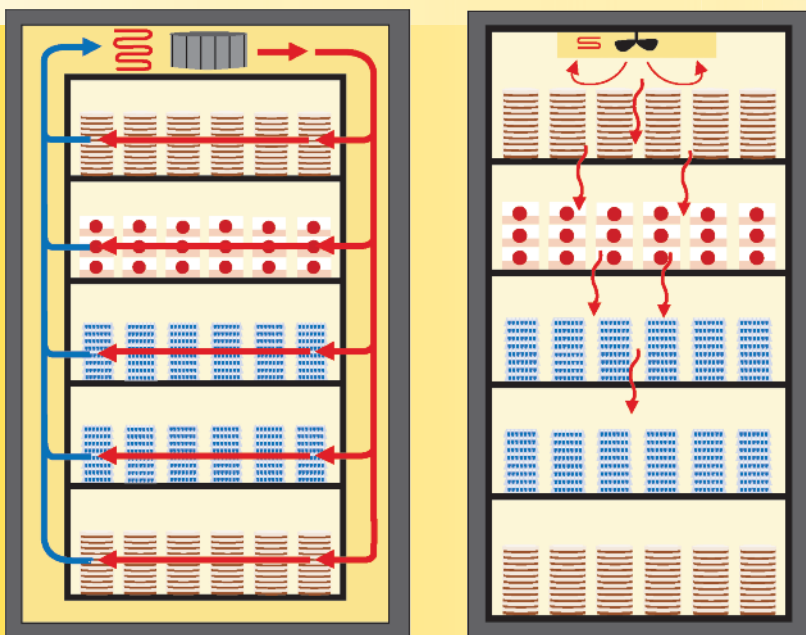## Advantages of our directed horizontal laminar airflow system

Our directed airflow system (shown below) promotes an ideal growth environment. The enhanced design includes a positive pressure feed plenum on the right side of the chamber and a negative pressure return plenum on the left to distribute the airflow uniformly throughout the chamber.

This combination directs air across the surface of each solid shelf. Even when filled with samples or equipment, each shelf receives a consistent flow of conditioned air for optimum temperature uniformity and recovery.

As opposed to our horizontal airflow system, top-to-bottom (non-directed) airflow systems use a top-mounted fan to push air down through wire shelves.
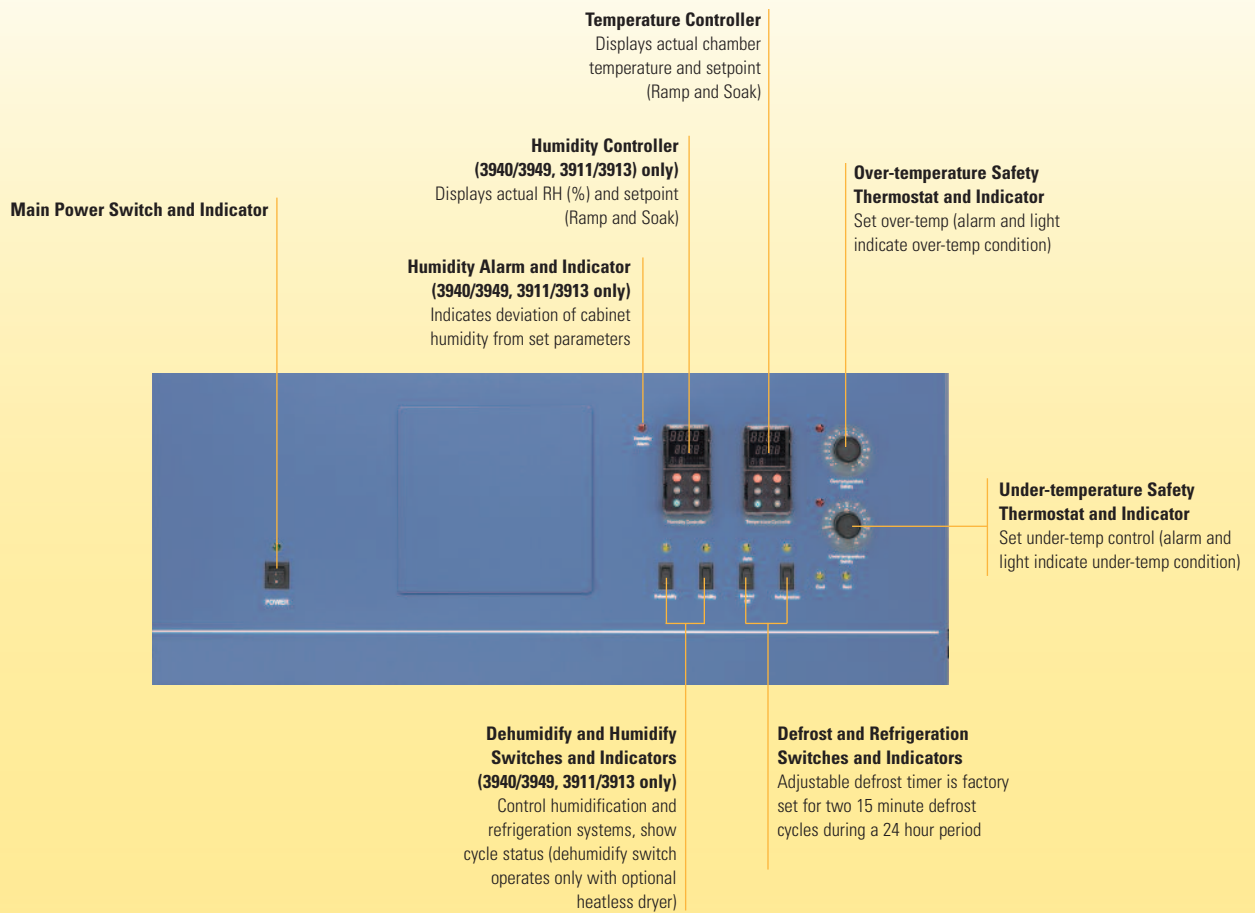
Temperature uniformity and recovery can deteriorate quickly when shelves are filled because air movement is blocked. That variation in temperature, alone or when combined with frequent door openings, may compromise environmental conditions or make process validation difficult.

