



Precision Compact Gravity Convection Ovens

Model No.

PR305215G, PR305210G, PR305210GCN
PR305225G, PR305220G, PR305220GCN

Table of Contents

Introduction	3
Product Overview	3
Safety Information	4
Alert Signals	4
Specifications	5
Power Requirements	5
Overall Dimensions.....	5
Chamber Dimensions	5
Volume	5
Shipping Weight	5
Performance Characteristics	5
Environmental Operating Conditions	5
Unpacking and Installation	6
Shipping Carton	6
Location	6
Electrical Requirements	6
Installation.....	7
Operation.....	8
Start-Up	8
Maintenance	9
Replacement Parts	10
Wiring Diagrams	11
Ordering Procedures	14
Warranty	16

Introduction

Thank you for selecting Thermo Scientific products for your equipment needs.

Product Overview

The Thermo Scientific Precision Compact Gravity Convection Ovens are designed for use in hospitals, industry, and school laboratories—wherever there is a need for low-cost, yet reliable ovens for drying, sterilization, baking, evaporation or similar type work. They are ideal for drying glassware, drying and/or baking non-flammable crystalline chemicals, pre-heating crucibles or other containers and drying filter paper strips or rounds.

The temperature range, controlled by a bimetallic thermostat on the front control panel, is from ambient +5°C to 210°C. A sheathed heater produces the unit's heat and a pre-set high-limit bimetallic thermostat is standard on all models. A pilot light on the control panel indicates oven operation status.

Helping to retain chamber heat is one-inch thick insulation of semi-refractory fibers that is sandwiched between the double walls of the chamber. The interior walls of the chamber are aluminum and the shelves are steel wire as is the surface covering the heater area—all for more efficient distribution of heat.

These ovens are built for rugged performance and long life. Each has a durable powder coated cold rolled steel exterior. To inhibit rust the shelves are nickel-plated steel.

Safety Information

Alert Signals



Warning

Warnings alert you to a possibility of personal injury.



Caution

Cautions alert you to a possibility of damage to the equipment.



Note

Notes alert you to pertinent facts and conditions.



Hot Surface

Hot surfaces alert you to a possibility of personal injury if you come in contact with a surface during use or for a period of time after use.

These instructions contain important operating and safety information. The user must carefully read and understand these instructions before using the oven. Your unit has been designed to optimize function, reliability, safety and ease of use. It is the user's responsibility to install the oven in conformance with local electrical codes.

Specifications

Power Requirements

Model PR305215G:	120 Volts, 50/60 Hz, 4.2 Amps, 500 Watts
Model PR305210G, PR305210GCN:	240 Volts, 50/60 Hz, 2.1 Amps, 500 Watts
Model PR305225G:	120 Volts, 50/60 Hz, 6.7 Amps, 800 Watts
Model PR305220G, PR305220GCN:	240 Volts, 50/60 Hz, 3.3 Amps, 800 Watts

Overall Dimensions

Models PR305215G, PR305210G, PR305210GCN:	12-1/2"W x 13-1/2"D x 18"H (32 x 34 x 46 cm)
Models PR305225G, PR305220G, PR305220GCN:	18-1/2"W x 13-1/2"D x 22-1/2"H (47 x 34 x 57 cm)

Chamber Dimensions

Models PR305215G, PR305210G, PR305210GCN:	10"W x 11-1/2"D x 11-1/2"H (25 x 29 x 29 cm)
Models PR305225G, PR305220G, PR305220GCN:	16"W x 11-1/2"D x 16-1/8"H (41 x 29 x 41 cm)

Volume

Models PR305215G, PR305210G, PR305210GCN:	0.7 cu. ft. (19.8 liters)
Models PR305225G, PR305220G, PR305220GCN:	1.7 cu. ft. (48.2 liters)

Shipping Weight

Models PR305215G, PR305210G, PR305210GCN:	35 lbs. (16 kg)
Models PR305225G, PR305220G, PR305220GCN:	57 lbs. (26 kg)

Performance Characteristics

Temperature Range	All models ambient +5°C to 210°C
Uniformity at 100°C	±5.0°C
Control at 100°C	±9.0°C

