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Controlled Environment Equipment Solutions for the Lab



Forma® Environmental Chambers

Analyze • Detect • Measure • Control™

Thermo
ELECTRON CORPORATION

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Performance & Long Life

Choice of Chambers to Meet Your Specific Needs

From stability testing to cell culturing, from CO_2, RH, and refrigeration control to temperature-only, from 11.0 to 29.0 cu. ft., we're your "one-stop supplier" for environmental chambers. Our Forma Environmental Chambers are built to last and will meet your needs now and in the future.

Do 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 the Model 3960 (3961) 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**

Our freezer/incubators and diurnal growth chamber are designed to meet your basic, yet specific, requirements.

- Wide temperature range for **maximum flexibility and usability**
- Large capacity to hold a **high volume** of your product
- High output light banks for **optimum light** level and coverage (diurnal growth chamber only)

CHOICE OF ENVIRONMENTAL CHAMBERS

3920/3940/3911 Series
Chambers 3
3960 (3961)
Incubator/Chamber 6
3710/3770 Freezer/Incubators . . .9
3740 (3744)
Diurnal Growth Chamber 9
Accessories 11



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At-a-Glance Chamber Comparison

Type	Model	Temp Range	Uniformity	RH	Size (Cu. Ft.)	Lights
STABILITY	3940 (3949)	0C to 60C	±0.3C @ 25C to 37C	Above ambient to 95% @ 37C	29.0	Optional*
	3920	0C to 60C	±0.3C @ 25C to 37C	N/A	29.0	Optional*
	3911 (3913)	0C to 60C	±0.3C @ 25C to 37C	Above ambient to 95% @ 37C	11.0	No
	3960 (3961)	5C above ambient to 60C	±0.4C @ 30C ±0.3C @ 37C ±0.5C @ 45C	N/A	29.0	Optional*
GENERAL	3710	-20C to 60C	±0.4C @ 37C	N/A	20.3	No
	3770	-20C to 60C	±0.4C @ 37C	N/A	29.0	No
	3740 (3744)	Lights on: 8C to 55C Lights off: -20C to 55C	Lights on: ±2.2C @10C ±2.0C @37C ±1.7C @50C Lights off: ±0.8C @10C ±0.7C @37C ±0.8C @50C	N/A	20.3	Yes**

**Lights are a custom option (No. 190032) and do not meet ICH guidelines. Contact our Custom Products Department for details. Lights void UL Listing and CE Mark on Model 3960 (3961).*
***Lights do not meet ICH guidelines.*

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 0C to 60C (32F to 140F) temperature range that can be set in 0.1C 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.

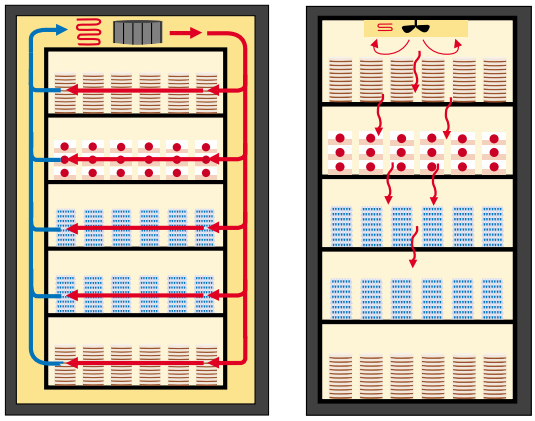
Advantages of Our Directed Horizontal Laminar Airflow System

Our directed airflow (shown) system 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.** By design, the feed plenum cannot be blocked by the chamber's contents.

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.



Thermo's directed airflow design (left) versus a top-to-bottom, undirected airflow design (right)

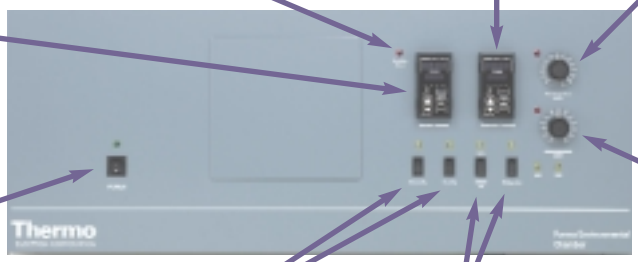
The directed airflow **minimizes the risk of product desiccation and loss, and wasted time and money** due to poor temperature uniformity and recovery.