Standard 4 to 20 milliamp output connects to most alarm/monitoring systems, allowing you to meet internal and regulatory product documentation requirements. Chart recorders are also available.

The Thermo Scientific directed airflow design (left) versus a top-to-bottom, undirected airflow design (right).

The directed airflow minimizes the risk of product desiccation and loss, and wasted time and money due to poor temperature uniformity and recovery.

Temperature Controller
Displays actual chamber temperature and setpoint (Ramp and Soak)

Humidity Controller
(3940/3949, 3911/3913) only)
Displays actual RH (%) and setpoint (Ramp and Soak)

Over-temperature Safety Thermostat and Indicator
Set over-temp (alarm and light indicate over-temp condition)

Main Power Switch and Indicator

Humidity Alarm and Indicator
(3940/3949, 3911/3913 only)
Indicates deviation of cabinet humidity from set parameters

Under-temperature Safety Thermostat and Indicator
Set under-temp control (alarm and light indicate under-temp condition)

Dehumidify and Humidify Switches and Indicators
(3940/3949, 3911/3913 only)
Control humidification and refrigeration systems, show cycle status (dehumidify switch operates only with optional heatless dryer)

Defrost and Refrigeration Switches and Indicators
Adjustable defrost timer is factory set for two 15 minute defrost cycles during a 24 hour period

Rugged construction and durable shelving for long life

- Exterior cabinet is 18 gauge cold-rolled steel, powder coated for durability and a high quality appearance that resists scratches and chipping.

- 2.0" (5.1cm) thick, non-CFC, foamed-in-place polyurethane cabinet insulation provides maximum product thermal protection and increased rigidity for reliable daily use.

- Phenolic-coated evaporator protects against corrosive by-products or agents in the chamber atmosphere (e.g., secretions from insects such as flies), ensuring long life.

- Solid, stainless steel interior is more durable and corrosion-resistant than plastic or painted metal, ensuring long life and minimizing equipment costs.

- Heavy-duty, solid, stainless steel shelves are easy-to-clean, saving time and effort; more corrosion-resistant than coated wire shelves for long life; and adjustable for convenience.

- 29.0 cu. ft. models include 6 shelves that are adjustable on 3.0" (7.6cm) centers.

- 11.0 cu. ft. model includes 3 shelves that are adjustable on 2.0" (5.1cm) centers.

- Reinforced floor/shelf components for 29.0 cu. ft. models are available so you can use shakers, cell rollers, or other heavy equipment or product loads inside the chamber to meet a variety of applications.

- Swivel, locking casters ensure easy mobility during installation and cleaning. Leveling feet provide stability and added safety in the lab.
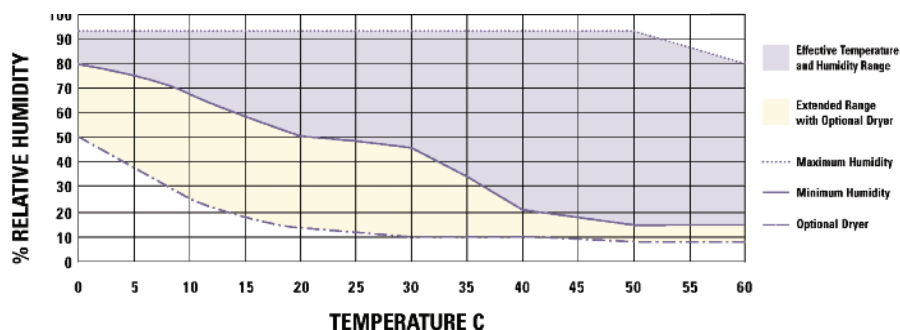
Broad range of options to create the perfect fit for your applications

Many options are available so you can tailor this series to your specific applications. Examples include access ports for probes, sensors, etc.; interior convenience receptacles; and reinforced shelving to support heavy equipment.