Environmental Operating Conditions

Pollution Degree*:	2
Installation Category*:	II
Altitude:	2000 Meters MSL (Mean Sea Level)
Humidity:	80% maximum, non-condensing
Electrical Supply:	120VAC or 240VAC
Voltage Tolerance:	±10% of normal rated line
Temperature:	15°C to 40°C
Product Usage:	This product is intended for use indoors only

*Refer to IEC 664-1

Unpacking and Installation

Shipping Carton

The shipping carton should be inspected upon delivery. When received, carefully examine for any shipping damage before unpacking. If damage is discovered, the delivering carrier should both specify and sign for the damage on your copy of the delivery receipt.

Open the carton carefully making certain that all parts are accounted for before packaging materials are discarded. After unpacking, if damage is found promptly report it to the carrier and request a damage inspection promptly.

IMPORTANT: Failure to request an inspection of damage within a few days after receipt of shipment absolves the carrier from any liability for damage. You must call for a damage inspection promptly.

Location

Set the oven where it is to be operated, in an area free of drafts and strong vibrations. Do not place on or near a combustible surface or material.



Note

Leave unit disconnected when not in use.

Electrical Requirements

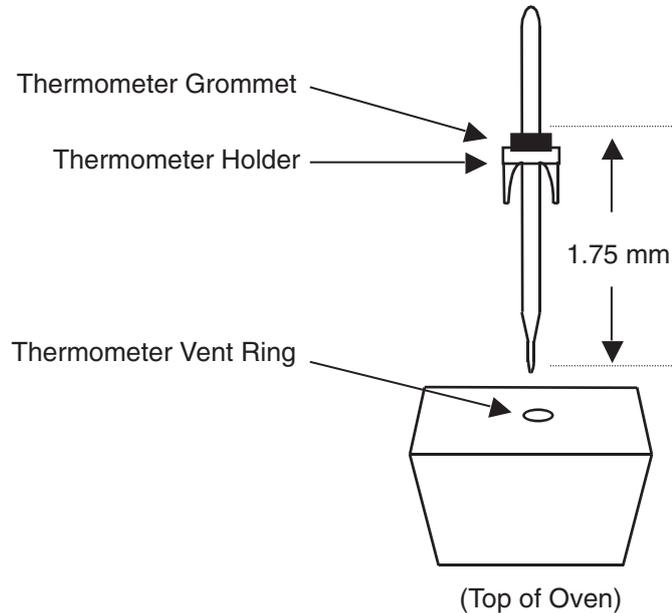
- Use a properly grounded electrical outlet of correct voltage and current handling capacity.
- Do not remove or modify grounded power plug. Use only properly grounded outlets to avoid shock hazard.

**Note**

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Installation

1. Install the shelves on the rack inside the oven.
2. Turn the power switch OFF and plug the oven into a receptacle that provides the required voltage as indicated on the unit's nameplate.
3. Install an immersion thermometer (furnished by the user) through the thermometer grommet and into the thermometer holder.
4. Adjust the immersion depth to 175 mm (measured from the bulb to the top of the rubber washer).
5. Insert this assembly into the thermometer vent ring that is located on top of the oven.



Operation



Warning

Do not use in the presence of flammable or combustible materials or explosive gases. Do not use in the presence of pressurized or sealed containers – fire or explosion may result, causing death or severe injury.



Warning

Do not heat any substance above a temperature that will cause it to emit toxic fumes; death or severe injury may result.



Caution

It is the user's responsibility to monitor oven action when setting and maintaining operating temperature; oven failure may occur with possible property damage and/or injury to personnel.



