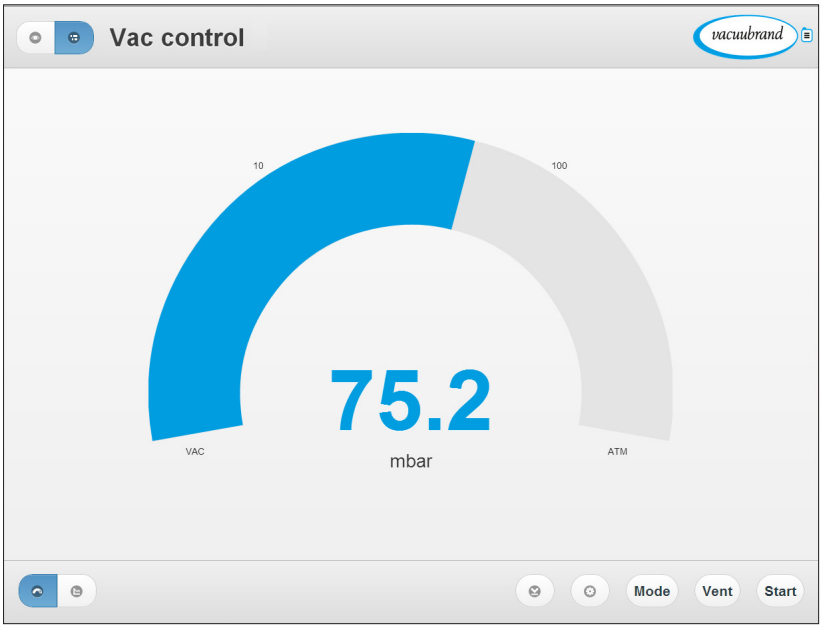
vacuubrand

Technology for Vacuum Systems

WEB-BASED REMOTE CONTROL FOR CVC 3000

VACUU•CONTROL®



CVC 3000

Instructions for use

Original instructions

BA-N°: 999324_EN

Original instructions
Keep for future use!

This manual is only to be used and distributed in its complete and original form. It is strictly the users' responsibility to check carefully the validity of this manual with respect to his product.

Manufacturer:
VACUUBRAND GMBH + CO KG
Alfred-Zippe-Str. 4
97877 Wertheim
GERMANY

Phone:
- Head office +49 9342 808-0
- Sales +49 9342 808-5550
- Service +49 9342 808-5660

Fax: +49 9342 808-5555
E-Mail: info@vacuubrand.com
Web: www.vacuubrand.com

Thank you for purchasing this product from **VACUUBRAND GMBH + CO KG**. *You have chosen a modern and technically high quality product.*

TABLE OF CONTENT

1 Introduction 7
1.1 User information . . . 7
1.2 About this document . . . 8
1.2.1 Symbols and icons . . . 8
1.2.2 Display conventions . . . 9
1.2.3 Abbreviations . . . 10
1.2.4 Term definition . . . 11

2 Safety instructions 12
2.1 Working conditions . . . 12
2.1.1 Intended use . . . 12
2.1.2 Improper use . . . 12
2.1.3 Foreseeable misuse . . . 13
2.2 Access rights and password management . . . 14
2.3 Target groups . . . 15
2.3.1 VACUU·CONTROL® user groups . . . 15
2.3.2 User permissions . . . 16
2.4 Safety precautions . . . 16
2.4.1 Personal responsibility . . . 16
2.4.2 Eliminate sources of danger . . . 17
2.5 Environmental protection . . . 18

3 Product description 19
3.1 Functionality . . . 19
3.2 System requirements . . . 20
3.3 Components . . . 21
3.3.1 WLAN version . . . 21
3.3.2 LAN version . . . 22
3.4 Included materials . . . 23

4 Installation and connection 24
4.1 Holder for WLAN-Adapter . . . 24
4.2 Serial connection of LAN/WLAN adapter . . . 25
4.3 Establishing initial connection . . . 27
4.3.1 WLAN connection . . . 27
4.3.2 LAN connection . . . 28
4.3.3 Checking the connection . . . 28
4.3.4 Creating bookmarks . . . 29

5 Display and operating elements 30
5.1 VACUU·CONTROL® Remote control 30
5.1.1 User interface (GUI) 30
5.1.2 Work interface 31
5.2 Operating elements 31
5.2.1 Types of operating elements 31
5.2.2 Buttons 33
5.3 Display elements 34
5.3.1 Pressure reading 34
5.3.2 Display symbols 35
5.3.3 Title bar – status bar 36
5.3.4 Tooltip 37
5.4 Text box 37

6 Operation 38
6.1 Starting VACUU·CONTROL® application 38
6.2 Language setting 39
6.3 Remote control – “View” mode 40
6.3.1 Display pressure reading 40
6.3.2 Display graphic 41
6.3.3 Quick navigation 42
6.4 Remote control – mode “Control” 43
6.4.1 Display pressure reading 44
6.4.2 Display graphic 45
6.4.3 Mode selection 46
6.4.4 Parameter settings 48
6.4.5 System start/stop 52
6.4.6 Venting the system (Vent) 53
6.4.7 Download process data (Data logger) 54
6.4.8 Quick navigation 57

7 Network configuration and updates 58
7.1 Network configuration 59
7.1.1 Menu network configuration 59
7.1.2 Password management 61
7.2 Updates 62
7.2.1 CVC 3000 62
7.2.2 LAN/WLAN firmware 64
7.2.3 User interface (GUI) 65

8 Resolving problems 66
8.1 Error display 66
8.1.1 External errors 66
8.1.2 Internal errors 68
8.2 Troubleshooting table 68
8.3 Reset to factory default settings (Reset) 72

9 Appendix 73
9.1 Technical information 73
9.1.1 Technical data 73
9.1.2 Rating plate 74
9.2 Service 76
9.2.1 Terms of service 76
9.2.2 Service requests 77
9.2.3 Return 77
9.3 Glossary 78
9.4 Index 79

1 Introduction

This manual is part of your product. It provides important instructions for safe use of the product. Read this manual completely in order to understand proper use of your product.

1.1 User information

Safety

Instructions for use and safety

- Read this manual thoroughly and completely before using the **VACUU·CONTROL®** software.
- Keep this manual in an easily accessible location.
- Proper use of the CVC 3000 and **VACUU·CONTROL®** software is essential for safe operation. Comply with all safety instructions provided!
- In addition to this manual, adhere to any relevant local accident prevention regulations and comply with industrial safety regulations.

General

General information

- **VACUU·CONTROL®** software is an easy-to-use, web-based application.
- Display illustrations of these instructions are explained by examples with a computer web browser. The **VACUU·CONTROL®** application uses a standard internet browser.
- The illustrations in this manual are provided as examples. They are intended to aid in your understanding of the proper use of the product.
- When giving **VACUU·CONTROL®** to a third party also hand out these instructions for use.
- **VACUUBRAND GMBH + CO KG** reserves the right to modify or change the product design and/or technical specifications at any time without advanced notice.

Copyright

Copyright ©

VACUU·CONTROL® is available as an add-on consisting of adapter with installed software and web-based graphical user interface (GUI). Unauthorized program modifications or software copies are not allowed.

The content of these instructions for use is protected by copyright. Only copies for internal use are allowed, e. g., for professional training.

