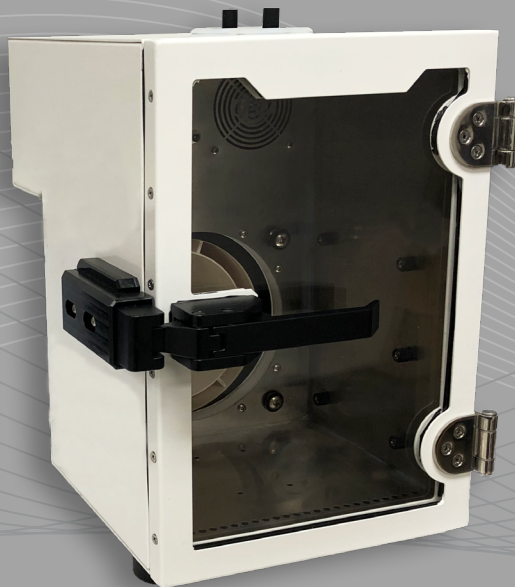


EXPANSION CHAMBER

User Manual



English

Deutsch

Français

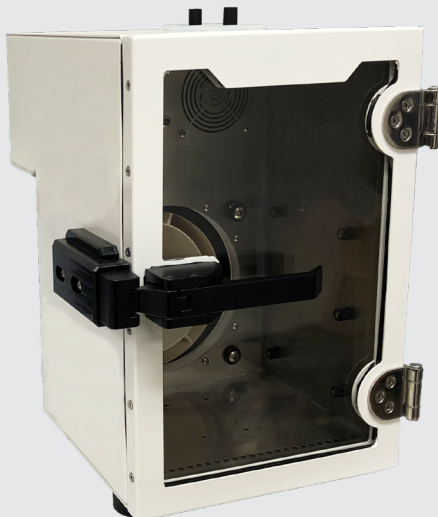
TABLE OF CONTENTS

INTRODUCTION	3
PRODUCT WARRANTY.....	4
UNPACKING INSTRUCTIONS.....	5
CALIBRATOR APPLICATIONS	5
STANDARD PACKING CHECK LIST TABLE.....	5
VISUAL ITEM CHECK LIST.....	6
QUICK START GUIDE	7
SAFETY WARNING	10
General Safety Information	10
Disposal Safety Information.....	11
TECHNICAL SUPPORT	12
REPAIRS	13
UNIT REPAIR PROCEDURE	13



GEO Calibration Inc
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support@geocalibration.com • www.geocalibration.com

INTRODUCTION



MESSAGE FROM GEO CALIBRATION

Thank you for purchasing the GEO Calibration Model 2000 SP humidity and temperature generator/calibrator with Expansion Chamber. We look forward to providing you the highest quality technical support as you become familiar with your new humidity and temperature calibrator.

Regards,
GEO Calibration Service Team

WARNING



As you read through this product manual, please familiarize yourself with our recommended best practices. By following the proper procedures, you will ensure your unit consistently performs to its highest potential.

Once you have removed the Model 2000 SP with Expansion Chamber from its external packaging, please visually inspect the unit for damage. If damage is found, please immediately contact your supplier.

LIMITED WARRANTY AND LIMITATION OF LIABILITY

Each GEO Calibration product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is one year and begins on the date of shipment. Parts, product repairs, and services are warranted for 90 days. This warranty extends only to the original buyer or end-user customer of a GEO Calibration authorized reseller, and does not apply to fuses, disposable batteries, desiccants, distilled water, or to any product which, in GEO Calibration's opinion, has been misused, altered, neglected, contaminated, or damaged by accident or abnormal conditions of operation or handling. GEO Calibration does not warrant that software will be error free or operate without interruption.

GEO Calibration authorized resellers shall extend this warranty on new and unused products to end-use customers only but have no authority to extend a greater or different warranty on behalf of GEO Calibration. **Warranty support requires activation and registration at:**

<https://www.geocalibration.com/register>

and is purchased through a GEO Calibration authorized sales outlet or Buyer has purchased unit directly from GEO Calibration. GEO Calibration reserves the right to invoice Buyer for importation costs of repair/replacement parts when product purchased in one country is submitted for repair in another country. GEO Calibration's warranty obligation is limited, at GEO Calibration's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to a GEO Calibration authorized service center within the warranty period.