We also offer dehumidification and CO_2 control options to accommodate industrial, seed germination, and other biotechnological research applications. A door light package with a 24 hour on/off timer adjustable in 15 minute increments is available for 3920 and 3940 (3949).

Temperature/Humidity Performance Chart for 3940 (3949) and 3911 (3913)

The following chart illustrates the maximum and minimum attainable humidity within the cabinet at a given set temperature under the following nominal conditions: refrigeration on, defrost off, no wet bulb recorder, no air exchange, set for 22.2°C (72°F) and 50% RH ambient. Optional heatless dryer is available for lower humidity levels.

Chamber Specifications

Thermo Scientific Cat. No.	3920 **	3940 **	3949 **	3911 **	3913**
Description	29 cu. ft. Incubated/Refrigerated Environmental Chamber	29 cu. ft. Incubated/Refrigerated Environmental Chamber with humidity control		11 cu. ft. Incubated/Refrigerated Environmental Chamber with humidity control	
Voltage					
	120V, 60 Hz	208-220V, 60 Hz	220-240V, 50/60 Hz	208-220V, 60 Hz	220-240V, 50/60 Hz
Temperature					
Control	±0.1°C @ 25°C to 37°C (77°F to 98.6°F)	±0.1°C @ 25°C to 37°C (77°F to 98.6°F)		±0.1°C @ 25°C to 37°C (77°F to 98.6°F)	
Range	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)		0°C to 60°C (32°F to 140°F)	
Sensor	RTD	RTD		RTD	
Controller	Microprocessor, PID	Microprocessor, PID		Microprocessor, PID	
Programmability	Ramp & Soak (to 40 steps)	Ramp & Soak (to 40 steps)		Ramp & Soak (to 40 steps)	
Setpoint	Digital	Digital		Digital	
Display	Digital dual LED	Digital dual LED		Digital dual LED	
Readability & Setability	0.1°C	0.1°C		0.1°C	
Uniformity*	±0.3°C @ 25°C to 37°C (77°F to 98.6°F)	±0.3°C @ 25°C to 37°C (77°F to 98.6°F)		±0.3°C @ 25°C to 37°C (77°F to 98.6°F)	
Temperature Safety					
Sensor & Controller	Thermostat	Thermostat		Thermostat	
Setpoint	Analog reference dial	Analog reference dial		Analog reference dial	
Alarm	Audible/visual	Audible/visual		Audible/visual	
Refrigeration					
Compressor	1/4 HP, air-cooled	1/4 HP, air-cooled		1/4 HP, air-cooled	
Refrigerant	Non-CFC, R134A refrigerant	Non-CFC, R134A refrigerant		Non-CFC, R134A refrigerant	
Humidity					
Input Water Quality		50K-1Megohm resistance		50K-1Megohm resistance	
Input Water Volume		1 gallon/hour		1 gallon/hour	
Input Water Pressure		Gravity to 40 psi		Gravity to 40 psi	
RH		Above ambient to 95% @ 37°C (98.6°F) ±5.0% RH		Above ambient to 95% @ 37°C (98.6°F) ±5.0% RH	
Sensor		Bulk polymer		Bulk polymer	
Controller		Microprocessor, PID		Microprocessor, PID	
Programmability		Ramp & Soak (to 40 steps)		Ramp & Soak (to 40 steps)	
Setpoint		Digital (direct set in % RH)		Digital (direct set in % RH)	
Display		Digital, dual LED (direct read in % RH)		Digital, dual LED (direct read in % RH)	
Readability & Setability		1.0%		1.0%	
Steam Generator		Initial fill approx. 1 qt. (1 liter)		Initial fill approx. 1 qt. (1 liter)	
Setable Alarm		Audible/visual		Audible/visual	

*Six shelves in 3920 and 3940 (3949), three shelves in 3911 (3913); uniformity is ±0.5°C at all other temperature parameters.

**All models require a drain unless fitted with the optional Condensate Evaporator (No. 1900031). 3940 (3949) and 3911 (3913) also require a constant water source.