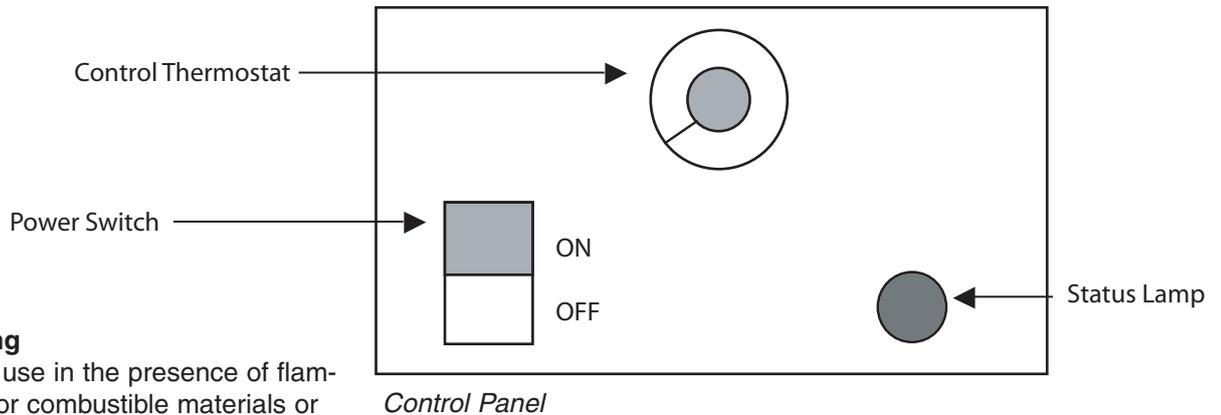
Hot Surface

At the higher temperatures, the exterior of the oven and particularly the thermometer vent ring on the top become uncomfortably warm to the touch. To avoid burns, do not touch these surfaces.



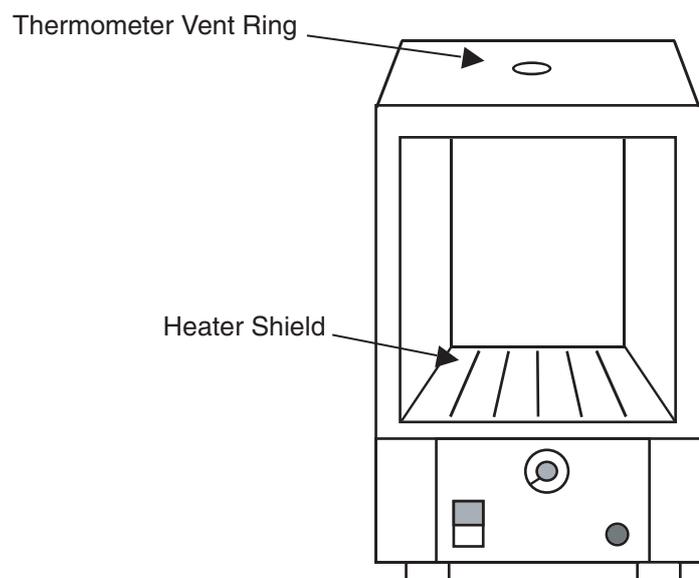
Warning

To avoid electrical short or shock, do not allow any metal object to protrude into the space beneath the shelf that serves as the heater shield inside the oven. In addition, do not operate oven with the shield removed.



Start-Up

1. Turn the power switch ON – status lamp will light.
2. Set the control thermostat to obtain the desired temperature. Read the user-supplied thermometer, not the control dial; the control dial is graduated from 0 to 10 for REFERENCE PURPOSES ONLY. It is suggested that a log be made of control settings vs. thermometer readings to assist in obtaining desired temperatures. However, it is important to bear in mind that the applicability of such a chart will be affected by changes in line voltage and ambient conditions.
3. Allow time for the oven to reach its maximum set temperature and to stabilize.



Maintenance



Note

Make no attempt to service or repair a Thermo Scientific product under warranty before consulting your Thermo Scientific dealer. After the warranty period, such consultation is still advised, especially when the repair may be technically sophisticated or difficult. If assistance is needed beyond what the distributor can provide, please call Customer Service at 800-553-0039. No merchandise should be returned directly to the factory without obtaining a Return Materials Authorization (RMA) number from Customer Service.



Warning

Disconnect from the power supply prior to maintenance and servicing.

Because of their rugged, simple construction, these ovens require very little maintenance. Ordinary cleaning will suffice. The bottom shelf that covers the heater can be removed for easy access to the heater area.