© VACUUBRAND GMBH + CO KG

Contact

Contact us

- Please ask for replacement in case of incomplete instructions for use. Alternatively, you can download instructions for use on our web page: www.vacuubrand.com.
- Contact us regarding any questions about this product, if you need further information, or to provide us with feedback.
- When contacting our Customer Service Department, please be sure to have the software version number of your CVC 3000 and of the **VACUU·CONTROL®** application.
- On request you will receive barrier-free instructions for use, e. g., with larger type characters.

1.2 About this document

1.2.1 Symbols and icons

Safety symbols

Warning symbol.

Prohibition symbol.

Mandatory action symbol.

Additional icons

Process running → please wait.

Positive example – **Do!**

Negative example – **Do not!**

Additional icons

Refers to content of this document.

Refers to content of other documents.

1.2.2 Display conventions

Warning levels

Convention for warnings

DANGER

Indicates an imminent hazardous situation.

Disregarding the situation will result in serious and even fatal injury or death.

⇨ Take appropriate action to avoid dangerous situation!

WARNING

Indicates a potentially hazardous situation.

Disregarding the situation could result in serious, even fatal injury or massive damage to property.

⇨ Observe instruction to avoid dangerous situation!

CAUTION

Indicates a potentially hazardous situation.

Disregarding the situation could result in slight or minor injury or damage to property.

⇨ Observe instruction to avoid dangerous situation!

NOTICE

Notice for a potentially harmful situation.

Note, if disregarded, can lead to material damage.

Additional notes

Convention for additional notes

IMPORTANT! Information or specific use recommendation, which must be observed.

⇨ Helpful tips
⇨ Additional information

Design of steps

Individual step (single step)

⇨ Do the described step.

☑ Result of action.

Multiple steps

Graphic

1. First step,
2. next step.

☑ Result of action.

Follow steps in the described order.

1.2.3 Abbreviations

Abbreviations

abs.	absolute
ATM	standard atmospheric pressure (see bar graph)
CSV	comma-separated values; a spreadsheet-compatible format
CVC 3000	vacuum controller
DCP 3000	vacuum gauge
DHCP	dynamic host configuration protocol; for dynamically distributing IP addresses
GUI	graphical user interface
hh:mm:ss	period or time; hour/minute/second
hPa	pressure unit, hectopascal
IP	internet protocol; network protocol
LAN	local area network; wire connection for computers in a local network
Max	maximum value
mbar	pressure unit, millibar
Min	minimum value
RC	remote control
SoftAP	Software Acess Point
Torr	pressure unit (1 Torr = 1.33 mbar)
VAC	vacuum (see bar graph)
WiFi®	WLAN standard; here synonym for WLAN
WLAN	wireless local area network; wireless connection for computers

1.2.4 Term definition

Product specific terms

VACUU·CONTROL®	Web-based application as remote control for vacuum controller and gauges made by VACUUBRAND.
VACUU·CONTROL® LAN	Adapter LAN for connection to vacuum controller CVC 3000 or vacuum gauge DCP 3000 for integration into LAN PC networks.
VACUU·CONTROL® WLAN	Adapter WLAN for connection to vacuum controller CVC 3000 or vacuum gauge DCP 3000 for integration into WLAN PC networks.
VACUU·LAN®	Local vacuum network for laboratories.

LAN or WLAN adapter can be connected to all pumping units and vacuum systems equipped with the CVC 3000* vacuum controller or a DCP 3000* vacuum gauge.

⇨ Please read the manual **VACUU·CONTROL® with DCP 3000**, if you use DCP 3000.

** from software version V2.0*

2 Safety instructions

All safety instructions must be observed by all individuals working with the products described here.

2.1 Working conditions

2.1.1 Intended use

Intended use

The **VACUU·CONTROL**® application is a web-based remote control application that monitors, controls, and logs data when connected with a compatible **VACUUBRAND** vacuum pumping unit and controller

Intended use also includes the following:

- observing safety information of document **"Safety Information for Vacuum Equipment"**.
- observing these instructions for use.
- observing manuals of the system controlled by remote control.
- to know the functioning of the system which you want to operate by remote control.

Any other use is considered to be improper use. In this case, the safety and the protection of the system may be compromised.

2.1.2 Improper use

Using the product in contrary to its intended use could result in injury or damage to property.

Improper use includes:

Improper use

- using the system contrary to its intended use.
- operation with obvious malfunctions.

Improper use

- operating the vacuum system by remote when it is incomplete or dismantled.
- unauthorized network settings.
- unauthorized change of passwords.

2.1.3 Foreseeable misuse

Additionally to improper use there are types of use, dealing with remote control, which are generally prohibited:

Reasonably foreseeable misuse

- Using remote control without knowledge about the connected vacuum system or vacuum controller.
- Modifications of hardware and firmware.
- Unobserved remote control of critical processes.

2.2 Access rights and password management

Access rights and password management

The Network Configuration menu allows password management to be set up. It also allows for certain functionality to be enabled or disabled

IMPORTANT!

⇨ Pay attention to safety standards – prevent improper use of remote control by password assignment.

⇨ Use secure passwords and keep them safe!

Access rights for target groups

Screen shot cutout password management

Meaning access rights for target groups

Target group	Access permission
Admin	Administrative permission → full access for using: - view mode - control mode - network configuration (password assignment) - updates
Control	Read/write permission → enabled for using: - view mode - control mode
View	Read permission → enabled for using: - view mode

2.3 Target groups

Users and target groups for using **VACUU·CONTROL®** are defined by access permission within password management.

2.3.1 VACUU·CONTROL® user groups

Required qualification for user of VACUU·CONTROL®

View

Personnel with permission to use the **VACUU·CONTROL®** application in VIEW mode can monitor, but not control, the pumping unit. Users must have been instructed about potential risks which may occur from incorrect behavior or improper use.

Control

Qualified and skilled personnel with permission to use the **VACUU·CONTROL®** application in CONTROL mode. They can monitor and control the pumping unit, including adjustment of parameters such as vacuum level, mode of pumping unit operation, etc. Users are responsible for their actions in control mode.

Admin

Personnel with permission to use the **VACUU·CONTROL®** application in ADMIN mode have full control over the pumping unit and the VACUU-CONTROL application, including setting access rights for other users.

IMPORTANT! Users need to have the corresponding skills and qualifications for doing the job listed in the table “User permissions”**!**

2.3.2 User permissions

Responsibility Assignment Matrix

Job/Function	View	Control	Admin
Select language	X	X	X
Reporting malfunction	X	X	X
View mode = monitoring via remote	X	X	X
Control mode = control via remote		X	X
Assembly (LAN/WLAN adapter)		X	X
Connecting VACUU·CONTROL®		X	X
Monitoring system and process		X	X
Network integration		X	X
Network settings			X
Password management			X
Rights management			X
Updates			X
Reset to factory settings			X

2.4 Safety precautions

Quality standards and safety

Products of **VACUUBRAND GMBH + CO KG** are subject to high quality tests with goals for safety and operation. Prior to delivery each product has been tested thoroughly.

Nevertheless, during operation unforeseen dangerous situations may occur which may lead to injuries or damage of property. Therefore observe the following chapter and take the appropriate safety precautions.

2.4.1 Personal responsibility

Qualification and personal responsibility

Ensure that the **VACUU·CONTROL®** application is only operated by authorized and skilled personnel. This is particularly important with regard to connecting the **VACUU·CONTROL®** adapter to the pump, operating the **VACUU·CONTROL®** application or the pump, and troubleshooting.

⇨ Carefully read these instructions for use before using the remote control.

⇨ Use the remote control only if you have understood its function and these instructions for use.