To obtain warranty service, contact your nearest GEO Calibration authorized service center to obtain return authorization information, then send the product to that service center, with a description of the difficulty, postage and insurance prepaid (FOB Destination). GEO Calibration assumes no risk for damage in transit. Following warranty repair, the product will be returned to Buyer, transportation prepaid (FOB Destination). If GEO Calibration determines that failure was caused by neglect, misuse, contamination, alteration, accident, or abnormal condition of operation or handling, including over voltage failures caused by use outside the product's specified rating, or normal wear and tear of mechanical components, GEO Calibration will provide an estimate of repair costs and obtain authorization before commencing the work. Following repair, the product will be returned to the Buyer, shipped Ex Works FOB Suffolk County NY.

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. GEO CALIBRATION SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY.

Since some countries or states do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any provision of this Warranty is held invalid or unenforceable by a court or other decision-maker of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision.

GEO Calibration Inc.
2190 Smithtown Avenue
Ronkonkoma, NY, 11779
U.S.A.

UNPACKING INSTRUCTIONS

Once you have removed the Expansion Chamber from its external packaging, please visually inspect the unit for damage. If damage is found, please immediately contact your supplier.

CALIBRATOR APPLICATIONS

The GEO Expansion Chamber generates and maintains a controlled humidity and temperature environment for the purpose of testing or calibrating humidity and temperature sensors, also known as hygrometers. The humidity calibration range is 20 % up to 80 %, while the temperature range is +/- 5°C from room temperature (Typical room temperature is 23°C).

The Expansion Chamber can calibrate many hygrometer types, including but not limited to:

- Probes
- Data-loggers
- Chart Recorders
- Additional Assorted Hygrometers

Please review the dimensions of the calibration chamber to ensure compatibility with the size requirements of any Hygrometers you intend to calibrate.

STANDARD PACKING CHECK LIST TABLE

Within the Shipped Case			
X	QTY	Part Number	Description
	1	01-054-00-0000	Expansion Chamber
	1	01-200-01-0036	7 Piece Bung Kit
	1	01-054-90-0001	Mains Power Cord
	1	01-200-67-0001	4 Piece Screw with Washer Kit
	1	01-200-08-0026	Chamber Mixing Insert with Fan
	1	01-050-07-0010	Internal Upper Shelf
	1	01-050-07-0011	Internal Lower Shelf
	1	01-200-68-0001	Screw Driver

VISUAL ITEM CHECK LIST

Listed below are standard contents included with the purchase of a new Expansion Chamber.



