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A large version of the Holland Green Science logo, consisting of the text 'Holland Green Science' in blue and a stylized orange leaf with three main lobes and a vertical stem to its right.

10209001

Aeolus

Vacuum Controller

User Manual

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For claims under the warranty please contact your local supplier. You may also send the instrument directly to manufacturer, enclosing the invoice copy and by giving reasons for the claim.

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II. Safety

! DANGER (may cause serious damage to property and or casualties)

1. Please carefully read this User Manual prior to operating the instrument and observe the instructions on safe operation.
2. The power source must be grounded reliably and away from any sources of electromagnetic interference.
3. Confirm that the voltage and frequency of the power supply matches the specified voltage and frequency specified prior to use.
4. The instrument should be operated on an independent power outlet.
5. Do not allow the instrument to be plugged in or unplugged whilst the power switch is in the on position.
6. Do not modify the power cord.
7. The working environment must be free of any flammable, explosive, volatile or corrosive substances.
8. The instrument is deenergised only when the power cable is disconnected from the power source.
9. This instrument is for indoor use only.
10. The instrument should be operated in a low humidity, well ventilated, dust and water free environment, without direct sunshine or an intense magnetic, light or heat source.
11. Ensure that the instrument and its accessories are free of any potential defects.
12. Ensure only standard accessories supplied by the manufacturers are used with this instrument.

! WARNING (may cause property damage or personal injury)

1. Prevent water from splashing on the electrical elements of this instrument.
2. Before assembly, disassembly, cleaning or maintenance, the power source must be disconnected.
3. Ensure the vacuum pump's power is not more than the maximum power output of the instrument.

! ATTENTION (may affect operational performance or service life)

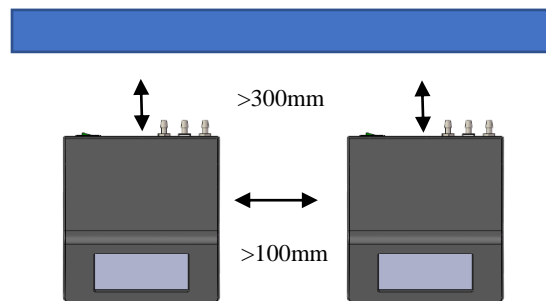
1. When pulling the power plug out from a power source, do not pull out using the power cord directly.
2. Only accredited and qualified professional repair technicians can open the instrument or conduct required repairs. Persons performing repairs on the instrument other than those selected or approved by the Company shall operate to void any warranty contained hereinabove for the product

III. Introduction

The instrument is intended to control the vacuum level of a vacuum system with gas as the medium in non-residential environments such as schools, laboratories and or factories.

Environment requirements are as follows:

- Voltage fluctuation does not exceed nominal value by $\pm 10\%$.
- Place the instrument 30cm away from the wall and at least 10 cm from any other instruments.



1. After Sales Support

If problems are encountered or technical support is required when installing or using the instrument, please contact serviceusa@hollandgreenscience.com

The Company may provide technical assistance and information regarding the instrument or equipment or service without charge at its sole discretion. Buyer assumes sole responsibility for any reliance on or use of such assistance and information, and the Company makes no warranty thereon.

Upon contact the following information is required:

- Product serial number (located on the instrument nameplate)
- Description of issue or problem
- Method and or operating steps you have undertaken towards resolution.
- Your contact details inclusive of telephone number and email address.

2. Proper Use

The instrument is designed for non-residential use and is to be used in conjunction only with accessories recommended within this manual and by the manufacturer.

IV. Technical Specifications

Model	10209001
Product Name	Aeolus
Control Range	1-1000mbar
Measurement Range	1-1000mbar
Control Operation Modes	Single-point control operation mode, program operation mode
Control Program	Up to 5 Programs. Each program contains five-step control (vacuum degree and time can be set).
Interface	Touch Screen setting
Display Screen	5-inch TFT
Sensor pressure limit	1500mbar
Connecting Tube Interface Diameter	8mm
Materials in Contact with Process	PTFE, PP, Silica Gel and Ceramics
Process Temperature	5°C to 40°C
External Dimension D x W x H	189mmx207mmx193mm
Weight	4.0kg
Input Voltage	AC110—240V, 50Hz/60Hz
Ambient Temperature	10°C-40°C, ≤80%RH
Input Power	600W
Maximum Output (Control) Power	500W(220V), 300W(110V)

V. Inspection

Packing List

Unpack the equipment carefully and check for any damage which may have arisen during transport. In the event of identified damage, please contact serviceusa@hollandgreenscience.com

The package includes the following items:

