Waters™ | Andrew Alliance™

USER MANUAL

Vacuum+ with pressure control

Works with
OneLab ⋯⋯
design & execute
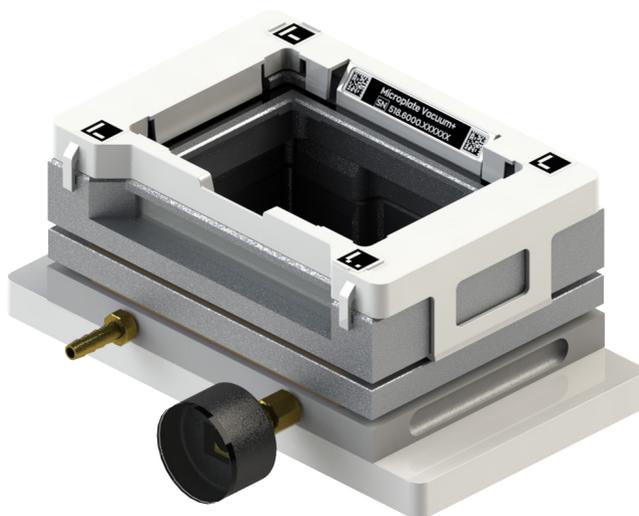
Safety instructions

⚠ • The device must always be completely switched off (cables removed) before moving it.

• The user must maintain a distance of at least 20cm from the product (WiFi antenna) while it is being installed and operated.

• The device is intended for indoor use only.

• Device maintenance has to be done exclusively by an Andrew Alliance representative.

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

• All the input/output ports are Safety Extra Low Voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits.

About this manual

Read the user manual before using this device. Strictly follow usage and maintenance instructions provided in the manual. It is the user's responsibility to become familiar with all available information concerning the correct use, care and limitations of these products. If you are uncertain about the correct use or limitations of the products, contact Andrew Alliance service and support. The manufacturer, the distributor and their respective owners, employees, agents and representatives are not responsible or liable for errors or omissions.

Information in this User Manual is subject to change without notice and does not represent a commitment on the part of Andrew Alliance. Andrew Alliance assumes no responsibility for any inaccuracies that may be contained in this User Manual. Andrew Alliance makes no commitment to update or keep current the information in this User Manual, and reserves the right to make improvements to this User Manual and/or to the products described in this User Manual, at any time without notice.

If you find information in this manual that is incorrect, misleading, or incomplete, we would appreciate your comments and suggestions.

Product overview & setup

USB cable

Hose for suction line

Vacuum hose

Power supply cords

Vacuum+ bridge

IKA VACSTAR control vacuum pump
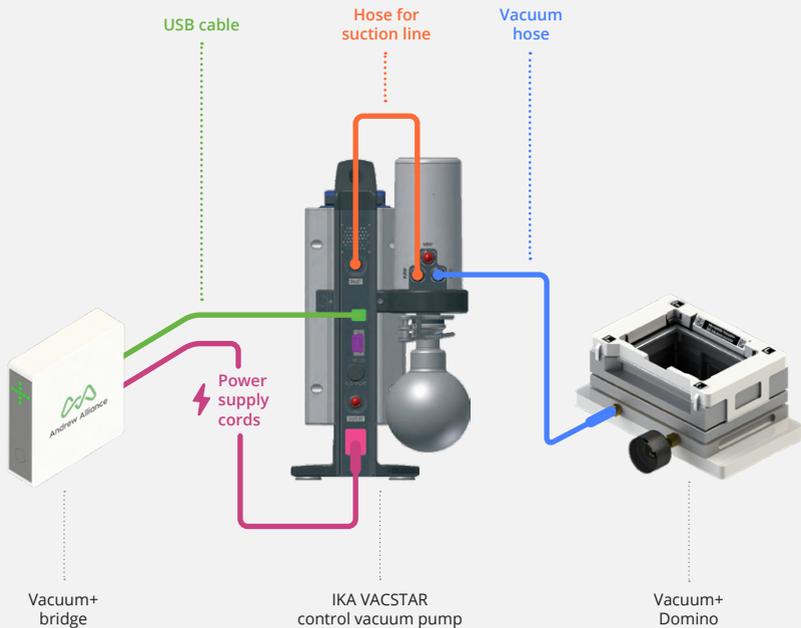
Vacuum+ Domino