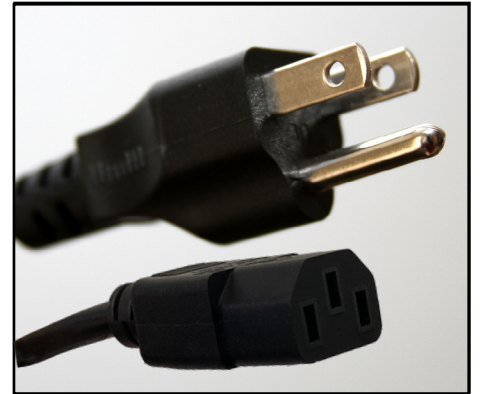
Expansion Chamber

P/N:01-054-00-0000



7 Bung Kit

P/N: 01-200-01-0036



Mains Power Cord

P/N: 01-054-90-0001



Screw Driver

P/N: 01-200-68-0001



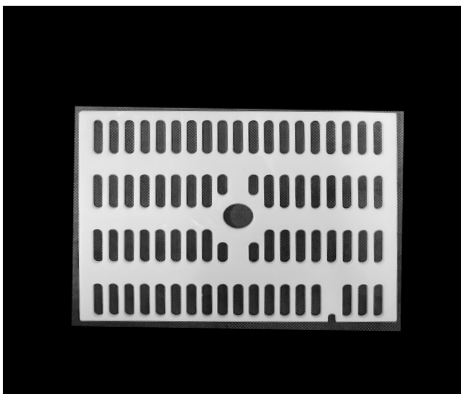
4 Piece Screw with Washer Kit

P/N: 01-200-67-0001



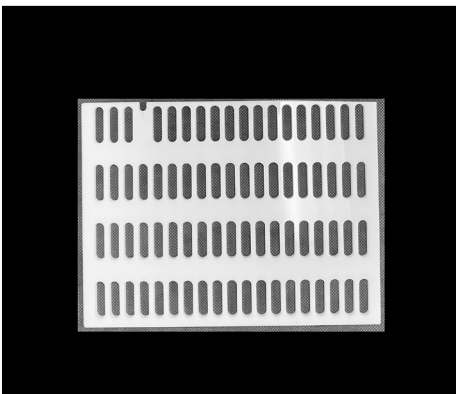
Chamber Mixing Insert with Fan

P/N: 01-200-08-0026



Internal Upper Shelf

P/N: 01-050-07-0010

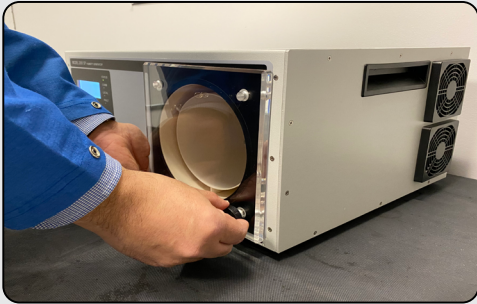


Internal Lower Shelf

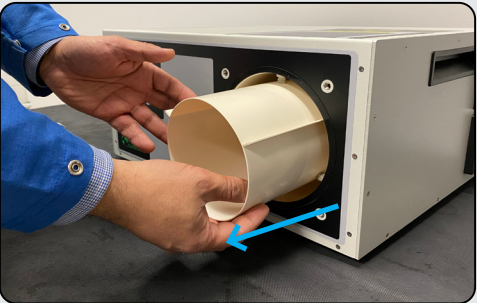
P/N: 01-050-07-0011

QUICK START GUIDE

The Expansion Chamber can be used for calibrating the Data Loggers or devices which do not fit inside the M2000 chamber. Please follow the steps to connect the expansion chamber to the M2000SP:



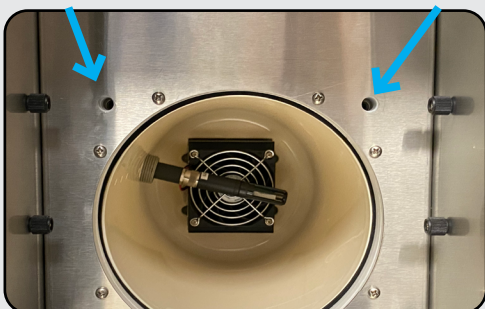
- 1. Remove the main door by unscrewing the four thumb screws.**



- 2. Remove the Insert from the Chamber**



- 3. Open the door of Expansion Chamber**



- 4. Align the chamber with expansion chamber such that four screw hole are aligned**



5. Put four screws one at a time using the screw driver provided with the Expansion Chamber



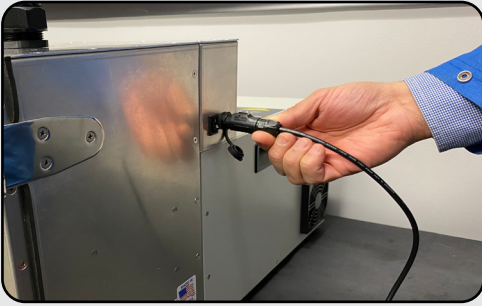
6. Tighten all four screws and make sure they are tight



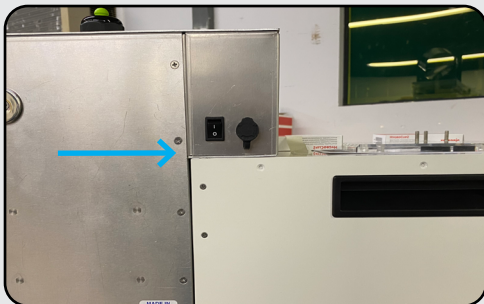
7. Push the new insert with blower in the chamber and plug the DC Plug into the DC jack



