



Precision Compact Gravity Convection Ovens

Models PR305225G (658), PR305220G (652) and PR305220GCN (669)

Operating Manual and Parts List LTM1879X1 (7000652) Rev. 2

Visit us online to register your warranty
www.thermoscientific.com/labwarranty

Thermo
SCIENTIFIC

Models covered in this manual		
Models	Size	Voltage
PR305225G (658)	1.7 cu ft	120V
PR305220G (652)	1.7 cu ft	240V
PR305220GCN (669)	1.7 cu ft	240V

MANUAL NUMBER LTM1879X1 (7000652)

2	31325	2/16/15	Added not-explosion-proof warning	ccs
1	31259	10/27/14	Updated thermometer installation on pg 3-2	ccs
0	--	4/30/10	Transfer to Marietta (was LTM1879X1 8/4/09)	ccs
REV	ECR/ECN	DATE	DESCRIPTION	By



Important Read this instruction manual. Failure to read, understand and follow the instructions in this manual may result in damage to the unit, injury to operating personnel, and poor equipment performance. ▲

Caution All internal adjustments and maintenance must be performed by qualified service personnel. ▲

Material in this manual is for information purposes only. The contents and the product it describes are subject to change without notice. Thermo Fisher Scientific makes no representations or warranties with respect to this manual. In no event shall Thermo be held liable for any damages, direct or incidental, arising out of or related to the use of this manual.

©2010 Thermo Scientific. All rights reserved.



Important operating and/or maintenance instructions. Read the accompanying text carefully.



Potential electrical hazards. Only qualified persons should perform procedures associated with this symbol.



Equipment being maintained or serviced must be turned off and locked off to prevent possible injury.



Hot surface(s) present which may cause burns to unprotected skin, or to materials which may be damaged by elevated temperatures.



Marking of electrical and electronic equipment, which applies to electrical and electronic equipment falling under the Directive 2002/96/EC (WEEE) and the equipment that has been put on the market after 13 August 2005.



This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2002/96/EC. It is marked with the WEEE symbol. Thermo Fisher Scientific has contracted with one or more recycling/disposal companies in each EU Member State European Country, and this product should be disposed of or recycled through them. Further information on Thermo's compliance with this directive, the recyclers in your country and information on Thermo Scientific products will be available at www.thermofisher.com.

- ✓ Always use the proper protective equipment (clothing, gloves, goggles, etc.)
- ✓ Always dissipate extreme cold or heat and wear protective clothing.
- ✓ Always follow good hygiene practices.
- ✓ Each individual is responsible for his or her own safety.

Do You Need Information or Assistance on Thermo Scientific Products?

If you do, please contact us 8:00 a.m. to 6:00 p.m. (Eastern Time) at:

1-740-373-4763

1-800-438-4851

1-877-213-8051

<http://www.thermoscientific.com>

service.led.marietta@thermofisher.com

www.unitylabservices.com

Direct

Toll Free, U.S. and Canada

FAX

Internet Worldwide Web Home Page

Tech Support Email Address

Certified Service Web Page

Our **Sales Support** staff can provide information on pricing and give you quotations. We can take your order and provide delivery information on major equipment items or make arrangements to have your local sales representative contact you. Our products are listed on the Internet and we can be contacted through our Internet home page.

Our **Service Support** staff can supply technical information about proper setup, operation or troubleshooting of your equipment. We can fill your needs for spare or replacement parts or provide you with on-site service. We can also provide you with a quotation on our Extended Warranty for your Thermo Scientific products.

Whatever Thermo Scientific products you need or use, we will be happy to discuss your applications. If you are experiencing technical problems, working together, we will help you locate the problem and, chances are, correct it yourself...over the telephone without a service call.

When more extensive service is necessary, we will assist you with direct factory trained technicians or a qualified service organization for on-the-spot repair. If your service need is covered by the warranty, we will arrange for the unit to be repaired at our expense and to your satisfaction.