Required material

- Vacuum+ Domino
- Vaccum+ bridge
- IKA VACSTAR control vacuum pump
- AC/DC external power supply
- Power supply cords
- USB A - USB B cable
- Vacuum hose 0.3 m (Ø int. 8 mm)
- Vacuum hose 2.1 m (Ø int. 8 mm)

Vacuum+ bridge

LED indicator

Rear view (connectors face)

USB port (connection to IKA VACSTAR control vacuum pump)

Ethernet for cable connection to network

Power socket

Power button

Built-in computer

Built-in wireless adapter
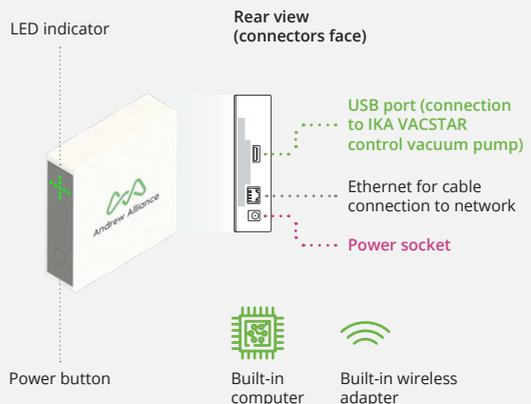
Getting started

A. Installation

1 **Place the *vacuum pump* on the floor or on a workbench other than the one being used for your experimental set-up.**

When the pump is ON it could generate vibrations, which may influence experiment setup if placed on the same workbench.

2 **Connect the flask to pressure device using the spherical clamp.**

3 **Make sure the shortest hose is linking the pump to the inlet connectors (suction line).**

4 **Plug longest hose between *Vacuum+ Domino* and *vacuum pump* load connector.**

5 **Connect the *vacuum pump* to the *bridge* USB port.**

6 **Connect the *vacuum pump* power cord to the *main* A/C.**

7 **On the *vacuum pump* front panel, turn the switch ON.**

8 **Make sure the specially designed shims are placed on the bottom of the *Vacuum+ Domino*.**

i **Additional instructions**

• At the beginning of the experiment, a waste/collection consumable must be placed inside the *Vacuum+ Domino*, beneath the filter/SPE plate.

B. Connection to OneLab

1 **Plug your the *Vacuum+ bridge* into a power source.**

The device will automatically start up.
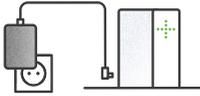
⚠ Only use the provided AC/DC power supply unit and cords.

2 **Wait for the LED indicator to turn blue and blink.**

After a couple of minutes, the Vacuum+ bridge will inform you when it is in installation mode.
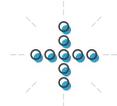
❗ If the Vacuum+ bridge doesn't automatically enter installation mode, press the power button 5 times.

3 **Connect your computer, tablet or smartphone to the Vacuum+ bridge.**

A. Go to your Wi-Fi settings and select the network named **Vacuum-5xx.6xxx.xxxxx**

xxxx.xxxxx is the Vacuum+ device serial number (you can find it on top of the Vacuum+ domino).

❗ If you do not have access to a Wi-Fi compatible device, please refer to our online help: help.andrewalliance.com

📶 Vacuum-5xx.6xxx.xxxxx

B. The LED indicator will stop blinking when it's successfully connected.

4 **Launch a web browser, type http://192.168.2.1 and follow the on-screen steps to continue installation.**

❗ Please note that the installation page might open automatically.

http://192.168.2.1

📱 scan me

Operations

Design your protocol

Our drag-n-drop editor makes it **easy to design a precise and complete protocol** with all that you need to run your experiment perfectly.