Qualification and personal responsibility

Personal safety has top priority! Processes which create a potentially hazardous situation must not be operated unsupervised by remote control.

Safe work

Always be conscious of safety, and work in a safe manner. Observe the owners‘ directives at work, the national accident prevention regulations and occupational safety provisions.

2.4.2 Eliminate sources of danger

Use only in proper working condition

Only use the vacuum system when it is in proper working condition.

Regard network safety standards

Change the “Admin“ password directly after initial connection. Assign passwords for “Control“ and “View“.

Organize usage of remote control

The system can be simultaneously controlled by a (local) CVC 3000 vacuum controller, or by a remote control. A remote control can be configured to control multiple pumping units simultaneously. Coordinate planned projects with colleagues that share this equipment. Avoid hazardous situations which arise from different settings.

Explosion danger for critical processes

DANGER

Explosion hazard for critical processes operated by remote control.

Depending on the process explosive mixtures can develop.

⇨ Never operate critical processes by remote control!

Depending on the running process, explosive mixtures can form in plants or other hazardous situations could result!

Log off

Once logged in, password is activated until the web browser is closed. For user with access permission for **VACUU·CONTROL®** we recommend the active log off. Close web browser window for active log off.

Exposure to WLAN radiation

Place the wireless adapter so that the minimum distance to individuals during operation is at least 20 cm.

2.5 Environmental protection

Observe environmental regulation

Observe the national and international environmental regulations for disposal of your product as well as spare parts. This is especially valid for all components that are contaminated with hazardous substances.

3 Product description

3.1 Functionality

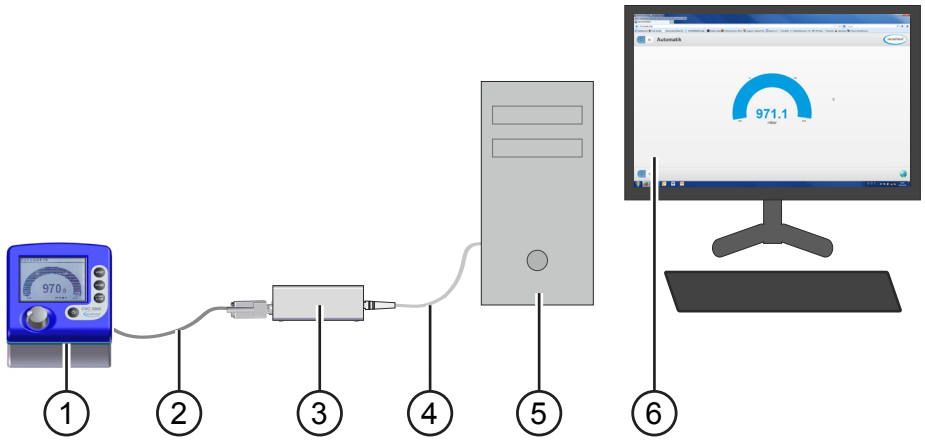
Functional principle

VACUU·CONTROL® is a web-based application to operate your vacuum system with CVC 3000 by remote control. Monitoring and control take place on the web browser of your smartphone, tablet or computer.

⇨ To simplify descriptions in the following text, devices like computers, laptops, tablets and smartphones, which are typically web-enabled devices, are referred as **“end device“** in this manual.

Assembly example for VACUU·CONTROL®

Assembly example
CVC 3000
VACUU·CONTROL®
LAN
PC



1	CVC 3000	**4**	Ethernet (patch) cable + optionally crossover adapter
2	SUB-D cable (Serial Port Cable)	**5**	PC
3	**VACUU·CONTROL**® LAN (LAN adapter)	**6**	Monitor with user interface **VACUU·CONTROL**®

* *Position 2–4, scope of supply.*

Product features

Features

- Remote monitoring and control of pumping units or vacuum systems with CVC 3000.
- The **VACUU·CONTROL**® application displays the user interface through a web browser of your end device.
- Full simultaneous operation via the CVC 3000 or by **VACUU·CONTROL**® remote control.
- LAN or WLAN adapter enables the control with fixed or portable end devices.
- Display and operation of **VACUU·CONTROL**® are designed similar to CVC 3000. All commands are executed immediately.
- Pumping units and vacuum systems, which are connected to a vacuum controller CVC 3000, can easily be integrated into a computer network through LAN or WLAN adapter.
- Multiple pumping units can be controlled or monitored from a single web-enabled device. Or a single pumping unit can be monitored from several end devices.
- Documents processes via the integrated data logging function. Process data can be downloaded through the **VACUU·CONTROL**® application. The application also notifies users of process completion by a signal.
- System protection by password management.
- Available as an add-on for all CVC 3000 vacuum controllers using software version 2.0 and higher.

3.2 System requirements

System compontens VACUUBRAND

VACUUBRAND	Version
CVC 3000	Version 2.0 or higher
	+ update to 2.3
VACUU·CONTROL® LAN/WLAN	V1.00
VACUU·CONTROL GUI	V1.00

Recommended web browser (capable of HTML5)

Web browser (provided by customer)	Version
Android	> 2.3.x
iOS/Safari	> iOS 5.1
Safari	> 5
Google Chrome	> 32
Internet Explorer	> IE9
Mozilla Firefox	> 17
Opera	> 2
Javascript	**activated**

3.3 Components

Listed below is all the hardware needed for operating the **VACUU·CONTROL®** on your end device.

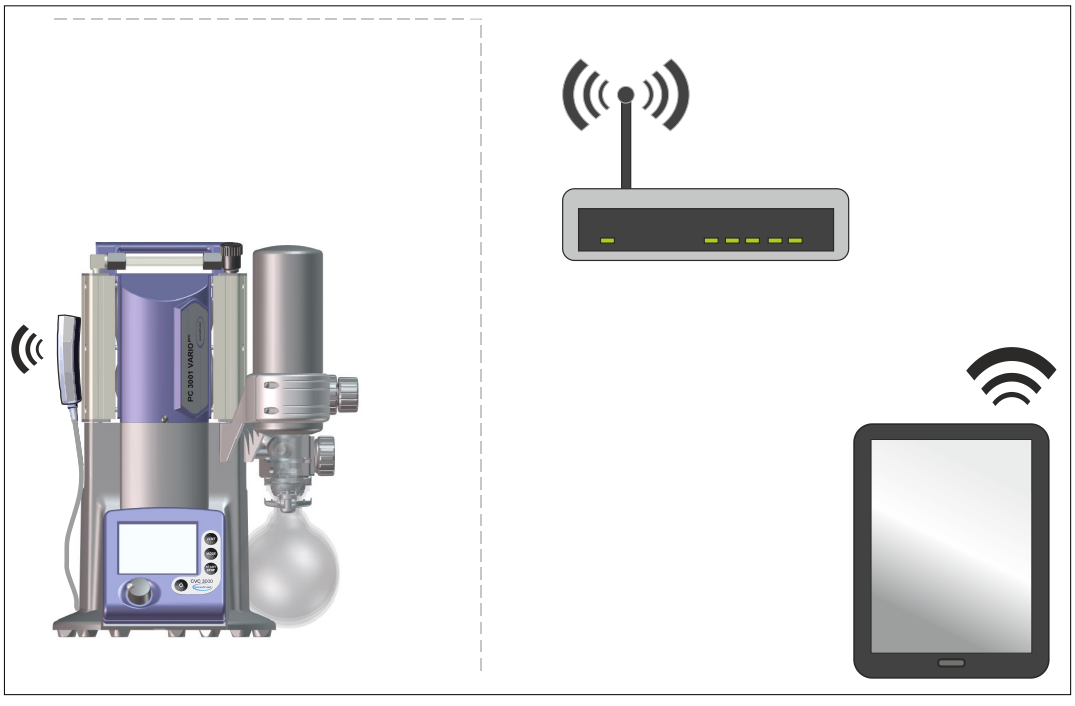
3.3.1 WLAN version

Hardware components WLAN version

- CVC 3000 vacuum controller or pumping unit with CVC 3000
- **VACUU·CONTROL®** WLAN (RC adapter WLAN)
- end device including web browser
- recommended: WLAN capable router or Access Point

Assembly with WLAN adapter + WLAN router

→ Example assembly



⇨ Integrate **VACUU·CONTROL**® WLAN with a WLAN capable router or Access Point into your PC network. It allows access for various end devices.