Chamber Specifications continued

Thermo Scientific Cat. No.	3920 *	3940 *	3949*	3911*	3913*
Fittings**					
Fill Port		1⁄8" female NPT		1⁄8" female NPT	
Drain Port (bottom)	3⁄8" FPT & 3⁄8" O.D. P-trap right rear	3⁄8" FPT & 3⁄8" O.D. P-trap right rear		3⁄8" FPT & 3⁄8" O.D. P-trap right rear	
Unit Heat Load					
115V	5500 BTUH (1600 Watts)	5500 BTUH (1600 Watts)		5500 BTUH (1600 Watts)	
220V	6000 BTUH (1750 Watts)	6000 BTUH (1750 Watts)		6000 BTUH (1750 Watts)	
Dimensions					
Exterior					
Width	38.0" (96.5cm)	38.0" (96.5cm)		38.0" (96.5cm)	
Height	88.5" (224.8cm)	88.5" (224.8cm)		51.5" (130.8cm)	
F-B	32.0" (81.3cm)	32.0" (81.3cm)		32.0" (81.3cm)	
Interior					
Width	31.0" (78.7cm)	31.0" (78.7cm)		31.0" (78.7cm)	
Height	60.0" (152.4cm)	60.0" (152.4cm)		24.0" (60.9cm)	
F-B	27.0" (68.6cm)	27.0" (68.6cm)		27.0" (68.6cm)	
Shelves					
Dimensions	30.6"W x 25.8" F-B (77.8cm x 65.6cm)	30.6"W x 25.8" F-B (77.8cm x 65.6cm)		30.6"W x 25.8" F-B (77.8cm x 65.6cm)	
Construction	Solid stainless steel, reinforced	Solid stainless steel, reinforced		Solid stainless steel, reinforced	
Surface Area per Shelf	5.4 sq. ft. (0.5 sq. m)	5.4 sq. ft. (0.5 sq. m)		5.4 sq. ft. (0.5 sq. m)	
Max. Surface Area per Chamber	104.3 sq. ft. (9.7 sq. m)	104.3 sq. ft. (9.7 sq. m)		59.4 sq. ft. (5.5 sq. m)	
Standard/Maximum Number of Shelves	6, 19	6, 19		3, 11	
Load per Shelf	35 lbs. (15.9 kg), slide in/out 50 lbs. (22.7 kg), stationary	35 lbs. (15.9 kg), slide in/out 50 lbs. (22.7 kg), stationary		35 lbs. (15.9 kg), slide in/out 50 lbs. (22.7 kg), stationary	
Construction					
Interior Volume	29.0 cu. ft. (821.2 liters)	29.0 cu. ft. (821.2 liters)		11.0 cu. ft. (311.5 liters)	
Interior Material	Type 304, 2B finish, stainless steel	Type 304, 2B finish, stainless steel		Type 304, 2B finish, stainless steel	
Exterior Material	Cold-rolled steel, powder coated	Cold-rolled steel, powder coated		Cold-rolled steel, powder coated	
Outer Door Gasket	Four-sided, vinyl compression	Four-sided, vinyl compression		Four-sided, vinyl compression	
Electrical	120V, 60 Hz, 16.0 Amps 3 Wire (including ground)	208-220V, 60 Hz, 15.0 Amps 4 Wire (including ground) single phase	220-240V,50/60 Hz 14.0 Amps, 3 Wire (including ground) must be hardwired to a lockable fused disconnect switch	208-220V, 60 Hz 15.0 Amps 4 Wire (including ground) single phase	220-240V,50/60 Hz 14.0 Amps, 3 Wire (including ground) must be hardwired to a lockable fused disconnect switch
Dry Contacts	Common, NO, NC	Common, NO, NC		Common, NO, NC	
Data Output	4-20 milliamp, temperature	4-20 milliamp, temperature and RH		4-20 milliamp, temperature and RH	
Power Switch	2 Pole	2 Pole		2 Pole	
Plug	NEMA 5-20P	NEMA 14-20P	None	NEMA 14-20P	None
Weight					
Net	700 lbs. (317.5 kg)	765 lbs. (347.0 kg)		575 lbs. (260.8 kg)	
Shipping (motor)	850 lbs. (385.6 kg)	1,040 lbs. (471.7 kg)	940 lbs. (426.4 kg)	715 lbs. (324.3 kg)	

All models require a drain unless fitted with the optional Condensate Evaporator (No. 1900031). 3940 (3949) and 3911 (3913) also require a constant water source.

Incubator/Environmental Chamber for Elevated Temperature Applications

The 29.0 cu. ft. (821.2 liters) 3960 (3961) offers precise temperature control in a range of 5°C above ambient to 60°C (140°F), making this unit ideal for clinical applications, elevated temperature stability studies, and shelf life testing.

3960 (3961)

- Large size for high volumes and a broad range of products
- Heated glass door for minimal condensation and a clear view
- Interior and exterior convenience receptacles, and five adjustable shelves
- Thermo Scientific Enviro-Scan controls with easy-to-read display of actual temp

3961

Cell Roll System

The optional cell roll system allows extensive production of monolayer cell cultures in standard roller culture vessels. Oxygenation and exposure of the cells to the media growth area are improved. Culture yields are increased by the uniform temperature control and cell roll system's continuous, gentle rotation.

The environmental chamber accommodates a cell roller up to 7 decks high with 5 positions per deck for a maximum total of 35 positions, or bottles.