Request a copy of the *Effects of Airflow Design on Large Incubator Uniformity* white paper, or visit www.thermo.com to learn more.

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

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Control Panel



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

Temperature Controller – Displays actual chamber temp and setpoint

Overtemperature Safety Thermostat and Indicator – Set overtemp (alarm and light indicate overtemp condition)

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

Main Power Switch and Indicator

Undertemperature Safety Thermostat and Indicator – Set undertemp control (alarm and light indicate undertemp 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 (3940/3949/3911/3913 only) – 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.

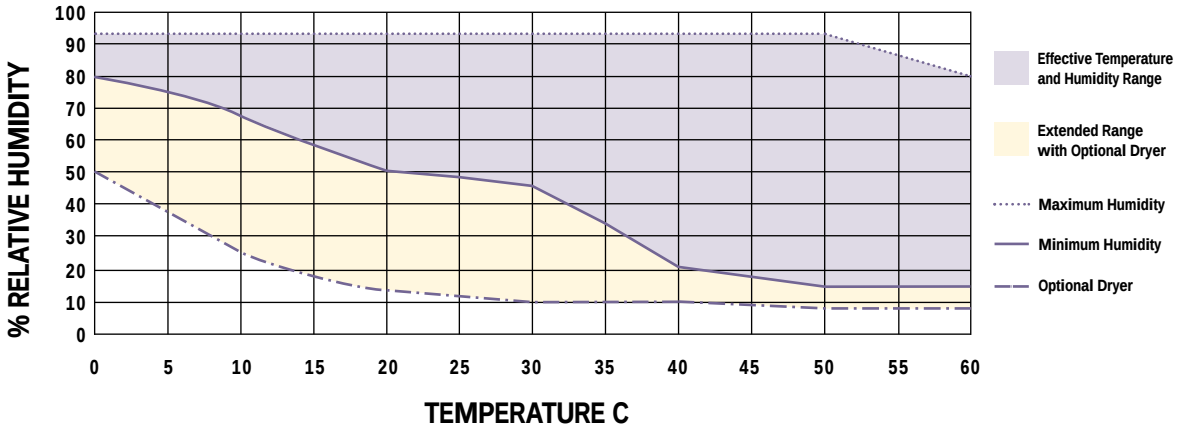
We also offer dehumidification and CO_2 control options to accommodate industrial, seed germination, and other biotechnological research applications. A door light package with a 24 hour on/off timer adjustable in 15 minute increments is available for Models 3920 and 3940 (3949) through our Custom Products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



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Determine if Models 3940 (3949) and 3911 (3913) Meet Your Temperature and Humidity Requirements

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 22.2C (72F) and 50% RH ambient. Optional heatless dryer is available for lower humidity levels.



3920/3940/3911 Series Specifications

Temperature

Control . . . . . ±0.1C @ 25C to 37C (77F to 98.6F)
Range. . . . . 0C to 60C (32F to 140F)
Sensor . . . . . RTD
Controller . . . . . Microprocessor, PID
Programmability . . . . . Ramp & soak (to 24 steps)
Setpoint . . . . . Digital
Display . . . . . Digital dual LED
Readability & Setability . 0.1C
Uniformity* . . . . . ±0.3C @ 25C to 37C (77F to 98.6F)

Temperature Safety

Sensor & Controller . . . Thermostat
Setpoint . . . . . Analog reference dial
Alarm . . . . . Audible/visual

Refrigeration

Compressor . . . . . 1/4 HP, air-cooled
Refrigerant . . . . . Non-CFC, R134A refrigerant