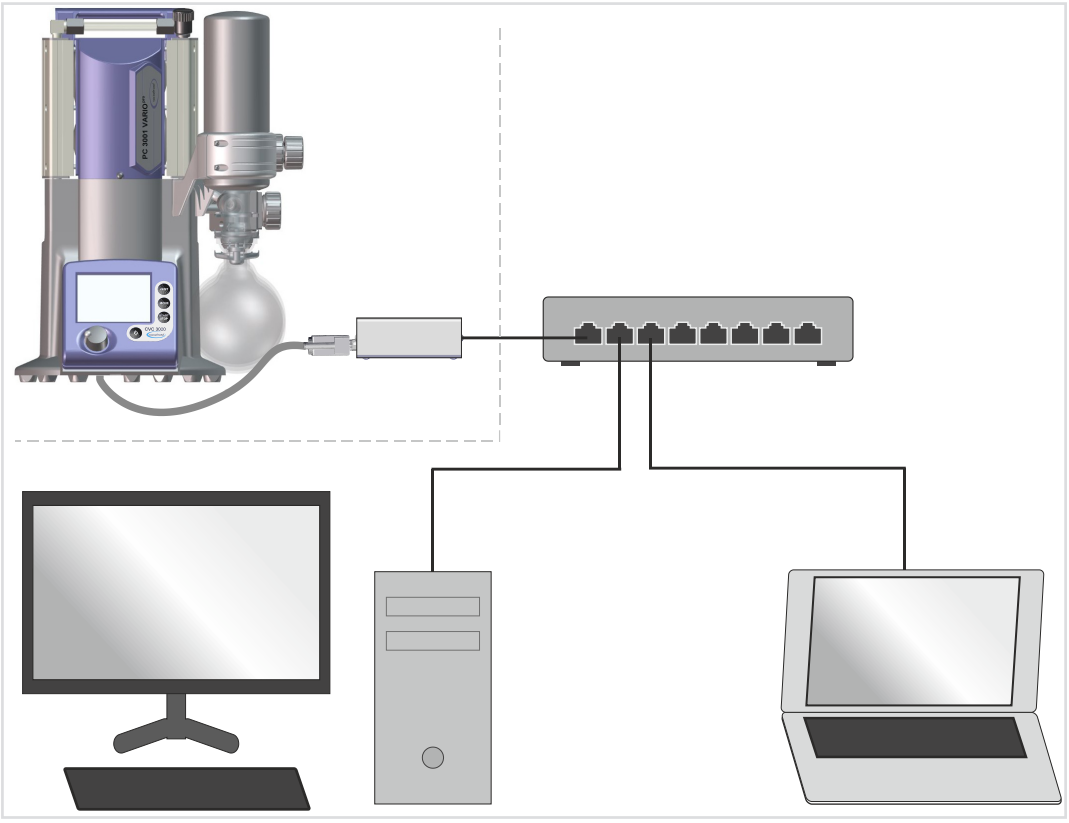
3.3.2 LAN version

Hardware components LAN version

- CVC 3000 vacuum controller or vacuum system with CVC 3000
- **VACUU·CONTROL**® LAN (RC adapter LAN)
- end device including web browser
- one free ethernet connection[1]
- recommended: LAN router or LAN switch

Assembly with LAN adapter + LAN switch + computers

→ Example assembly



*1 -> use **crossover adapter** for computer without Gbit/s ethernet standard.*

3.4 Included materials

Scope of supply (WLAN version)

Web-based remote control – WLAN version	
VACUU·CONTROL® WLAN (RC adapter)	683110
Holder + adhesive tape	635631
Instructions for use DCP 3000	999283
Instructions for use CVC 3000	999279

or

Scope of supply (LAN version)

Web-based remote control – LAN version	
VACUU·CONTROL® LAN (RC adapter)	683120
Cable Sub-D 9-pol Bu/Bu 1:1 1,8 m (serial cable)	612748
Patch cable Cat.5e 2 m bl (Ethernet cable)	
Crossover adapter RJ45 Bu/S	
Instructions for use DCP 3000	999283
Instructions for use CVC 3000	999279

- ⇨ The description of the scope of supply refers to the product you have purchased, either WLAN or LAN.
- ⇨ Illustrations and drawings of additional hardware are solely intended for a better understanding.

Source of supply

International sales offices and specialized trade

Purchase original accessories and spare parts from your specialized distributor or through international sales offices of **VACUUBRAND GMBH + CO KG**.

- ⇨ Information about the complete product range are available in the current product catalog.
- ⇨ For orders, questions about vacuum control and optimal accessories, please contact your specialized distributor or an international sales office of **VACUUBRAND GMBH + CO KG**.

4 Installation and connection

Web-based application

VACUU·CONTROL® is a web-based remote control, displayed in a web browser. No installation via data medium is required.

Adapter function

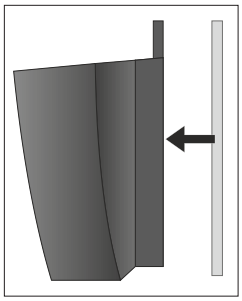
The adapter contains the complete software required to display the **VACUU·CONTROL**® remote control on your end device.

Connection of CVC via sub-D

VACUU·CONTROL® WLAN or **VACUU·CONTROL**® LAN are connected directly to the sub-D connection of your CVC 3000.

Connection to the CVC 3000 controller can be made in any of several ways, depending upon the design configuration of your pumping unit.

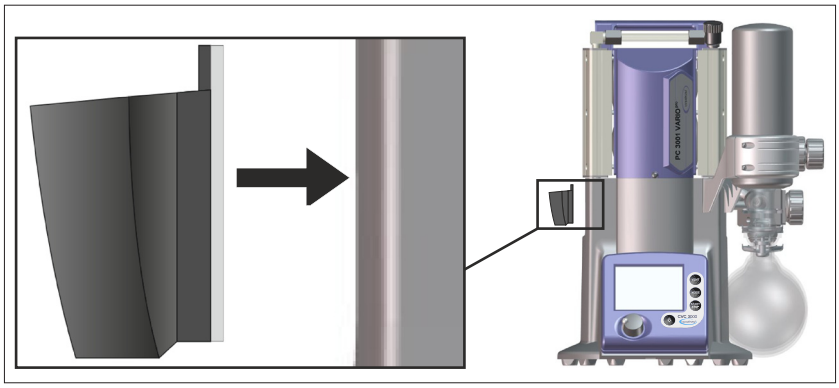
4.1 Holder for WLAN-Adapter



→ Example: Attaching holder to PC 3001 VARIO

Attaching holder for WLAN adapter

1. Remove protective foil from one side of the adhesive tape.
2. Attach the adhesive tape centered on the rear side of the holder.
3. Remove the second protective foil from adhesive tape.