Clean up any spills as soon as possible to prevent materials being baked on surfaces. When the oven is cool, use a mild soap and water to clean surfaces. Rinse thoroughly and dry. It is best to avoid highly abrasive cleaners that can damage the finish of the interior surfaces and shelves.

If the oven fails to heat, there may be several possible causes:

- Oven is not receiving electrical power.
- Heater is burned out.
- Thermostat is malfunctioning.

Have a qualified electrical technician determine the cause of the problem and make the necessary repairs. Your local Thermo Scientific products dealer can provide the service and replacement parts needed.

Replacement Parts

DESCRIPTION	PART NUMBER
Tension Catch:	600-124-00
Handle:	560-248-00
Feet:	790-225-00
Status Lamp Base:	360-233-01
Status Lamp Lens (amber):	360-235-00
Power Switch (120V):	SWX143
Power Switch (240V):	440-292-00
Thermometer Grommet:	790-247-00
Thermometer Holder:	910-039-00
Control Thermostat:	920-412-00
Thermostat Knob:	560-265-00
Hi-Limit Thermostat:	920-413-00
Heaters:	
PR305215G:	340-212-00
PR305225G:	340-213-00
PR305210G, PR305210GCN:	340-214-00
PR305220G, PR305220GCN:	340-215-00
Shelves Kit:	
PR305215G, PR305210G, PR305210GCN:	3510-8Q
PR305225G, PR305220G, PR305220GCN:	3511-8Q

Ordering Procedures

Please refer to the Specification Plate for the complete model number, serial number, and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts listed herein may be ordered from the **Thermo Scientific** dealer from whom you purchased this unit or can be obtained promptly from the factory. When service or replacement parts are needed we ask that you check first with your dealer. If the dealer cannot handle your request, then contact our Customer Service Department at 563-556-2241 or 800-553-0039.

Prior to returning any materials, please contact our Customer Service Department for a "Return Materials Authorization" number (RMA). Material returned without an RMA number will be refused.

One Year Limited Warranty

This Thermo Scientific product is warranted to be free of defects in materials and workmanship for one (1) year from the first to occur of (i) the date the product is sold by the manufacturer or (ii) the date the product is purchased by the original retail customer (the "Commencement Date"). Except as expressly stated above, the MANUFACTURER MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS AND EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF DESIGN, MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

An authorized representative of the manufacturer must perform all warranty inspections. In the event of a defect covered by the warranty, we shall, as our sole obligation and exclusive remedy, provide free replacement parts to remedy the defective product. In addition, for products sold within the continental United States or Canada, the manufacturer shall provide free labor to repair the products with the replacement parts, but only for a period of ninety (90) days from the Commencement Date.

The warranty provided hereunder shall be null and void and without further force or effect if there is any (i) repair made to the product by a party other than the manufacturer or its duly authorized service representative, (ii) misuse (including use inconsistent with written operating instructions for the product), mishandling, contamination, overheating, modification or alteration of the product by any customer or third party or (iii) use of replacement parts that are obtained from a party who is not an authorized dealer of Thermo Scientific products.

Heating elements, because of their susceptibility to overheating and contamination, must be returned to the factory and if, upon inspection, it is concluded that failure is due to factors other than excessive high temperature or contamination, the manufacturer will provide warranty replacement. As a condition to the return of any product, or any constituent part thereof, to the factory, it shall be sent prepaid and a prior written authorization from the manufacturer assigning a Return Materials Number to the product or part shall be obtained.

IN NO EVENT SHALL THE MANUFACTURER BE LIABLE TO ANY PARTY FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR ANY DAMAGES RESULTING FROM LOSS OF USE OR PROFITS, ANTICIPATED OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THE SALE, USE OR PERFORMANCE OF ANY PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), ANY THEORY OF STRICT LIABILITY OR REGULATORY ACTION.

For the name of the authorized Thermo Scientific product dealer nearest you or any additional information, contact us:

2555 Kerper Blvd., Dubuque, Iowa, 52004-0797

Phone: 563-556-2241 or 1-800-553-0039

Fax: 563-589-0516

Web: www.thermo.com