Humidity – 3940 (3949) & 3911 (3913) Only

Input Water Quality. . . . 50K-1Meg Ohm resistance
Input Water Volume . . . 1 gallon/hour
Input Water Pressure . . Gravity to 40 psi
RH . . . . . Above ambient to 95% @ 37C (98.6F), ±5.0% RH
Sensor . . . . . Bulk polymer
Controller . . . . . Microprocessor, PID
Programmability . . . . . Ramp & soak (to 24 steps)
Setpoint . . . . . Digital (direct set in % RH)
Display . . . . . Digital, dual LED (direct read in % RH)
Readability & Setability . 1.0%
Steam Generator . . . . . Initial fill approx. 1 qt. (1 liter)
Setable Alarm . . . . . Audible/visual

Fittings**

Fill Port
3940/3949/3911/3913. . 1/8" female NPT
Drain Port (Bottom . . . . 3/8" FPT & 3/8" O.D. P-trap
Right Rear, All Models)

Unit Heat Load

115V. . . . . 5500 BTUH (1600 Watts)
220V. . . . . 6000 BTUH (1750 Watts)

Dimensions

Exterior
Width . . . . . 38.0" (96.5cm)
Height
3920/3940/3949. . . . 88.5" (224.8cm)
3911/3913 . . . . . 51.5" (130.8cm)
F-B . . . . . 32.0" (81.3cm)
Interior
Width . . . . . 31.0" (78.7cm)
Height
3920/3940/3949. . . . 60.0" (152.4cm)
3911/3913 . . . . . 24.0" (60.9cm)
F-B . . . . . 27.0" (68.6cm)

Shelves

Dimensions . . . . . 30.6"W x 25.8"F-B (77.8cm x 65.6cm)
Construction. . . . . Solid stainless steel, reinforced
Surface Area. . . . . 5.4 sq. ft. (0.5 sq. m)
Max. Per Chamber . . . . 104.3 sq. ft. (9.7 sq. m)
Standard, Maximum
3920/3940/3949 . . . . . 6, 19
3911/3913 . . . . . 3, 11
Loading . . . . . 35 lbs. (15.9 kg), slide in/out
50 lbs. (22.7 kg), stationary

(continued)

**Six shelves in Models 3920 and 3940 (3949), three shelves in Model 3911 (3913); uniformity is ±0.5C at all other temperature parameters.*
***All models require a drain unless fitted with the optional Condensate Evaporator (No. 1900031). Models 3940 (3949) and 3911 (3913) also require a constant water source.*

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3920/3940/3911 Series Specifications (continued)

Construction

Interior Volume
- 3920/3940/3949 . . . . . 29.0 cu. ft. (821.2 liters)
- 3911/3913 . . . . . 11.0 cu. ft. (311.5 liters)

Interior . . . . . Type 304, 2B finish, stainless steel

Exterior. . . . . Cold-rolled steel, powder coated

Outer Door Gasket . . . . Four-sided, vinyl compression

Electrical

3920. . . . . 120V, 60 Hz, 16.0 FLA 3 Wire (including ground)

3940/3911 . . . . . 208-220V, 60 Hz, 15.0 FLA 4 Wire (including ground), single phase

3949. . . . . 220-240V, 50/60 Hz, 14.0 FLA, 3 Wire (including ground), must be hard-wired to a lockable fused disconnect switch

3913. . . . . 220-240V, 50/60 Hz, 15.0 FLA, 3 Wire (including ground), must be hard-wired to a lockable fused disconnect switch

Electrical (continued)

Power Switch. . . . . 1 Pole

Plug
- 3920. . . . . NEMA 5-20P
- 3940/3911 . . . . . NEMA 14-20P
- 3949/3913 . . . . . Safety switch disconnect

Dry Contacts . . . . . Common, NO, NC

Data Output . . . . . 4-20 milliamp, temp, and RH

Weight

Net
- 3920. . . . . 700 lbs. (317.5 kg)
- 3940/3949 . . . . . 765 lbs. (347.0 kg)
- 3911/3913 . . . . . 575 lbs. (260.8 kg)

Shipping (Motor)
- 3920. . . . . 850 lbs. (385.6 kg)
- 3940. . . . . 1,040 lbs. (471.7 kg)
- 3949. . . . . 940 lbs. (426.4 kg)
- 3911/3913 . . . . . 715 lbs. (324.3 kg)

Don't see the specs your application requires? Talk to our specialists in the Customs Department!