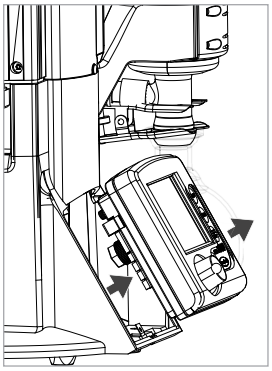
IMPORTANT! Attach the holder for WLAN adapter in a way that its cable can be connected to CVC 3000 loosely and without tightening.

Recommended holder position: for large pumping units attach holder on the rear side and for pumping units attach like in the illustrated example on the side in the rear.

4. Press the holder firmly on the pumping unit.
5. Insert the WLAN adapter into the attached holder.

4.2 Serial connection of LAN/WLAN adapter

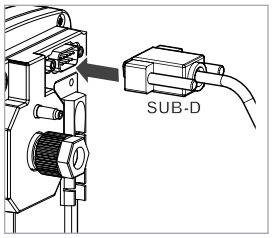
CVC 3000 – VARIO pumping unit PC 3001 VARIO/VARIO^{PRO}



1. Switch off your pumping system, ON/OFF switch in position **0**.
2. Pull the CVC 3000 controller carefully out of the housing. **Be careful not to disconnect existing connections!**
3. Feed the sub-D cable underneath the housing and between the pump feet to the CVC 3000.
4. Connect the sub-D plug of the adapter to the sub-D[1] connection at the rear of the CVC 3000.
5. Fix the sub-D plug with its screws.
6. Insert the CVC 3000 controller into the housing.

☑ CVC 3000 prepared.

CVC 3000 – as bench-top device or for lab stand



Also valid for CVC 3000 mounted directly atop pumping units.

1. Switch off your CVC 3000.
2. Separate the CVC 3000 from mains (unplug mains plug) or unplug the connection cable to the VARIO pump.
3. Connect the sub-D plug of the adapter to the sub-D connection at the rear of the CVC 3000.
4. Fix the sub-D plug with its screws.
5. Reinstall the disconnected cable connections.

☑ CVC 3000 prepared.

1 -> Sub-D = serial connection

CVC 3000 – pumping unit

Larger vacuum systems (pumping units)

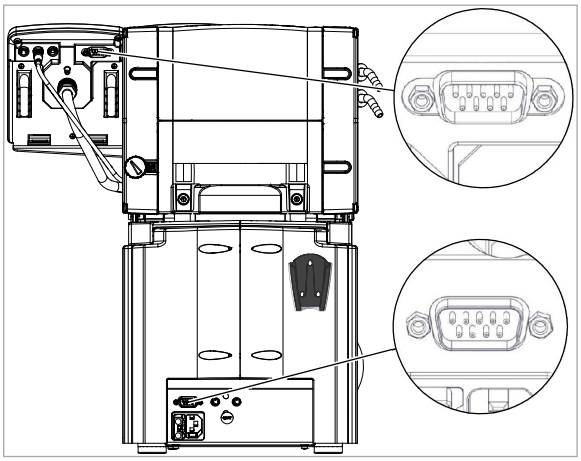
1. Switch off your pumping system, ON/OFF switch in position **0**.
2. Connect the sub-D plug of the adapter to the sub-D connection at the rear of the pumping unit.

   Also valid for pumping units with an integrated controller: PC 3002 VARIO, PC 3003 VARIO, PC 3004 VARIO, PC 510 NT, PC 511 NT, PC 610 NT, PC 611 NT.

   An additional RC adapter is required for: PC 520 NT, PC 620 NT (for the second CVC 3000).

3. Connect the sub-D plug of a second adapter to the sub-D connection at the rear of the laterally mounted CVC 3000.

→ Example: Position of sub-D connections with 2x CVC 3000



4. Fix the sub-D plugs with screws.

   ☑ CVC 3000 prepared.

⇨ The sub-D connection of a pumping unit with integrated or mounted CVC 3000 is located at the rear side of the pumping unit;
→ *see lower circle in above figure.*

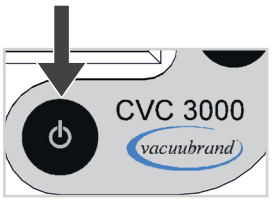
4.3 Establishing initial connection

4.3.1 WLAN connection

Function WLAN adapter

The **VACUU·CONTROL**® WLAN adapter is the wireless remote interface to your CVC 3000. As delivered, the WLAN adapter acts as SoftAP[2] and is therefore displayed as WLAN network. Connect your end devices via WiFi directly to the CVC 3000.

Selecting WLAN network



1. Turn on the CVC 3000 that your WLAN adapter has been connected to.
2. Switch on WLAN/WiFi at your end device.

   ☑ Scan for available WiFi networks.

3. Wait until “VACUUCONTROL“ appears in the list of detected WiFi networks.

IMPORTANT! If your end device connects automatically to another network,

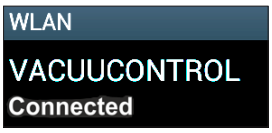
⇨ disconnect from this network,

⇨ switch off „automatic **WiFi**® connection“ and

⇨ select “VACUUCONTROL“ in the list of available networks.

4. Select „VACUUCONTROL“ as network connection. Depending on the end device, connecting may take some time.

   ☑ End device connected to WLAN adapter.



⇨ For further help → *see chapter: “8.2 Troubleshooting table”.*

In case of a direct WiFi connection to your end device no internet will be available. We therefore recommend to integrate the WLAN adapter into your PC network, for instance using a WLAN router.
→ see chapter: *“7 Network configuration and updates”* or ask your company’s IT department for support.

2 -> SoftAP = Soft Access Point; WLAN adapter acts as direct access point for WLAN/WiFi devices.

4.3.2 LAN connection

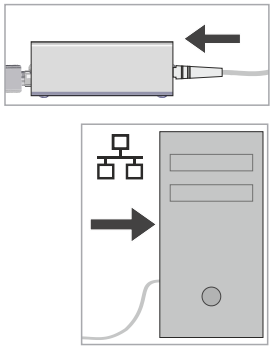
Function LAN adapter

The **VACUU·CONTROL**® LAN adapter is the remote interface by cable to your CVC 3000. As delivered, the LAN adapter acts as DHCP server and client.

The LAN adapter can be connected directly to a computer or it can be integrated into a network.

For integrating the adapter into a network we recommend the use of a LAN switch or a LAN router → *see chapter: "7 Network configuration and updates".*

IMPORTANT! In case of integration into a server, your system administrator has to provide a free IP address.



Establishing LAN connection

1. Plug one end of the network cable (patch cable) into port at LAN adapter.
2. Plug the other end of the network cable into Ethernet port of your computer, router, or switch.

   ☑ Device connected to LAN adapter.

- ⇨ Use the enclosed crossover adapter, if connecting directly to a computer without Gigabit Ethernet connection, which doesn't support auto crossover.
- ⇨ As delivered, a DHCP server is active. The directly connected computer automatically obtains a valid IP address. Changing the network settings disables the DHCP server.

4.3.3 Checking the connection

To verify that your LAN or WLAN adapter has been properly connected, enter the IP address into the address bar of your web browser.

If the **VACUU·CONTROL**® user interface on your web browser matches to the connected CVC 3000, the connection has been correctly established.

Open default view

Open default view

1. Start the web browser of your end device.
2. In case of initial connection, enter the factory-set IP address into the address bar: “192.168.1.111“ or “VACUUCONTROL“.