Regardless of your needs, our professional telephone technicians are available to assist you Monday through Friday from 8:00 a.m. to 6:00 p.m. Eastern Time. Please contact us by telephone or fax. If you wish to write, our mailing address is:

Thermo Fisher Scientific
401 Millcreek Road, Box 649
Marietta, OH 45750

International customers, please contact your local Thermo Scientific distributor.

Table of Contents

Section 1	Introduction	1-1
Section 2	Specifications	2-1
Section 3	Unpacking and Installation	3-1
	Electrical Requirements	3-1
	Location	3-1
	Installation	3-2
Section 4	Operation	4-1
Section 5	Maintenance	5-1
Section 6	Replacement Parts	6-1
	Ordering Procedures	6-1
Section 7	Wiring Diagrams	7-1

Section 1 Introduction

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

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.

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.

Section 2 Specifications

Power Requirements

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 PR305225G, PR305220G, PR305220GCN:18½"W x
13½"D x 22½"H (47 x 34 x 57 cm)

Chamber Dimensions

Models PR305225G, PR305220G, PR305220GCN: . . . 16"W x 11½"
D x 16-1/8"H (41 x 29 x 41 cm)

Volume

Models PR305225G, PR305220G, PR305220GCN: 1.7 cu. ft.
(48.2 liters)

Shipping Weight

Models PR305225G, PR305220G, PR305220GCN: . . .57 lbs. (26 kg)

Performance Characteristics

Temperature RangeAll 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*

Section 3 Unpacking and Installation

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. Call for a damage inspection promptly.

Note Disconnect unit from the power source when not in use. ▲

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.

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.

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 6-7/8" (175mm), 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.

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

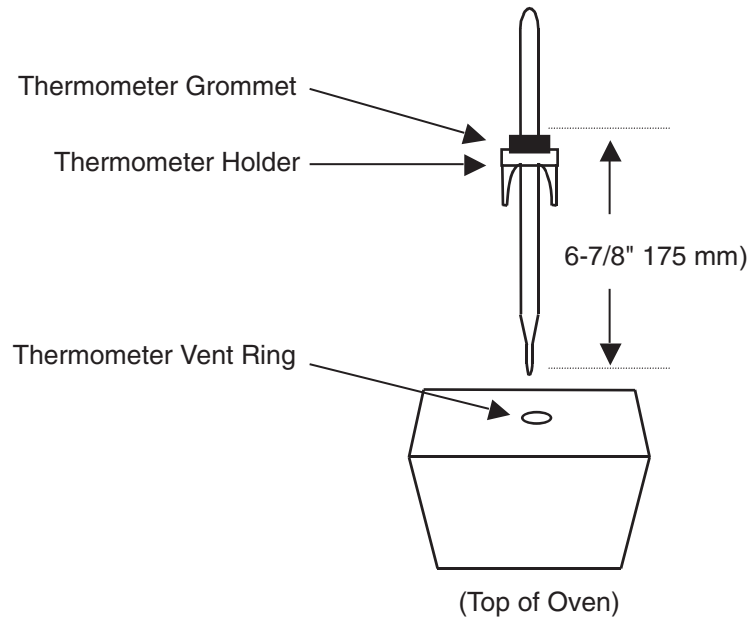


Figure 4-2. Thermometer Components

Warning This unit is not explosion-proof. Do not use in the presence of flammable or combustible materials; fire or explosion may result. Unit contains components that may ignite such materials. Before operating oven, always observe the following safety precautions:

- Fumes and spillage from acidic solutions cause corrosion of the stainless steel chamber. Maintain a neutral pH at all times.
- The heater for the oven is in the bottom of the unit. Surface temperatures at the bottom cover of the unit may be higher than set point temperature. For example: A plastic container on the heater cover may become hot enough to melt/burn the container at settings below the melting point of plastic. Do not place items on the heater cover.