Incubator/Environmental Chamber for Elevated Temperature Applications

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



MODEL 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**
- **Enviro-Scan® controls with easy-to-read display of actual temp**

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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 named products,
  - ensures precise temperature control **without complicated programming**
  - provides audible/visual undertemperature and overtemperature 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 Model 3960 (3961) 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 Model 3960 (single European 230V CEE 7 on Model 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.

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Model 3960 (3961) Specifications

Temperature

Control	±0.1C
Range	5C above ambient to 60C (140F)
Uniformity	±0.4C @ 30C (86F) ±0.3C @ 37C (98.6F) ±0.5C @ 45C (113F)
Low Alarm	User programmable and indicator

Overtemperature

Sensor	Precision thermistor
Setability	0.1C
Function	User programmable, action (shuts off heat), and indicator

Temperature Safety (Cabinet)

Sensor	Independent thermostat
Type	Independent analog electronic

Fittings

Access Port with Stopper	2.4" (6.1cm) I.D., one on each side

Unit Heat Load

115V/230V	510 BTUH (150 Watts) 129 kcal per hour

Shelves

Dimensions	30.6"W x 25.8"F-B (77.7cm x 65.5cm)
Construction	2B finish, solid stainless steel
Surface Area	5.4 sq. ft. (0.5 sq. m) per shelf
Max. per Chamber	140.4 sq. ft. (13.0 sq. m)
Standard, Maximum	5, 26
Loading	30 lbs. (13.6 kg) per shelf, fully inserted and stationary; not to exceed 300 lbs. (136.0 kg) total per cabinet

Construction

Interior Volume	29.0 cu. ft. (821.2 liters)
Interior	Type 304, 2B finish, stainless steel
Exterior	Cold-rolled steel, powder coated
Insulation	2.0" (5.1cm) fiberglass
Exterior Door	Heated, triple pane, tempered glass
Outer Door Gasket	Molded vinyl

Electrical

3960	115V, 50/60 Hz, 9.0 FLA (Operating range 90-125V includes voltage fluctuations)
3961	200/230V, 50/60 Hz, 5.0 FLA (Operating range 180-250V includes voltage fluctuations)
Circuit Breaker/ Power Switch	3960 = 15 Amps; 2 pole 3961 = 8 Amps; 2 pole
Exterior Convenience Receptacle	75 Watts maximum (matches cabinet voltage)
Interior Convenience Receptacle	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
Data Outputs (opt.)	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)
Interior	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)
Shipping (Motor)	660 lbs. (299.4 kg)

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

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Freezer/Incubators and a Diurnal Growth Chamber—Basic Units for Specialized Needs

- Do you need a sub-ambient temperature incubator? Choose our **Forma Freezer/Incubator.** These units are often used in general research facilities, water treatment plants, and agricultural research institutions. Typical applications include **BOD culture, other bacteria, and sub-ambient bacteria, such as plant pathogens and soil bacteria.**

- The **Forma Diurnal Growth Chamber is a light box for plant culture,** including plant tissue, seed germination, and seedling growth.



Wide Temperature Range for Maximum Usability and Flexibility

- Forma Freezer/Incubators have a temperature range of -20C to 60C (-4F to 140F) to meet the requirements of a **variety of applications,** including research with poikilothermic organisms and drug stability testing. Optional chart recorders for temperature documentation and convenience receptacles are available.

