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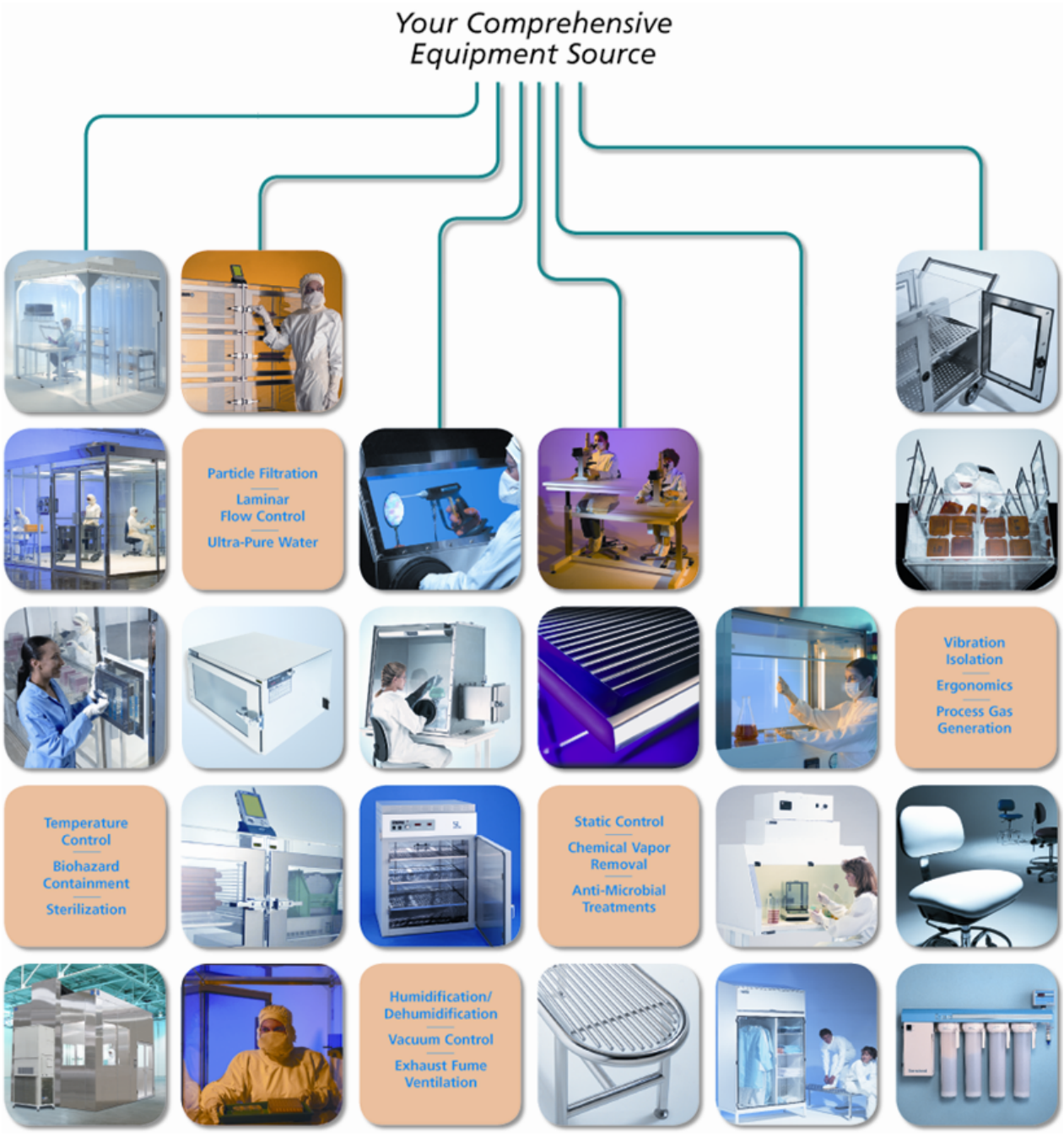
TERRA UNIVERSAL.COM
Critical Environment Solutions



Quick-Start Operating Guide *Document No. 1800-58*

Full-Vacuum Control Module

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Quick-Start Operating Guide

Full-Vacuum Control Module

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Safety Notice

A thorough familiarity with all operating guidelines is essential to safe operation of the product. Failure to observe safety precautions could result in poor performance, damage to the system or other property, or serious bodily injury or death.

The following symbols are intended to call your attention to two levels of hazard involved in operation:

CAUTION — **Cautions are used when failure to observe instructions could result in significant damage to equipment.**

WARNING — **Warnings are used when failure to observe instructions or precautions could result in injury or death.**

The information presented here is subject to change without notice.

1.0 Introduction

This manual provides information on installing and operating your Terra *Full-Vacuum Control Module*.

By studying this document carefully, you can be assured of a long, efficient service life from your system.

2.0 Description

Terra Universal's Vacuum Chamber and Vacuum Control Module allow controlled vacuum processing down to one atmosphere (29.9" Hg) before parts are passed into a stainless steel glove box. The turnkey system includes a Vacuum Antechamber with sliding tray (to facilitate parts transport to and from the glove box), a vacuum control module (with vacuum gauge, set point controller and solenoid), and a vacuum pump. Please refer to TUI Operating Manual No. 1800-13 for guidelines on connecting the stainless steel glove box. This QuickStart guide provides instructions on connecting and operating the vacuum control system.



Note: This unit is intended for use with chambers that support a vacuum to 29.9" Hg. For low-vacuum (negative-pressure) chambers, use Terra's Low-Vacuum Controller (No. 1685-99).