Section 4 Operation

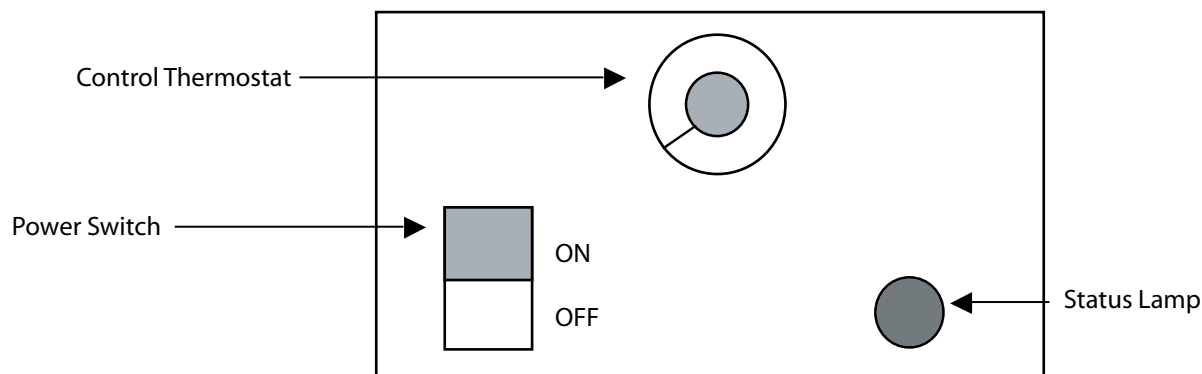


Figure 4-1. Control Panel

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.

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. ▲

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

Warning 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. ▲

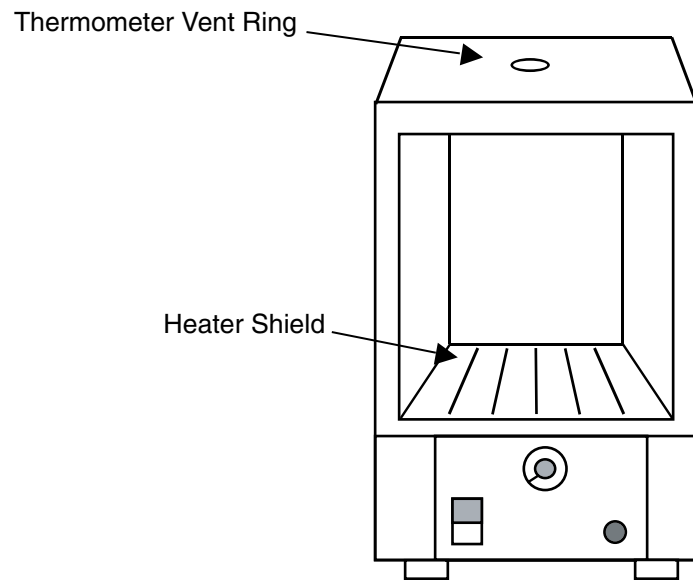


Figure 4-2. Vent Ring and Heater Shield Locations

Section 5 Maintenance

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.

Warning Disconnect from the power supply prior to maintenance and servicing. ▲

Note Make no attempt to service or repair a Thermo Scientific product under warranty before consulting your Thermo 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 Technical Services. No merchandise should be returned directly to the factory without obtaining a Return Materials Authorization (RMA) number from Technical Services. ▲

Section 6 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	
PR305225G	340-213-00
PR305220G, PR305220GCN	340-215-00
Shelf Kit	3511-8Q