- Forma Diurnal Growth Chamber's -20C to 55C (-4F to 131F) temperature range (lights off) meets many research needs, including plant freeze/thaw testing. Intake and exhaust ports are **easily adjusted to permit air exchange and exhaust.**

Large Capacity to Hold a High Volume of Your Product

- Roomy freezer/incubators and the diurnal growth chamber include five wire shelves each—adjustable on 1.0" (2.5cm) centers for flexibility—to support a **full product load.**

  – Freezer/incubators are available in 20.3 and 29.0 cu. ft. (574.8 and 821.2 liters) capacities.

  – Diurnal growth chamber has a 20.3 cu. ft. (574.8 liters) capacity.

High Output Light Banks for Ideal Light Coverage and Uniformity (Diurnal Growth Chamber Only)

- Lights are positioned above the shelves rather than on the door. This location ensures more uniform lighting, especially when the shelves are fully loaded, and results in **better growth conditions.**

- Adjustable 24 hour timer allows day and night cycles to be **set easily.**

- Photo timer controls the fluorescent lamps for diurnal simulation. Temperature cycling timer adjusts temperature conditions over time. Lamps, which operate simultaneously, produce up to 5600 lumens (17,750 lux) of light.



- Safety thermostats monitor heating and refrigeration systems to prevent overtemperature and undertemperature conditions, ensuring a **safe growth environment.**





DIURNAL GROWTH CHAMBER & FREEZER/INCUBATORS

These solid performers fulfill basic needs in the lab. The units are designed for the researcher who prefers a no-frills style yet requires an environment for a large quantity of product.

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Freezer/Incubators and Diurnal Growth Chamber Specifications

Models
3710/3770 . . . . . Freezer/Incubators
3740/3744 . . . . . Diurnal Growth Chamber

Temperature
Control . . . . . ±0.1C
Range
- 3710/3770. . . . . -20C to 60C (-4F to 140F)
- 3740/3744. . . . . Lights On: 8C to 55C (46.4F to 131F)
  Lights Off: -20C to 55C (-4F to 131F)

Sensor . . . . . Thermistor
Controller . . . . . Electronic proportional
Setpoint . . . . . Analog
Display . . . . . Dial thermometer readable to 1C
Uniformity
- 3710/3770. . . . . ±0.4C @ 37C (98.6F)
- 3740/3744. . . . . Lights On:
  ±2.2C @ 10C (50F)
  ±2.0C @ 37C (98.6F)
  ±1.7C @ 50C (122F)
  Lights Off:
  ±0.8C @ 10C (50F)
  ±0.7C @ 37C (98.6F)
  ±0.8C @ 50C (122F)

Temperature Safety
Sensor . . . . . Thermostat
Controller . . . . . Thermostat (high and low alarm)
Setpoint . . . . . Analog reference dial
Alarm . . . . . Audible/visual

Refrigeration (Compressor)
3710/3740/3744 . . . . . 1/4 HP, air cooled
3770. . . . . 1/3 HP, air cooled

Approximate Unit Heat Load
3740/3710/3770* . . . . . 3900 BTUH (1150 Watts)
3744. . . . . 4450 BTUH (1300 Watts)

Shelves
Dimensions
- 3710/3740/3744 . . . . 2 shelves @ 26.4"W x 15.0"F-B (67.1cm x 38.1cm), 3 shelves @ 26.4"W x 17.6"F-B (67.1cm x 44.7cm)
- 3770 . . . . . 5 shelves @ 31.5"W x 19.5"F-B (80.0cm x 49.5cm)

Construction. . . . . Steel wire
Surface Area
- 3710/3740/3744 . . . . 2 shelves @ 2.8 sq. ft. (0.3 sq. m), 3 shelves @ 3.2 sq. ft. (0.3 sq. m) Maximum: 15.2 sq. ft. (1.4 sq. m)
- 3770 . . . . . 5 shelves @ 4.3 sq. ft. (0.4 sq. m), Maximum: 21.3 sq. ft. (2.0 sq. m)

Shelves (continued)
Maximum Shelves per Chamber
- 3710 . . . . . 24 large and 15 small
- 3770 28
- 3740/3744. . . . . 18 large and 13 small