Create an **Apply negative/posi-tive pressure action** by clicking on this menu, which is located in the left of the screen.

Execute experiment with Vacuum+

OneLab will automatically select your **Vacuum+** and allows you to use it with every available experiment set-up, either manual, semi-automated or fully automated operation.
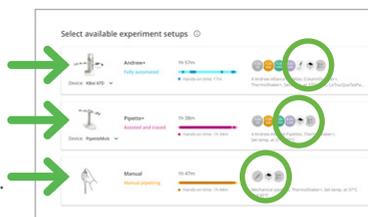
Choose your desired experiment setup and then **prepare all the required materials**.

Start the experiment and let OneLab control your device

Follow the visual instructions based on the protocol being used and you will **be guided through your experiment.**
Each step of the experiment will be recorded and available in OneLab.

Technical data

Vacuum+ bridge

Control connectivity	USB
Relative humidity	80% at 37°C
Maximum operating altitude	2000 m
Environment temperature operating range	+4 to +37°C
User interface	Through OneLab software
Ingress protection	IP20*
Dimensions (W x L x H)	120 x 120 x 35 mm
Weight	0.30 kg
External power supply	Input 100-240 VAC, 1.4 A / output 24 VDC, 5 A, 120 W
Power or current rating	5 A
Overvoltage category DC port	Cat I
Operating voltage	24 VDC
Network connectivity	• Gigabit Ethernet • Wi-Fi 2.4 GHz and 5 GHz
Pollution degree of the intended environment	Pollution degree 2
Cleaning	Only with a wet tissue or isopropanol
Warranty	1 year
Certification	CE, FCC, RoHS, WEEE

*Avoid spilling liquid on the device.

Vacuum+ domino

Labware compatible	Check the OneLab Domino Catalog at andrewalliance.com/domino-catalog
Vacuum+ manifold	Based on Waters Extraction Plate Manifold for Oasis 96-Well Plates (186001831)
Dimensions (W x L x H)	228.8 x 127 x 100 mm
Weight	1.81 kg
Kit compatible	Check the OneLab Domino Catalog at andrewalliance.com/domino-catalog

IKA VACSTAR control vacuum pump

Pump rate max. (50/60Hz)	22 l/min
Measurement range (absolute)	1 - 1030 mbar
Dimensions (W x L x H)	270 x 435 x 500 mm
Weight	19 kg
Protection class according to DIN EN 60529	IP20
Control connectivity	USB
Voltage	100 - 240 V
Frequency	50/60 Hz
Power input	140 W
Power input standby	1.5 W

Operating Vacuum+ bridge

Power on

When the device is in standby mode (plugged to power source but turned off), **press the power button to turn on** the device.

Note: The device will automatically start up when you plug it to a power source.

Power off

When the device is in its idle state (no experiment running), **press the power button for 5 seconds to turn off** the device.

Unit end of life

When a unit reaches the end of its useful life, contact Andrew Alliance for directions and information on the end-of-life policy.

This is in accordance with the European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Certifications

Electrical safety

I. IEC 61010-1: 2010
II. IEC 61010-1/A1: 2016
III. UL 61010-1:2012
IV. CAN/CSA 22.2#61010-1-12

EMC

I. EN 61326-1: 2013
II. EN 301 489-1 V2.2.0
III. EN 301 489-17 V3.1.0

RADIO

I. EN 300 328 Ver 2.1.1
II. EN 301 893 V2.1.1

FCC

I. FCC 47 CFR part 15 subpart B section 15.107 (b) and section 15.109 (b and g) Class A all over other device tested per ANSI C63.4 (Ed. 2014) procedures
II. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RoHS

RoHS 3 (EU) 2015/863

CE FC