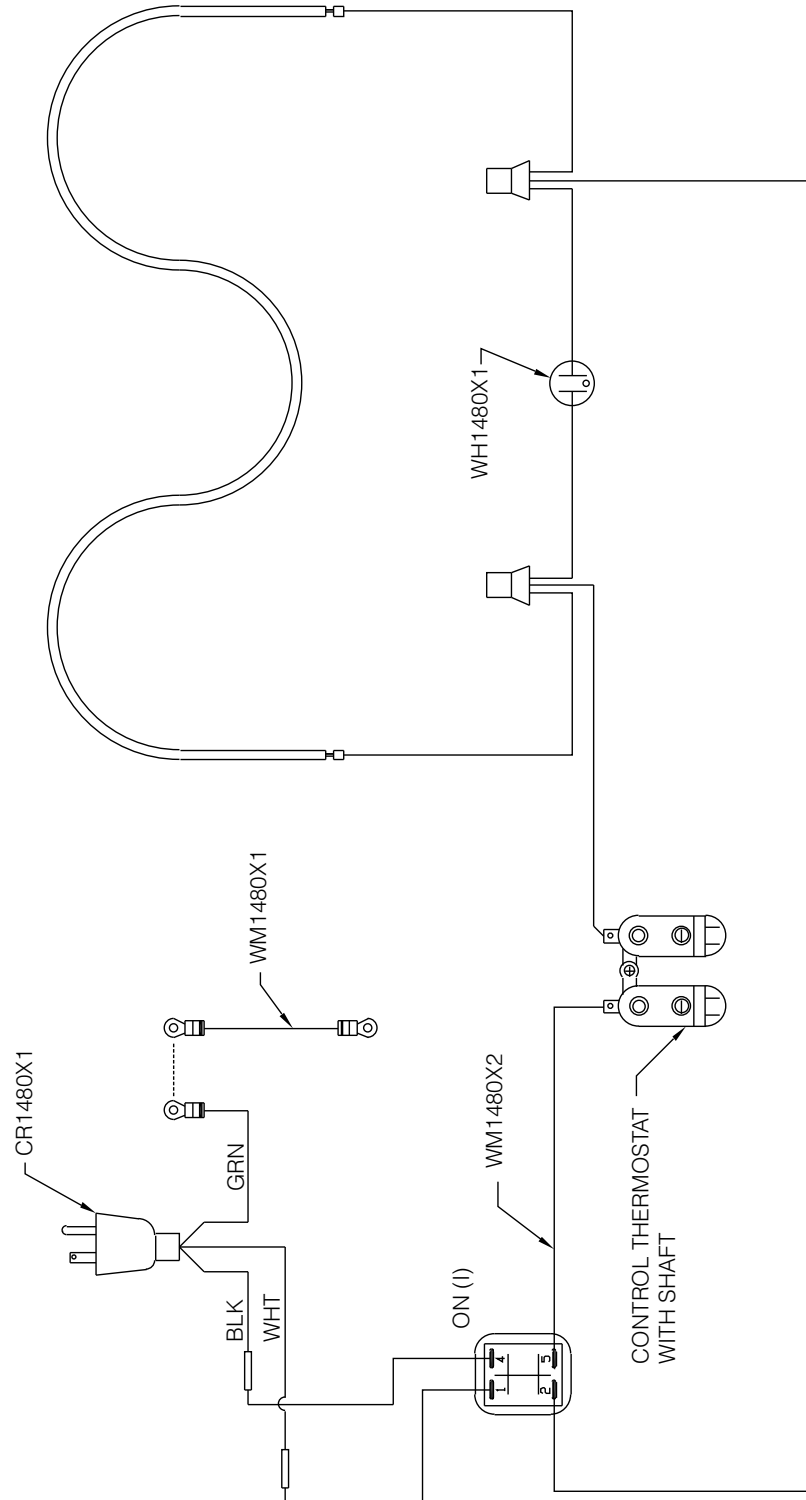
Ordering Procedures

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, check first with your dealer. If the dealer cannot process your request, then contact our Technical Services Department.

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

Section 7 Wiring Diagrams



Thermo Fisher Scientific
401 Millcreek Road
Marietta, Ohio 45750
United States

www.thermofisher.com

ThermoFisher
S C I E N T I F I C