Standard. 5
Loading . . . . . 50 lbs. (22.7 kg), stationary

Construction
Interior Volume
- 3710/3740/3744 . . . . 20.3 cu. ft. (574.8 liters) nominal, 17.0 cu. ft. (481.4 liters) usable
- 3770 . . . . . 29.0 cu. ft. (821.2 liters) nominal, 26.7 cu. ft. (756.0 liters) usable

Interior . . . . . Baked enamel
Exterior. . . . . Textured steel, baked enamel
Insulation . . . . . Foamed polyurethane
Outer Door Gasket . . . . Four-sided, molded, magnetic vinyl

Electrical
3710*. . . . . 120V, 60 Hz, 9.0 FLA
3770*. . . . . 120V, 60 Hz, 11.0 FLA
3740. . . . . 120V, 60 Hz, 12.0 FLA (Operating range 108-125V)
3744. . . . . 230V, 50 Hz, 7.0 FLA (Operating range 216-250V)
Power Switch. . . . . 1 Pole
Plug
- 3710/3770/3740 . . . . NEMA 5-15 Plug
- 3744 . . . . . CEE 7/7 Plug

Lights (3740/3744) . . . . Eight 15 Watt fluorescent lamps, approx. 330 Footcandles (3550 lux or 1400 lumens) average per shelf, 2 lights per shelf

Dimensions
Exterior
- 3710/3740/3744 . . . . 32.0"W x 77.0"H x 29.5"F-B (81.3cm x 195.6cm x 74.9cm)
- 3770 . . . . . 35.0"W x 79.5"H x 30.8"F-B (88.9cm x 201.9cm x 78.2cm)

Interior
- 3710/3740/3744 . . . . 27.0"W x 57.0"H x 20.0"F-B (68.6cm x 144.8cm x 55.9cm)
- 3770 . . . . . 32.0"W x 65.0"H x 23.8"F-B (81.3cm x 165.1cm x 60.5cm)

Weight
Net
- 3710 . . . . . 270 lbs. (122.5 kg)
- 3770 . . . . . 415 lbs. (188.2 kg)
- 3740/3744. . . . . 265 lbs. (120.2 kg)

Shipping (Motor)
- 3710 . . . . . 320 lbs. (145.2 kg)
- 3770 . . . . . 544 lbs. (246.8 kg)
- 3740 . . . . . 325 lbs. (147.4 kg)
- 3744 . . . . . 340 lbs. (154.2 kg)

**Model 3710 and 3744 can be converted to 230V with Transformer Kit No. 280051. Unit heat load for 230V models is approximately 5450 BTUH (1600 Watts).*

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Accessories

All are **customer installed unless indicated otherwise**.

Shelving

Stock No.	Description
	Wire Shelves for Models 3710, 3770, and 3740 (3744) –
227641	Small Wire Shelf for Models 3710 and 3740 (3744)
227642	Large Wire Shelf for Models 3710 and 3740 (3744)
502045	Wire Shelf For Model 3770
	Stainless Steel Shelves for Models 3920, 3940 (3949), 3911 (3913), and 3960 (3961) –
224139	Solid Stainless Steel Shelf and Channels for Models 3920, 3940 (3949), 3911 (3913), and 3960 (3961)
224155	Perforated Stainless Steel Shelf and Channels for Models 3920, 3940 (3949), 3911 (3913), and 3960 (3961)
224161	Reinforced Stainless Steel Shelf and Channels for Models 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
1900005*	Fixed Reinforced Stainless Steel Shelf System for Models 3920, 3940 (3949), and 3960 (3961); accommodates two shakers (250 RPM maximum each); factory installed

Door Options

Stock No.	Description
190239	Lexan® Inner Door Kit (five doors) for Models 3920, 3940 (3949), and 3960 (3961); factory installed
190514	Door Lock Assembly for Models 3920, 3940 (3949), and 3960 (3961); factory installed
190597	Left-Hand Door Swing Kit for Models 3920 and 3940 (3949); factory installed
	Stainless Steel Door Glass Covers –
190591	For Models 3920, 3940 (3949), and 3960 (3961); factory installed
190892	For Models 3920, 3940 (3949), and 3960 (3961)**