3.0 Installation

Carefully unpack all system components and check for missing or damaged parts. Any damage should be reported immediately to the shipping company.

The Vacuum Antechamber is installed on the specified side of the Stainless Steel Glove Box before shipping. Refer to the illustration below for guidelines on connecting the pump and vacuum controller to the antechamber.

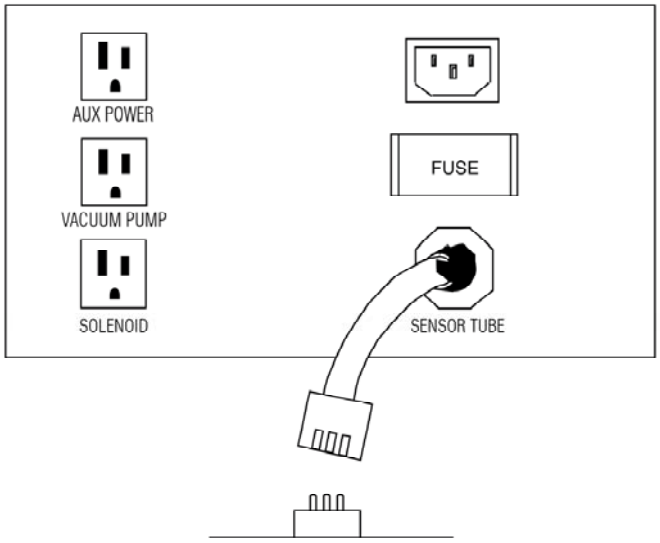
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4.0 Operation

1. Place items to be introduced into the glove box into the vacuum chamber and close both the inside and outside chamber doors.

2. Rotate the backfill valve to the OFF position.

3. Plug the vacuum pump power cord to the "vacuum pump receptacle" on the rear of the controller. Plug the cable from the solenoid valve to the "solenoid receptacle" on the rear of the controller. Plug the "sensor tube" cable on the back of the controller to the pressure sensor on the vacuum chamber. With the power cord of the controller plugged into a 120VAC/60Hz (for No. 1681-75) or 220VAC/50Hz (for No. 1681-76) receptacle, turn both the solenoid and vacuum pump switches off and the main power on .



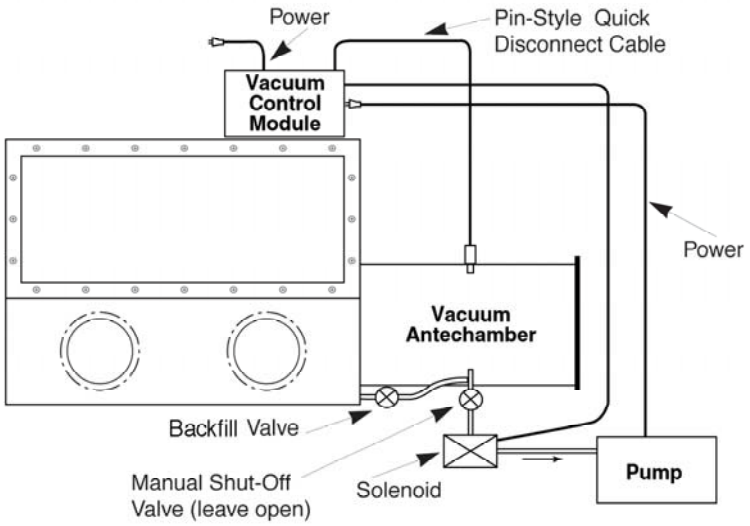
Back: Panel

4. Rotate the chamber valve to the OPEN position and turn ON the vacuum pump switch on the vacuum controller. At this point, the vacuum pump is on and ready to evacuate the chamber.

5. To set the desired vacuum level you must set the limit switch set point on the vacuum gauge that is integrated into the controller. The controller uses the "LO" set point contacts.

   On the vacuum gauge, loosen the thumbscrew at the bottom of the front panel and raise the protection cover. The set point adjusting potentiometers are located to the left of the thumbscrew and are labeled "HI" and "LO." Rotate the front panel switch to "LO" and turn the low potentiometer (clockwise to increase the set point) until the desired set point pressure is displayed

6. To start the evacuation process, turn on the vacuum switch on the controller. This opens the solenoid valve and starts reducing the pressure in the chamber. Evacuation continues until the desired vacuum level is reached as determined by the setting made in step 5 above.



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7. As the chamber evacuates, the gauge will read the chamber's vacuum in torr (750 torr is the starting atmospheric pressure). When the set point is reached, the controller will de-energize the solenoid and maintain the desired vacuum inside the chamber.

To retrieve the items from the chamber:

1. Turn off the solenoid switch; then turn OFF the "VAC pump" switch on the controller.

2. Rotate the "backfill valve" on the chamber to allow the environment inside the glove box to relieve the vacuum in the chamber.

3. When the gauge reads 750 torr, you may open either of the vacuum chamber doors.

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Generally, customers can improve the chance of collecting on a freight claim by following these procedures: 1) formally requesting that the carrier inspect the shipment immediately upon suspecting damage or shortage to verify condition; 2) notifying the carrier upon discovery of concealed damage and requesting an inspection within 15 days of receipt, both in person or phone and following up via mail; 3) keeping the shipment as intact as possible, including retaining original packaging materials and keeping the product as close to the original receiving location as possible; 4) holding salvage for disposition by the carrier.

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