8. You may put the shelf as needed at any of the locations and gently close and latch the door

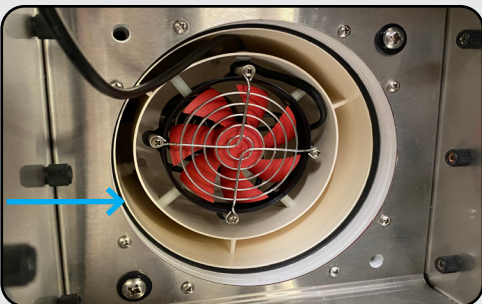


9. Plug the male connector into the receptacle of the expansion chamber and the other two wires are plugged into the 12VDC supply provided in the back of the M2000SP



NOTE:

Please make sure there is no gap between Expansion chamber and the unit.



NOTE:

Please make sure the chamber insert with fan is placed completely into the chamber.

GENERAL SPECIFICATIONS

CONTROLLED RANGE	TEMPERATURE	Ambient \pm 5 °C	
	HUMIDITY@23 °C	20 % to 80 % RH	
CALIBRATION SYSTEM ACCURACY	TEMPERATURE	\pm 0.50°C	
	HUMIDITY	\pm 3.00 % RH @ 23 °C	
UNIFORMITY	TEMPERATURE	0.50 °C	
	HUMIDITY	3.00 % RH @ 23 °C	
STABILITY	TEMPERATURE	0.30 °C	
	HUMIDITY	1.00 % RH @ 23 °C	
RAMP / SOAK RATE OF CHANGE	TEMPERATURE	High \rightarrow Low	1.50 °C / minute
		Low \rightarrow High	5.00 °C / minute
	HUMIDITY	High \rightarrow Low	1.00 % RH / minute
		Low \rightarrow High	1.00 % RH / minute

*In high humidity environment, please set the temperature first. Once temperature settled, then set the humidity.

MECHANICAL *Subject to Variations

GENERATOR DIMENSIONS	Measurement Type	Depth	Width	Height
	Metric	28.60 cm	22.00 cm	34.50 cm
	English	11.26 in	8.66 in	13.58 in
CHAMBER DIMENSIONS	Measurement Type	Depth	Width	Height
	Metric	16.80 cm	19.40 cm	29.40 cm
	English	6.62 in	7.64 in	11.58in
	Volume	8.00 Liters Effective Working Volume		
WEIGHT	Metric	7.00 kg		
	English	15.44 lb		
PROBE PORTS	Port Total	1		

SAFETY WARNING

General Safety Information

- Read all provided and available safety information before you use the Expansion Chamber.
- Carefully read all available instructions.
- Use only the power cord and supply approved for the voltage for the Expansion Chamber.
- Replace the power cord if the insulation is damaged or if the insulation shows any signs of wear.
- Make sure the ground conductor in the power cord is connected to a functioning ground.
- Disruption of the ground could put voltage on the chassis that could cause death.
- Use the Expansion Chamber only as specified, or the protection supplied by the Product can be compromised.
- Do not put the Expansion Chamber where access to the power cord isn't possible.
- Immediately cease using and disable the Expansion Chamber if it is damaged.
- Do not use the Expansion Chamber if it operates in an incorrect way.
- Do not operate the Expansion Chamber with unit casing removed. Hazardous voltage exposure is possible.
- Use only specified GEO Calibration replacement parts.
- The Expansion Chamber may only be repaired by approved technicians.
- Do not use the Expansion Chamber around explosive gas, vapor, or in damp or wet environments.

SAFETY WARNING

Disposal Safety Information

European Union—Disposal Information



The symbol above means that according to local laws and regulations your product and/or its desiccant shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product and/or its desiccant at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

Locations

GEO Calibration Inc.