Achieving maximum capacity requires a 4862 (4868) three tier cell roller base (15 positions), four add-on tiers (20 positions), and a reinforced floor/ramp.

All position drive is standard. Adjustable speed control provides precise speeds of 0.125 to 6.25 RPM with ±1.0% accuracy, based on 110mm bottles.

Optimum Uniformity and an Elevated Temperature Range for Easy Compliance with Regulatory Requirements

Our directed airflow system promotes an ideal growth environment. The proven design includes a positive pressure feed plenum and a negative pressure return plenum. This combination directs air across the surface of each solid shelf. Even when filled with samples or equipment, each shelf receives a consistent flow of conditioned air for optimum temperature uniformity and recovery. By design, the feed plenum cannot be blocked by the chamber's contents.
(Refer to the diagram on page 3.)

- Intuitive, powerful Enviro-Scan®, which is common to other Forma® products,
  - ensures precise temperature control without complicated programming
  - provides audible/visual under-temperature and over-temperature alarms for peace-of-mind
  - includes an easy-to-read display for convenient, continuous monitoring.

- Enviro-Scan operating modes include Run, Setpoint, Calibration, and System Configuration.

- Standard remote alarm contacts and available data outputs allow connection to an in-house monitor/alarm system to track chamber conditions, helping you meet internal and regulatory documentation requirements. Chart recorders are available.
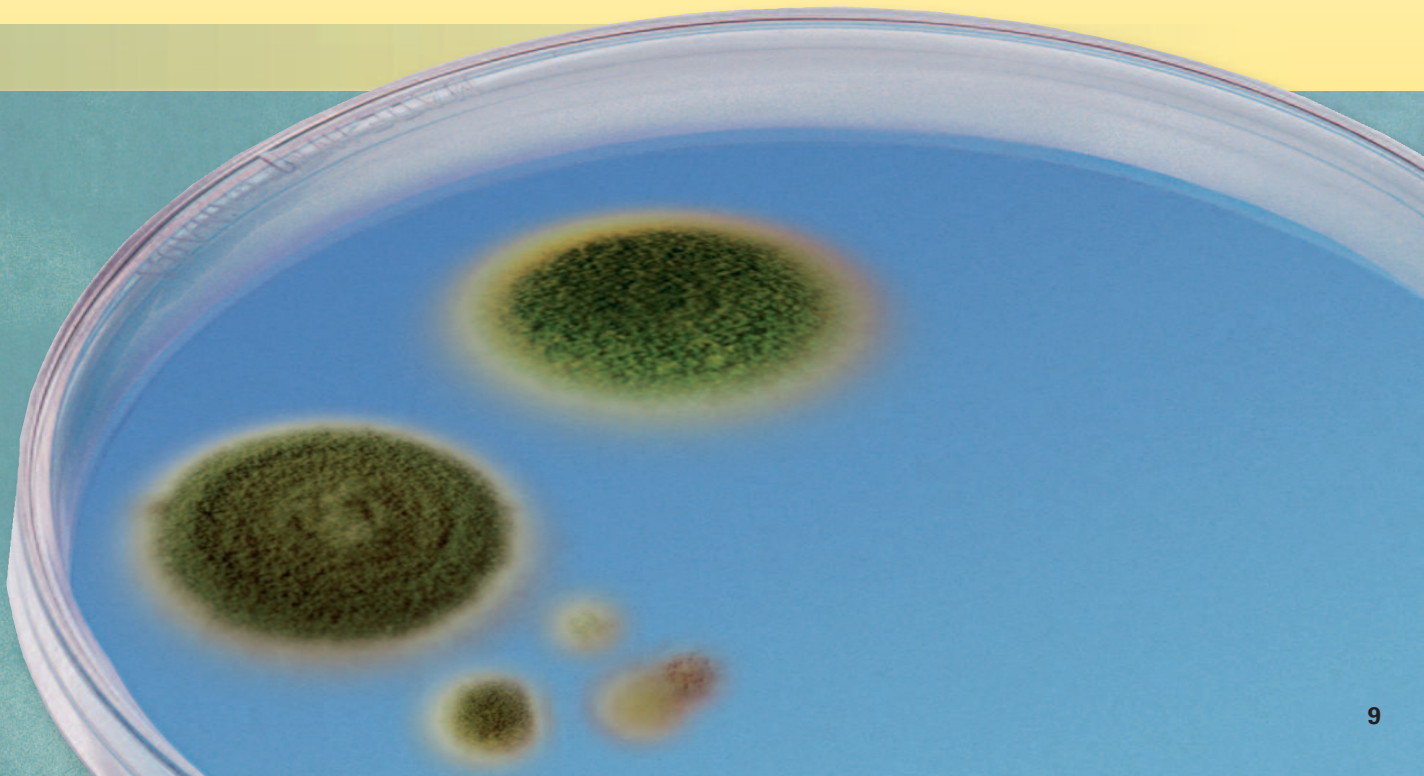
Durable construction and shelving for long life

- Exterior cabinet is 18 gauge cold-rolled steel, powder coated for durability and a high quality appearance that resists scratches and chipping.