Reinforced Floor Options

Stock No.	Description
500182***	Reinforced Floor with Removable Ramp for Models 3920, 3940 (3949), and 3960 (3961); accommodates a cell roller
190777***	Same as No. 500182 but factory installed

**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.*

Convenience Receptacles, factory installed

Stock No.	Description
	Duplex Receptacle Kits –
190215	120V NEMA 5-15R for Models 3710, 3770, and 3740
190216	230V NEMA 6-15R for Models 3710, 3770, and 3744
505099	120V (includes separate line cord) for Models 3920, 3940, and 3911; located on center rear wall
505094	230V (includes separate line cord) for Models 3920, 3940 (3949), and 3911 (3913); located on center rear wall

Data Outputs (select one) for Model 3960 (3961), factory installed

Stock No.	Description
190523	RS-485 interface (compatible with Model 1535 Monitor/Alarm only)
190512	4-20 milliamp
190543	0-5V
190544	0-1V

IQ/OQs



Stock No.	Description
	IQ/OQs, include MS Windows®-compatible document disk for process customization and detailed checklists to qualify unit setup and operation –
6003920	For Model 3920
6003940	For Models 3940 (3949) and 3911 (3913)
6003960	For Model 3960 (3961)

Monitor/Alarm and Sensaphone® for Model 3960 (3961)

Stock No.	Description
1535	Monitor/Alarm System, interfaces with as many as 24 products (channels) to monitor and display equipment conditions up to 2,000 ft. away
	Sensaphone Telephone Dialing Systems, interface with standard touch-tone phone –
400047	For up to four input channels
400134	For up to eight input channels

(continued)

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Chart Recorders and Paper

Stock No.	Description
	12", 6 Hour to 31 Day Digital Recorders for Models 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
	10", 7 Day Recorder Kits and Replacement Paper for Models 3710/3770/3740/3744, -30C to 70C (-22F to 158F), single pen, 115V –
203740	Top Mounted, factory installed
203741	Left Side, factory installed
180012	Replacement Chart Paper, 100 per box
	6", 7 Day Chart Recorders for Models 3920, 3940 (3949), and 3911 (3913); 0C to 60C (32F to 140F); 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 Model 3960 (3961), 0C to 60C (32F to 140F), single pen –
201155	115V, 50/60 Hz
201156	230V, 50/60 Hz
	6" Chart Paper for Recorders, 50 per box –
180006	For Single Pen, 0C to 60C (32F to 140F)
197030	For Single Pen, -10C to 70C (14F to 158F)
197075	For Single or Dual Pen, 0C to 100C (32F to 212F)





RH System Options

Stock No.	Description
184062	Condensate Pump Kit for Model 3920, 3940 (3949), and 3911 (3913) Elevated Drains
1900031	Condensate Evaporator for Models 3920, 3940 (3949), and 3911 (3913); includes separate line cord; 115V
1900139	Heatless Dryer Kit for Models 3940 (3949) and 3911 (3913), for sub-ambient chamber RH, factory installed

Calibration Certificate and IQ/OQs

260049	Calibration Certificate (specify test parameters)
	IQ/OQs, include document disk and checklists –
6003920	For Model 3920
6003940	For Models 3940 (3949) and 3911 (3913)
6003960	For Model 3960 (3961)

Miscellaneous Accessories

	Thru-Wall Access Ports, factory installed –
190164	Port for Model 3960 (3961), 2.4" (6.1cm) I.D., customer-specified location
505101	Port for Models 3920, 3940 (3949), and 3911 (3913); 1.5" (3.8cm) I.D.; on center right wall
	Infrared CO_2 Control Packages, factory installed –
1900226	For Model 3920
1900227	For Models 3940 (3949) and 3911 (3913)

Warranty

We confidently back our environmental chambers with a full one year parts and labor warranty. Customers within the United States can call 888-213-1790 for details about the warranty. Those outside the United States should contact their local distributor.

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