**2190 Smithtown Avenue
Ronkonkoma, NY
USA**

Tel.: +00/(1) 631 / 471 - 6157
Fax: +00/(1) 631 / 471 - 6158
support@geocalibration.com
www.geocalibration.com



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REPAIRS

UNIT REPAIR PROCEDURE

- **Contact GEO Calibration and request an RMA #**
- **Have the Product information ready such as the purchase date and serial number to schedule the repair**
- **Ship the unit to GEO in the original shipping container or one designed specifically for “Safe Travel”**
- **Apply your RMA # on the outside of the shipping package in large numbers**
- **Apply the top right portion of your quotation with RMA # and barcode to the outside of the shipping package, so that it is visible**
- **Include a copy of all GEO communication documentation inside your package**
- **Estimated Return Ship-Date is 15 business days from the date both the unit and a valid method of payment is received**
- **On the Purchase Order, please ensure the “Vendor Name” is GEO Calibration Inc., and the address is 2190 Smithtown Avenue, Ronkonkoma NY 11779**
- **Payment Terms are “Immediate Payment” from Date of Invoice, FOB Origin, the respective Dollar Amounts, and any return shipping instructions are completed. (Please, do not send a copy of your internal “Purchase Requisition” as we need the actual “Purchase Order” with the above items included)**
- **Reference the RMA # on the completed PO and forward a copy via fax (631.471.6158) or email to: service@geocalibration.com**
- **If credit card is being used for payment and has not been provided as yet, please call +1 (631) 471 - 6157 and provide information; referencing your RMA # when you call**
- **** Exception pricing may apply upon evaluation by the service center. If applicable, this will be presented in a formal re-quote before proceeding****
- **Please note that a “Payment Method” must be on file, reviewed and approved before any service work may begin on your item**
- **If you have any questions do not hesitate to call or email us.**

Please ship the unit to:

Attn: Repairs

GEO Calibration Inc.

2190 Smithtown Avenue

Ronkonkoma, NY, 11779

The United States of America

INDUSTRIES

PHARMACEUTICAL
MANUFACTURING

CALIBRATION LABS

BIOMEDICAL

R&D
FACILITIES

FOOD PRODUCTION

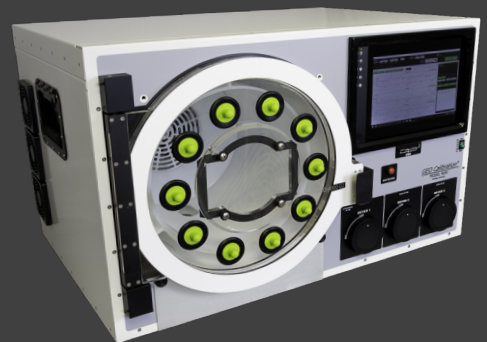
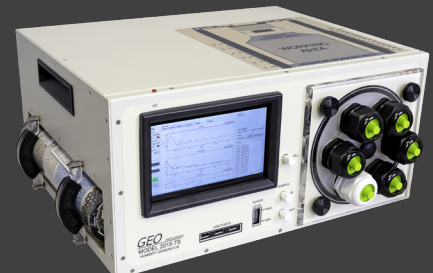
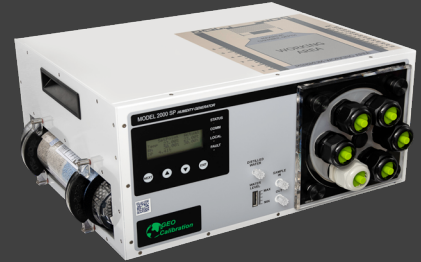
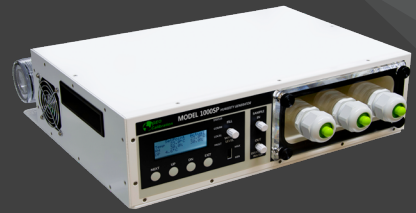
AUTOMOTIVE
MANUFACTURING

AEROSPACE

HOSPITAL / MEDICAL

CLEAN ROOMS

For a complete product and accessory review,
please visit our website: www.geocalibration.com



CONTACT US:




Email: Sales@GeoCalibration.com

Website: www.GeoCalibration.com



GEO *Calibration*



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