- Maximum product thermal protection and added cabinet strength for reliable daily use are provided by the 2.0" (5.1cm) thick fiberglass cabinet insulation.

- Solid, stainless steel interior is more durable and corrosion-resistant than plastic or painted metal, ensuring long life and minimizing equipment costs.

- Five heavy-duty, solid, stainless steel shelves, adjustable on 2.0" (5.1cm) centers, are easy-to-clean, saving time and effort; more corrosion-resistant than coated wire shelves for long life; and adjustable for convenience.

- Reinforced floor/shelf components are available so you can use shakers, cell rollers, or other heavy equipment or product loads inside the chamber to meet a variety of applications.

Valuable features included for cost-effectiveness and flexibility

Casters, access ports, convenience receptacles, heated glass door, and remote alarm contacts — all are included up-front. Our 3960 Incubator/Environmental Chamber is prepared to meet your changing application needs without the added cost of expensive add-on options.

- Swivel, locking casters ensure easy mobility during installation and cleaning. Leveling feet provide stability and added safety in the lab.

- Thru-wall access ports, located on the right and left sides of the chamber, make it possible to add probes, sensors, etc. without altering the cabinet.

- Interior and exterior accessory receptacles provide a convenient power source.

  – Interior GFCI duplex receptacle on the 115V 3960 unit (Single European 230V CEE 7 on 3961) located in the upper right corner of the rear wall, permits the use of shakers, cell rollers, and other equipment inside the chamber, eliminating the inconvenience of an extra external power strip.

  – Exterior receptacle, located on the upper-right side of the control panel, is available for connecting an optional recorder or other equipment.

Chamber Specifications

Thermo Scientific Cat. No.	3960	3961
Description		
	29 cu. ft. Incubated Environmental Chamber	29 cu. ft. Incubated Environmental Chamber
Voltage		
	115V, 50/60 Hz	200-230V, 50/60 Hz
Temperature		
Control	±0.1°C	±0.1°C
Range	5°C above ambient to 60°C (140°F)	5°C above ambient to 60°C (140°F)
Uniformity	±0.4°C @ 30°C (86°F) ±0.3°C @ 37°C (98.6°F)	±0.4°C @ 30°C (86°F) ±0.3°C @ 37°C (98.6°F)
	±0.5°C @ 45°C (113°F)	±0.5°C @ 45°C (113°F)
Low Alarm	User programmable and indicator	User programmable and indicator
Over-temperature		
Sensor	Precision thermistor	Precision thermistor
Setability	0.1°C	0.1°C
Function	User programmable, action (shuts off heat), and indicator	User programmable, action (shuts off heat), and indicator
Temperature Safety (Cabinet)		
Sensor	Independent thermostat	Independent thermostat
Type	Independent analog electronic	Independent analog electronic
Fittings		
Access Port With Stopper	2.4" (6.1cm) I.D., one on each side	2.4" (6.1cm) I.D., one on each side
Unit Heat Load		
115V/230V	510 BTUH (150 Watts) 129 kcal per hour	510 BTUH (150 Watts) 129 kcal per hour
Shelves		
Dimensions	30.6"W x 25.8"F-B (77.7cm x 65.5cm)	30.6"W x 25.8"F-B (77.7cm x 65.5cm)
Construction	2B finish, solid stainless steel	2B finish, solid stainless steel
Surface Area	5.4 sq. ft. (0.5 sq. m) per shelf	5.4 sq. ft. (0.5 sq. m) per shelf
Max. per Chamber	140.4 sq. ft. (13.0 sq. m)	140.4 sq. ft. (13.0 sq. m)
Standard/Maximum No. of Shelves	5, 26	5, 26
Loading	30 lbs. (13.6 kg) per shelf, fully inserted and stationary;	30 lbs. (13.6 kg) per shelf, fully inserted and stationary;
	not to exceed 300 lbs. (136.0 kg) total per cabinet	not to exceed 300 lbs. (136.0 kg) total per cabinet
Construction		
Interior Volume	29.0 cu. ft. (821.2 liters)	29.0 cu. ft. (821.2 liters)
Interior Material	Type 304, 2B finish, stainless steel	Type 304, 2B finish, stainless steel
Exterior Material	Cold-rolled steel, powder coated	Cold-rolled steel, powder coated
Insulation	2.0" (5.1cm) fiberglass	2.0" (5.1cm) fiberglass
Exterior Door	Heated, triple pane, tempered glass	Heated, triple pane, tempered glass
Outer Door Gasket	Molded vinyl	Molded vinyl
Electrical		
	115V, 50/60 Hz, 9.0 Amps (Operating range 90-125V includes voltage fluctuations)	200/230V, 50/60 Hz, 5.0 Amps (Operating range 180-250V includes voltage fluctuations)
Circuit Breaker/Power Switch	15 Amps; 2 pole	8 Amps; 2 pole
Exterior Convenience Receptacle	75 Watts maximum (matches cabinet voltage)	75 Watts maximum (matches cabinet voltage)
Interior Convenience Receptacle	230 Watts maximum (matches cabinet voltage)	230 Watts maximum (matches cabinet voltage)
Plug	115V: NEMA 5-15P	Plug 230V: CEE 7/7 Plug
Alarm Contacts	Temperature deviation and power failure; Common, NO, and NC; customer connections through RJ11 jack on rear of unit	Temperature deviation and power failure; Common, NO, and NC; customer connections through RJ11 jack on rear of unit
Data Outputs (opt.)	RS-485, 0-1V, 0-5V, 4-20 milliamp	RS-485, 0-1V, 0-5V, 4-20 milliamp
Dimensions		
Exterior	38.0"W x 80.0"H x 33.0"F-B (96.5cm x 203.2cm x 83.8cm)	38.0"W x 80.0"H x 33.0"F-B (96.5cm x 203.2cm x 83.8cm)
Interior	31.0"W x 60.0"H x 27.0"F-B (78.7cm x 152.4cm x 68.6cm)	31.0"W x 60.0"H x 27.0"F-B (78.7cm x 152.4cm x 68.6cm)
Weight		
Net	500 lbs. (226.8 kg)	500 lbs. (226.8 kg)
Shipping (motor)	660 lbs. (299.4 kg)	660 lbs. (299.4 kg)