Item Description.	Quantity.
Main Unit	1
Power Cable	1
Quick Setup Card	1

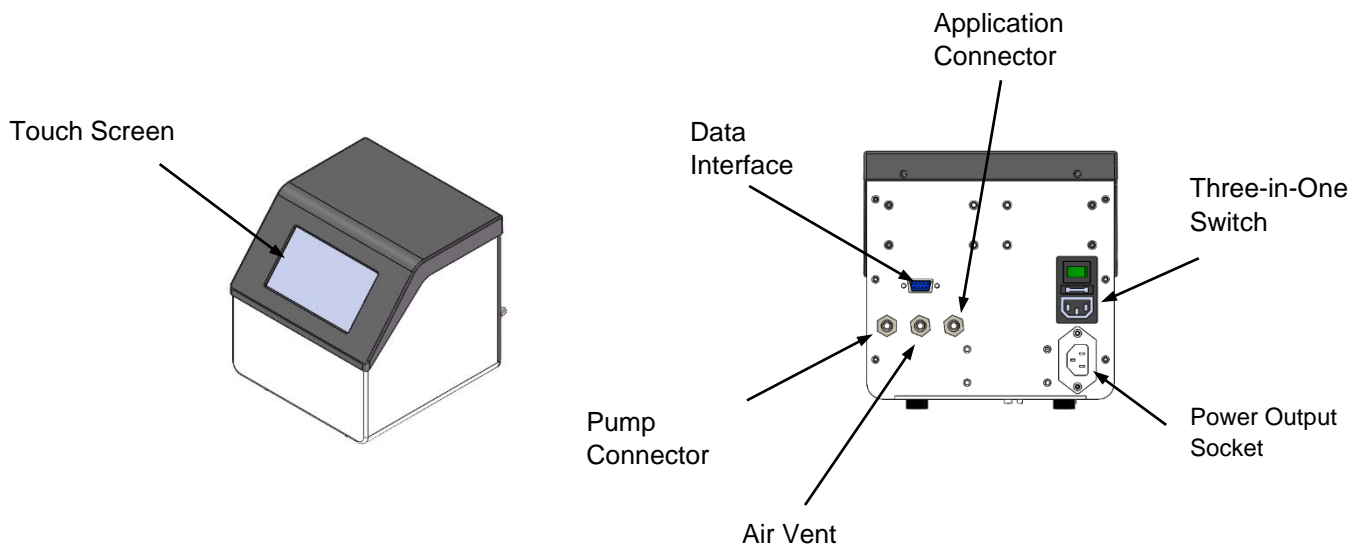


Note:

If you find any visible damage on the product, please do not connect the product to the power supply.

VI. Operating Instructions

1. Overview





Name	Description
Touch Screen	Setting parameters and displaying settings and operation information
Three-in-One Switch	Unit power input, with a switch controlling the power supply to the entire unit.
Pump Connector	Connects the vacuum pump
Air Vent	Connects with air or inert gas if necessary.
Application Connector	Connects with the application.
Power Output Socket	Provides power (control) to vacuum pump.

2. Instrument Preparation

- Place the instrument on a stable and well-ventilated surface, clear of flammables or explosives.
- Ensure the instrument voltage matches the power supply voltage before connection.
- Ensure that the power socket is grounded properly.
- Connect the vacuum hose of the pump and application.
- Connect the power cable of the vacuum pump to the instrument and turn 'ON' the vacuum pump switch. Do not exceed the rated output power of the controller.
- Connect the power cable of the instrument and turn 'ON' the power switch.

3. Start-up Interface Description



Button Name	Function
VENT	Press VENT to vent and release to stop venting.
PROGRAM	Choose the control mode and set the control pressure value and running time.
SETTINGS	Set the delay time to 'open and close' the pump and valve. Set the local atmospheric pressure and then adjust the Pressure sensor calibration parameters.
START	Press START to commence the control program, the icon will change to  , press to 'STOP' the control program.
	'PROGRAM' and 'SETTINGS' buttons cannot be operated if the control program starts.

4. Instrument Configuration

Press the 'SETTINGS' button to display the 'PASSWORD SOFT KEYBOARD', enter the password. The default initial password is 6666, then press 'ENTER', confirm the password is correct and then 'SETTING INTERFACE' displays

	Open	Close
Pump delay(ms)	500	100
Valve delay(ms)	500	100

K : B : P0(mbar) :

Name	Function
Pump Delay (ms)	The delay time after 'opening or closing' the vacuum pump.
Valve Delay (ms)	The delay time after 'opening or closing the solenoid valve (inside the instrument).
K, B	Pressure sensor calibration parameters
P0 (mbar)	The local atmospheric pressure value
Reset	Restore to factory settings

After setting, press the 'OK' key to return to the start-up interface.



Note:

Before pressing the 'Reset' button, record the pressure sensor calibration parameters (K and B). After restoring the default setting, write (K and B) into the instrument otherwise, the pressure measurement accuracy will be adversely affected.