→ Example IP address factory setting

or

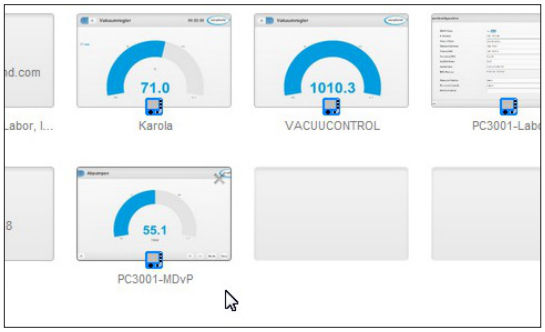
3. Ask your system administrator for an assigned IP address and enter that address.
4. Confirm your input with the Enter key.

   ☑ **VACUU·CONTROL**® is displayed.

4.3.4 Creating bookmarks

Bookmark the website or save as favorite or shortcut to gain quick access to **VACUU·CONTROL**®.

→ Example Bookmark on web browser



⇨ Refer to the “help function“ of your web browser for information on how to create bookmarks, favorites or shortcuts for links and preferred websites.

⇨ Ask your IT department or “Admin” to create appropriate device names inside network configuration, if the remote control has been integrated into a network.
→ *see chapter “7 Network configuration and updates”*
The device name will then be used to identify bookmark and tab, e. g., PC3001-LAB2.

5 Display and operating elements

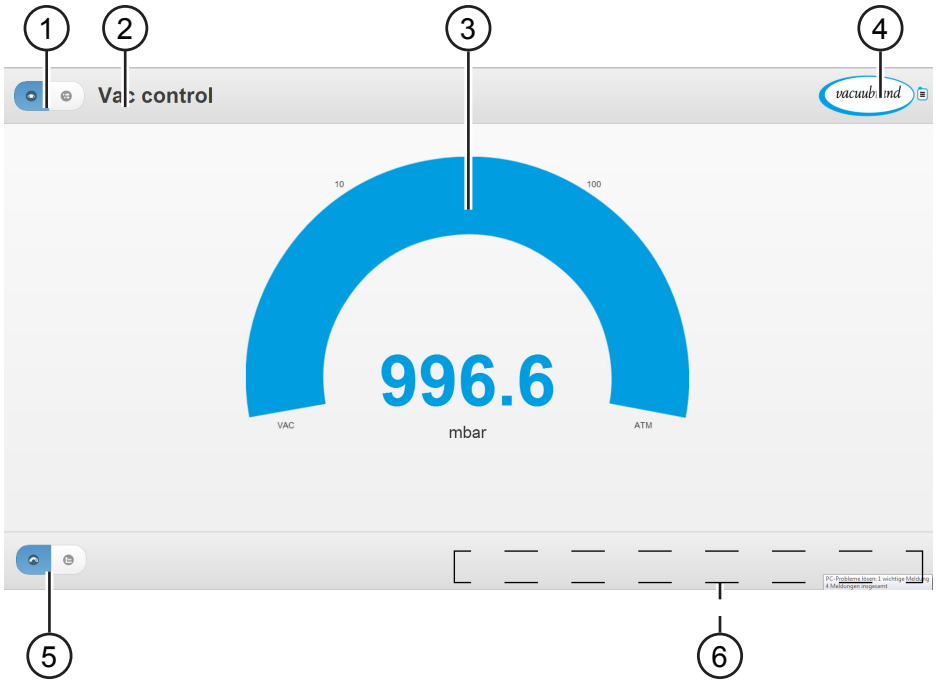
5.1 VACUU·CONTROL® Remote control

If the connection has been correctly established, the VACUU·CONTROL® user interface will be displayed in your web browser. Depending on your end device the display may automatically adjust to portrait or landscape orientation.

5.1.1 User interface (GUI)

User interface, in general

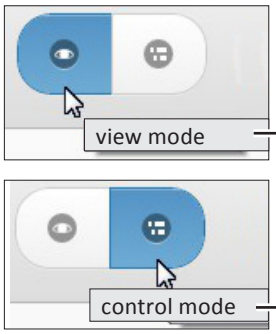
→ Example User interface



Meaning

1	Selector switch ▸ View mode (View) ▸ Control mode (Control)	**4**	Button ▸ Quick navigation
2	Status bar/Title bar ▸ Current operating mode (mode) ▸ Process time ▸ Menu	**5**	Selector switch ▸ Pressure reading (bargraph) ▸ Graphic (pressure vs. time diagram)
3	Display area ▸ Standard pressure display, actual pressure value ▸ Pressure vs. time diagram	**6**	Buttons ▸ Enabled control elements within control mode (Control)

5.1.2 Work interface



Depending on access rights, the user interface has different application areas:

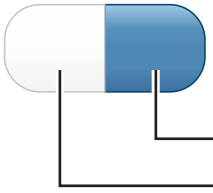
- **View** = view mode
- **Control** = control mode

All operating elements required for “View” are displayed within view mode. More operating elements, for control of CVC 3000 by remote, are enabled and displayed within control mode.

5.2 Operating elements

5.2.1 Types of operating elements

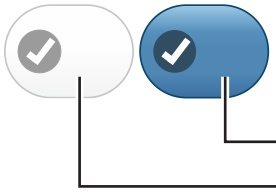
Selector switch



Depending on label, a selector switch changes between function or display. Like a radio button, only one function/display is selectable. Switch aspect alternates between:

- **marked** = selection enabled
- **unmarked** = selection disabled

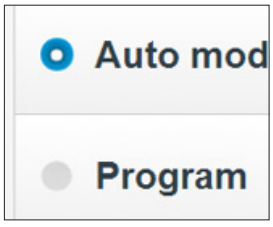
Button



An icon and/or text on the button indicates the function. The buttons aspect changes when operated:

- **marked** = button enabled = on
- **unmarked** = button disabled = off

Radio button



Functions can be selected by radio buttons. Only one function is selectable.

The enabled radio button is framed.

Quick navigation

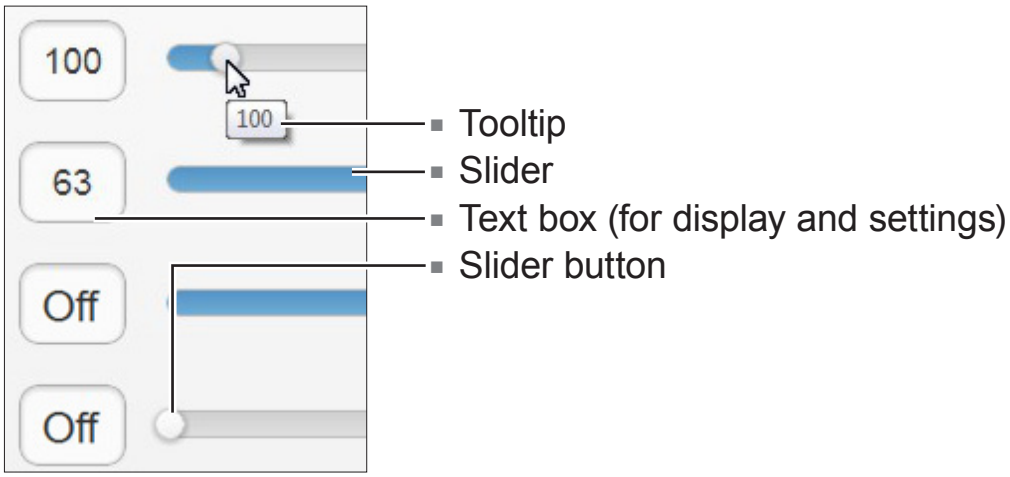
Quick navigation is a button that calls up a content list. Buttons listed inside the quick navigation lead to further menus of the remote control, e. g., language selection, network configuration, update etc..