Specifications are based on nominal voltages of 115V or 230V in ambients of 22ºC to 25ºC. Performance is plus or minus the least significant digit unless otherwise specified. 3960 (3961) is UL Listed to United States and Canadian requirements and bears the CE Mark.

Accessories (All are customer installed unless indicated otherwise)

Thermo Scientific Cat. No	Description
Shelving	
	Stainless Steel Shelves for 3920, 3940 (3949), 3911 (3913), and 3960 (3961)
224139	Solid Stainless Steel Shelf and Channels for 3920, 3940 (3949), 3911 (3913), and 3960 (3961)
224155	Perforated Stainless Steel Shelf and Channels for 3920, 3940 (3949), 3911 (3913), and 3960 (3961)
224161	Reinforced Stainless Steel Shelf and Channels for 3920, 3940 (3949), 3911 (3913), and 3960 (3961); two per unit max., not for shakers; 150 lb. (68.0 kg) load maximum with shelf fully inserted and stationary
Shaker Support System, factory installed	
1900005*	Two shelf shaker support system without duplex outlet, each shelf will hold 200 lbs., for 3920, 3940, (3949) and 3960 (3961). Must be ordered with duplex outlet (505099 or 505094)
190761*	Three shelf shaker support system includes duplex outlet, each shelf will hold 200 lbs., for 3920, 3940, (3949) and 3960 (3961)
Door Options	
190239	Lexan® Inner Door Kit (five doors) for 3920, 3940 (3949), and 3960 (3961); factory installed
190514	Door Lock Assembly for 3920, 3940 (3949), and 3960 (3961); factory installed
190597	Left-Hand Door Swing Kit for 3920 and 3940 (3949); factory installed
Stainless Steel Door Glass Covers	
190591	For 3920, 3940 (3949), and 3960 (3961); factory installed
190892	For 3920, 3940 (3949), and 3960 (3961)**
Door Light Package, factory installed	
190032	Door light package with 8 lights for plant growth, seed germination, algae, small animal and insect studies 120V, 50/60 Hz for 3920, 3940 (3949)
Reinforced Floor Options	
500182***	Reinforced Floor with Removable Ramp for 3920, 3940 (3949), and 3960 (3961); accommodates a cell roller
190777***	Same as No. 500182 but factory installed
Access Ports, factory installed	
505101	Port for 3920, 3940 (3949), and 3911 (3913); 1.5" (3.8 cm) I.D.; on center right wall
193004	2" nominal ID port with cover
190164	Port for 3960 (3961), 2.4" (6.1 cm) I.D., customer specified location
193005	4" nominal ID port with cover
193006	6" nominal ID port with cover
Compressed Dry Air System, factory installed	
1900139	Heatless dryer for low ambient humidity conditions for 3911 (3913), and 3940 (3949) Requires 90 PSI at 13 CFM compressor minimum (see temperature/humidity chart on page 5)
Convenience Receptacles, factory installed	
505099	120V Duplex (includes separate line cord) for 3920, 3940, and 3911; located on center rear wall
505094	230V (includes separate line cord) for 3920, 3940, (3949), and 3911 (3913); located on center rear wall
Data Outputs (select one) for 3960 (3961), factory installed	
190523	RS-485 interface (compatible with 1535 Monitor/Alarm only)
190512	4-20 milliamp
190543	0-5V
190544	0-1V
Sensaphone Telephone Dialing Systems, interface with standard touch-tone phone	
400047	For up to four input channels
400134	For up to eight input channels