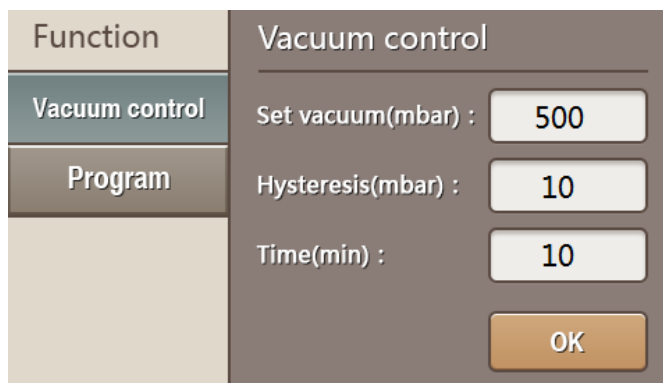
5. Operating Mode - Selection and Configuration

Press the 'PROGRAM' button to display the 'Program Selection Interface'



5.1 Single-Point Control Operation Mode

Press 'VACUUM CONTROL' to refresh the current page



Name	Function
Set Vacuum (mbar)	Set the vacuum value within a range of 1 - local atmospheric pressure (P0)
Hysteresis (mbar)	Hysteresis value affects the pressure fluctuation range and the 'ON/OFF' frequency of the vacuum pump. Setting range 1-300mbar
Time (min)	Time can be set within a range of 0-5999 min

After setting the parameters, press the 'OK' key to return to the 'Start-Up Interface'.



Note:

The larger the hysteresis value set, the larger the pressure fluctuation, the smaller the hysteresis value set, the smaller the pressure fluctuation, and the more frequently the vacuum pump starts up and shuts down. The recommended hysteresis value is set at 10mbar.



Note:

The sum of the set vacuum value and hysteresis value cannot exceed (P0-10) mbar and the set vacuum value is larger than the hysteresis value.

5.2 Program Operation Mode

Press 'VACUUM CONTROL' button to display the 'Program Selection Interface'

Function	Program	
Vacuum control	Open :	<input type="text" value="2"/>
Program	Hysteresis(mbar) :	<input type="text" value="10"/>
	<input type="button" value="Edit"/>	<input type="button" value="OK"/>

Name	Function
Open	Select the program number
Hysteresis (mbar)	Hysteresis value affects the pressure fluctuation range and the 'ON' frequency of the vacuum pump Setting range 1-300mbar

After setting the parameters, press the 'OK' key to enter the program operation

5.3 Program Editing

Press the 'Edit' button in the 'Program Selection Interface' to display the 'Program Editing Interface'

Program Editing Area

The screenshot shows the 'Program Editing Interface' for 'Program 1'. It features a table with three columns: 'NO.', 'Time(min)', and 'Vac(mbar)'. The table has five rows, numbered 1 to 5. A red dashed box highlights the 'Time(min)' column. To the right of the table is a vertical stack of buttons labeled '1', '2', '3', '4', '5', and 'OK'. A red arrow points from the text 'Program No. Selection Button' to the '1' button.

Name	Function
NO	Sequence No. of program execution
Time (min)	Timing, set within a range of 0-5999min
Vac (mbar)	Set the vacuum value within a range of 1 - local atmospheric pressure (P0)

After setting the parameters, press the 'Program Number' to save until the upper part of the interface indicates 'SAVE'

The screenshot shows the 'Program Editing Interface' after saving. The title bar now reads 'Program 1 save'. The table below it has columns for 'NO.', 'Time(min)', and 'Vac(mbar)'. To the right, there are buttons labeled '1' and '2'. A red arrow points from the text 'Indicates 'Save'' to the 'Program 1 save' title bar.



Note:

If the set vacuum value or timing is blank, it indicates that the current step will be skipped to the next control program.

5.4 Ventilation

Press the 'VENT' button to reduce the vacuum.

VII. Fault Diagnosis.

Fault	Cause Analysis	Solution
The vacuum pump does not work.	Check the power switch on the vacuum pump is 'ON'. Check the power cable connection.	Switch the vacuum pump, power switch 'ON'. Connect the cable.
An error message displays when setting the pressure value	Check whether the SET value exceeds the limit.	Adjust the SET value.
The solenoid valve and pump switch ON / OFF frequently.	Check the pipeline for air tightness. Check whether the hysteresis value is too low.	Connect the pipeline properly. Increase the hysteresis value.

VIII. Maintenance and Cleaning

Keep the instrument dry and clean in routine operations.

Clean the outer surface with a non-abrasive cleanser and only connect the power supply when the entire instrument surface is dry.

If liquid or moist solids enter the instrument, please immediately disconnect the power supply and contact supportusa@hollandgreenscience.com

- Surface stains on the instrument should be cleaned only with a clean, soft rag and detergent.
- The power must be disconnected before any maintenance or cleaning.
- Do not clean the instrument with any corrosive cleaning solutions.
- If the instrument is left unused for a long period, switch 'OFF' the power and store it on a dry, clean, level, and stable surface at normal temperature.



Caution!

Before any maintenance or inspection, the power cable
MUST be removed from the power socket.