⇨ Grayed out buttons cannot be operated. They are optional or password protected.

Slider

A slider is a control element for continuous value adjustment. Click on the slider button - hold - and move. The text box next to one slider displays the set value. Additionally, a tooltip on the slide button displays the adaption respectively the set value.

→ Example slider



⇨ Use the text box for fine tuning or direct settings.
⇨ On smartphones and tablets, the text box can be hidden behind a touch keyboard. Turn your mobile device into portrait orientation or scroll for more display. Settings are also possible in hidden state.

5.2.2 Buttons

Control element

Buttons are the control elements of the remote control. All buttons are labeled with text and/or icons.

Button examples

Text and Icon

Text or Icon

Buttons with icon

Icon on button

Icon	Meaning	Icon	Meaning
	“View” mode monitoring by remote control		“Control“ mode remote control + monitoring
	Pressure value bargraph		Diagram pressure vs. time
	Page forward; next page		Page backward; previous page
	OK – apply data settings		Cancel – discard set-tings; close window
	Call up data logger menu; download		Open drop-down list
	Increase value		Decrease value
	Parameter – set control parameter		Language adjustment

Buttons with text

Text on button

Button	Meaning
Mode	▸ Select mode of operation. ▸ During operation, to switch from “Pump down” to “Vac control”. ▸ During operation, to switch from “Vac control” to “Auto mode”. ▸ During operation, to switch from “Auto mode” to “Vac control”.
Vent	Vent system; press key > 2 sec = venting to atmospheric pressure
Start	Start vacuum process
Stop	Stop vacuum process
update	Executes update command

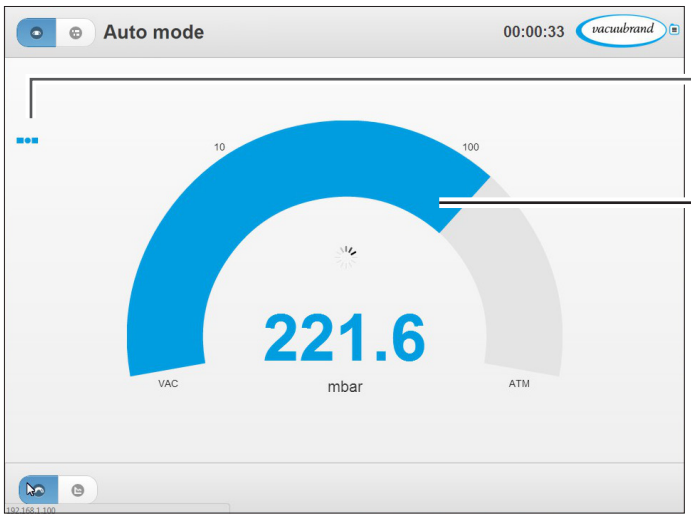
5.3 Display elements

5.3.1 Pressure reading

Standard pressure display

Key element of **VACUU·CONTROL®** is the standard pressure display, the so called bargraph. The bargraph is displayed in synchronization with the display on the connected CVC 3000.

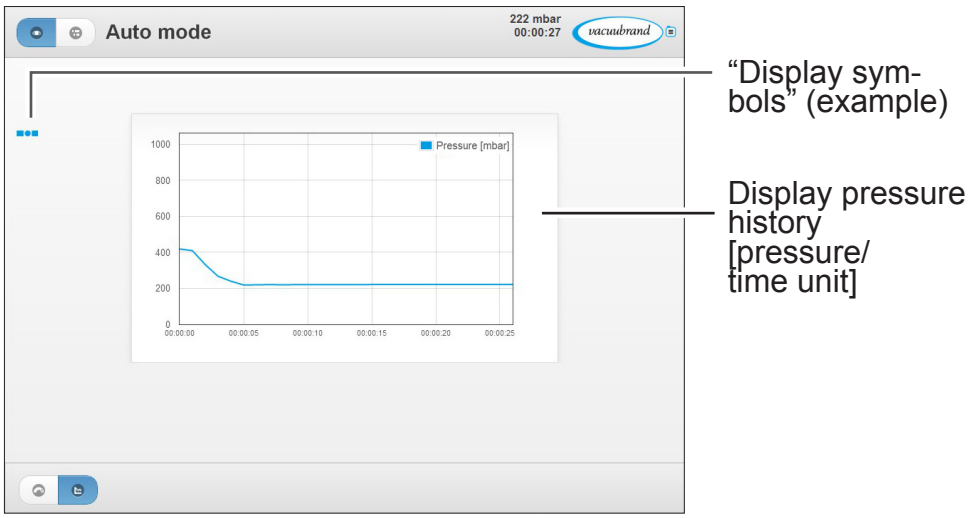
→ Example standard pressure graphic (bargraph)



Graphic diagram

In addition to the bargraph the display can be switched to a diagram which shows pressure vs. time. This diagram is similar to the selection “Graphic” on CVC 3000.

→ Example graphic diagram

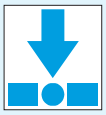


5.3.2 Display symbols

During operation further symbols[1] are indicated on the display.

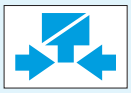
Display symbols during operation

Display symbols/ display icons fault-free operation

Icon	Meaning
	Two-point control: pressure in hysteresis, pump switched off
	Two-point control: pressure in hysteresis, pump switched on
	VARIO control: pump down to setpoint Auto mode: detect boiling point Detect: detect boiling point
	VARIO control: vacuum has reached the setpoint Auto mode: boiling point reached
	Turbo mode switched on (for VARIO in combination with turbomolecular pump)

1 -> for reasons of space, symbols can not be indicated in portrait orientation onscreen of some mobile devices.

Display symbols/ display icons fault-free operation

Icon	Meaning
	Coolant valve switched on
	Pump running; in combination with percentage value = (motor) speed (only valid for VARIO systems)
	Mode VACUU·LAN: delay time elapses Status bar green: defined period reached
	Pump down – continuous pumping
	Pump down: lower limit value reached VACUU·LAN: pump down to setpoint Vac control: with two-point control – pump down to setpoint
	VACUU·LAN: pressure increase to switch on pressure Vac control: preset maximum exceeded
	Venting valve switched on, open (VENT)
	In-line valve switched on, open

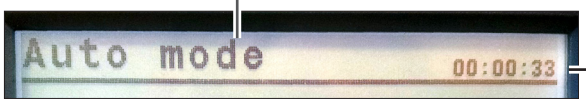
5.3.3 Title bar – status bar

Status bar – regular

Like on CVC 3000 the status bar of remote control indicates the current operation mode (Mode) and the elapsed process time.

→ Examples status bar VACUU·CONTROL®

Cutout status bar CVC 3000



Status bar

Status bar **green** process end reached

Status bar **red** malfunction (fault)

Title bar

In menus, the status bar displays the title of the opened menu.

→ Example title bar with menu name

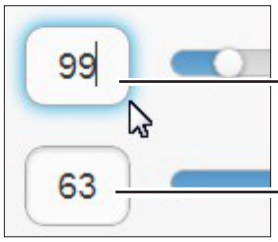
5.3.4 Tooltip

The tooltip[2] is a common graphical user interface element. A small “hover box” with quick information about the button may appear automatically, when the cursor or pointer is hovered over a button, without clicking it.