Thermo Scientific Cat. No	Description
Chart Recorders and Paper	
	12", 6 Hour to 31 Day Digital Recorders for 3920, 3940 (3949), and 3911 (3913); draw own chart as they record; single or dual pen; 120V, 50/60 Hz; factory installed
198036	Left Side
198039	Right Side
198042	Top, adds 20.3" (51.6cm) to cabinet height
197054	Replacement Chart Paper, 100 per box
	6", 7 Day Chart Recorders for 3920, 3940 (3949), and 3911 (3913); 0°C to 60°C (32°F to 140°F); 115V, 50/60 Hz
201144	Single Pen, factory installed
201145	Single Pen
201146	Dual Pen, factory installed
201147	Dual Pen
	6", 7 Day Chart Recorders for 3960 (3961), 0°C to 60°C (32°F to 140°F), single pen
201155	115V, 50/60 Hz
201156	230V, 50/60 Hz
	6" Chart Paper for Recorders, 50 per box
180006	For Single Pen, 0°C to 60°C (32°F to 140°F)
197030	For Single Pen, -10°C to 70°C (14°F to 158°F)
197075	For Single or Dual Pen, 0°C to 100°C (32°F to 212°F)
RH System Options	
184062	Condensate Pump Kit for 3920, 3940 (3949), and 3911 (3913) Elevated Drains; includes separate line cord, 115V
1900031	Condensate Evaporator for 3920, 3940, and 3911; includes separate line cord; 115V
1900391	Condensate Evaporator for 3949 and 3913; includes separate line cord; 240V
1900139	Heatless Dryer Kit for 3940 (3949) and 3911 (3913), for sub-ambient chamber RH, factory installed
Deionization Cartridge Assembly for chambers with humidity and no DI water source	
019-168-00	DI cartridge assembly includes DI cartridge, wall bracket, pressure regulator and gauge and 1/4" flexible tubing
585-036-00	Replacement DI cartridge
Calibration Certificate and Temperature Mapping with Report	
260045	Temperature Mapping Report (factory installed)
260049	Calibration Certificate (specify test parameters)
cGxP Protocols and on site Validation Services**	
	GLP Level Protocols (IQ OQ)
IOQDOCE89003499	For 3920, 3960
IOQDOCE89003710	For 3940 (3949) 3911 (3913)
	GMP Level Protocols (IQ OQ PQ)
IOPQDOCE89003499	For 3920, 3960
IOPQDOCE89003710	For 3940 (3949) 3911 (3913)
	GLP Level Field Validation (IQ OQ)
	Performed at the customer site (protocol included at no extra charge)
IOQPCKE89003499	For 3920, 3960
IOQPCKE89003710	For 3940 (3949) 3911 (3913)
	GMP Level Field Validation (IQ OQ PQ)
	Performed at the customer site (protocol included at no extra charge)
IOPQPCKE89003499	For 3920, 3960
IOPQPCKE89003710	For 3940 (3949) 3911 (3913)
Miscellaneous Accessories	
	Infrared CO_2 Control Packages, factory installed
1900226	For 3920
1900227	For 3940 (3949) and 3911 (3913)
	Cell Roll System
4862	Three Tier Cell Roller Base (15 positions), 120V, 50/60 Hz, 29.8"W x 27.8"H x 24.4"F-B (75.7cm x 70.6cm x 62.0cm)
4868	Same as 4862 but 230V, 50/60 Hz
190049	Add-On Tier (5 positions), 29.8"W x 7.1"H x 24.4"F-B (75.7cm x 18.0cm x 62.0cm), customer installed
190777	Reinforced Floor with Removable Ramp, ramp extends 23.0" (58.4cm), factory installed
500182	Same as No. 190777 but customer installed
228077	Rotation Alarm System, includes annunciator jack, factory installed
228078	Battery Back-Up, provides 24 hours of power if a power failure occurs, factory installed
475560	110mm x 285mm Glass Bottles (4 per case)

Warranty

We confidently back our environmental chambers with a full one year parts and labor warranty.

*Rubber isolators replace casters for maximum stability.

**Must be installed by qualified personnel.

***Ramp extends approximately 23.0" (58.4cm) in front of the chamber.

****Specification sheets for protocol and field validations are available for review upon request by calling Pre-Sales at 866-984-3766 or emailing: LPG.presales@thermofisher.com.

Worldwide Service and Support

We are committed to keeping your lab equipment working at peak performance levels. Our goal is to help you lower ownership costs, manage labs more effectively, and increase productivity. Contact your Thermo Scientific representative to learn more about our service offerings, including service agreements, preventive maintenance, on-site field repair, depot repair, compliance services and educational services.

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