5.4 Text box

Text boxes allow the user to enter text or values to be used by the program or to display the adjusted value. Examples for entries are: to adapt numeric values, to assign passwords, web form for network configuration.

Click on a text box, when it is framed and the cursor is blinking the text box is ready for input. Grayed out text boxes have purely display function.



- **framed** = text box ready for input
- **unframed** = info-display

2 -> *Tooltips do not appear on mobile devices.*

6 Operation

The **VACUU·CONTROL**® application uses a web browser on your web-enabled end device to show synchronized data from your CVC 3000 vacuum controller.

Knowledge of the function and operation of the CVC 3000 are basic requirements for using the **VACUU·CONTROL**® application and hardware to control the CVC 3000 remotely.

IMPORTANT! Read **instructions for use of** the **CVC 3000** or your **pumping system** before using remote control!

6.1 Starting VACUU·CONTROL® application

Open default view

1. Start the web browser of your end device.
2. Enter the IP address[1] into the address bar of your web browser.

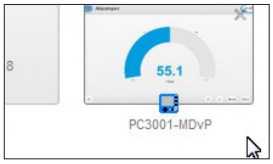
→ Example Enter IP address

3. Confirm your input with the Enter key.

   ☑ **VACUU·CONTROL**® is displayed.

or

Open up by bookmark



1. Start the web browser of your end device.
2. Click on the bookmark of the controller you want to monitor/ control by remote control.
   (→ *also see chapter: "4.3.4 Creating bookmarks"*)

   ☑ **VACUU·CONTROL**® is displayed.

1 -> Ask your system administrator for an assigned IP address or enter the factory set IP address: "192.168.1.111" or enter the device name: "VACUUCONTROL"

⇨ Ask your system administrator for the access password, if a log in pop up appears, when calling up **VACUU·CONTROL®** .

6.2 Language setting

Language setting

When first started, the **VACUU·CONTROL®** uses the same language as preset at controller CVC 3000.

When at CVC 3000 a language is pre-set, which is not yet supported by **VACUU·CONTROL®**, then the user interface is displayed in English by default.

The set languages at CVC 3000 and for **VACUU·CONTROL®** GUI on your browser the display may vary arbitrarily. This means by setting language for one device does not thereby change the other device settings.

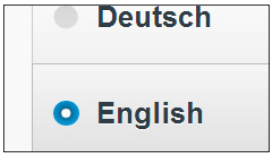
Selecting a language

1. Click on the logo “*vacuubrand*”.

   ☑ Quick navigation opens.

2. Click on the **globe icon**
   or
   click on **“Sprachauswahl”** (Select language) from the list.

   ☑ Menu “Select language” opens.



3. For example, click on radio button “English”.

4. Confirm your selection with “OK“.

   ☑ Graphical user interface appears in English.

⇨ **VACUU·CONTROL®** supports the same languages as the controller CVC 3000.

6.3 Remote control – “View” mode

Remote control/ View mode

Monitoring of the remote control displays the status of current pressure values at CVC 3000 on your end device.

“View” mode is for personnel with read permission. View mode can be assigned with password by the administrator → *see chapter: “7.1.2 Password management”.*

NOTICE

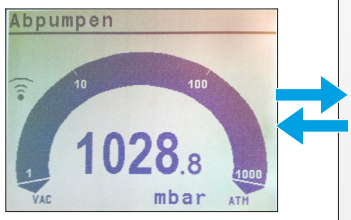
Without password protection data are accessible to everyone.

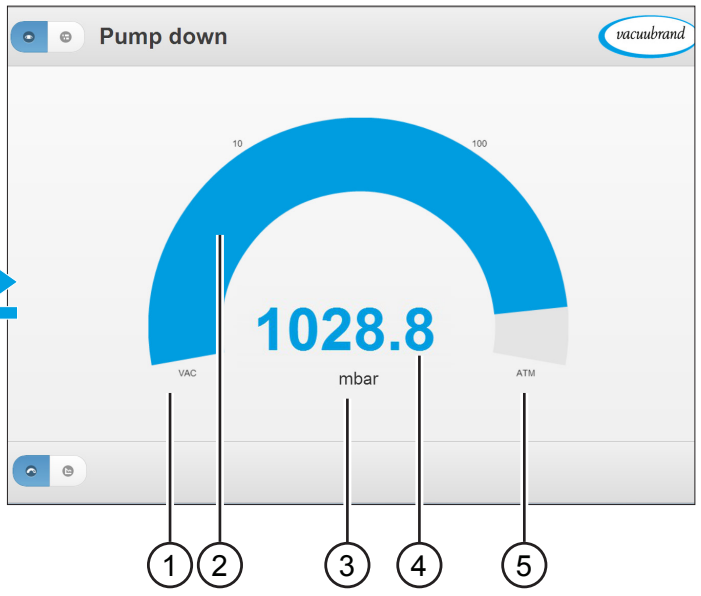
6.3.1 Display pressure reading

Once **VACUU·CONTROL®** is opened via web browser, the measured pressure of the vacuum controller CVC 3000 will be displayed.

View current pressure reading

→ Example Pressure reading CVC 3000 and VACUU·CONTROL®





Meaning

1	VAC ▸ Vacuum	**4**	Numerical value ▸ current pressure
2	Bargraph ▸ graphical element for pressure reading	**5**	ATM ▸ atmospheric pressure
3	Pressure ▸ Unit according to presetting at CVC 3000 (mbar, Torr, hPa)		

6.3.2 Display graphic

In addition to the bargraph, the display can be switched to a diagram similar to “Graphic” at CVC 3000.

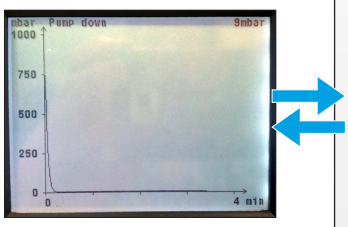
Open graph diagram

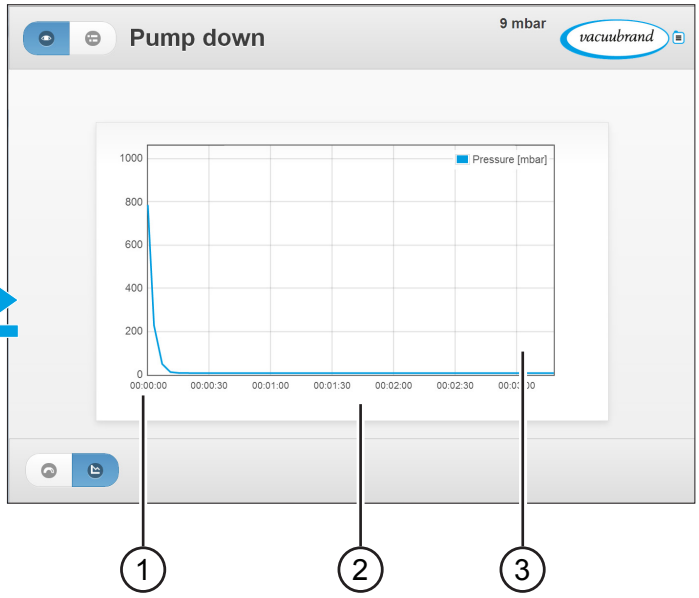
⇨ Click on selector switch “Graphic” placed at the bottom left.

☑ Selector switch “Graphic“ is marked.
☑ Display with diagram appears.

View graph – pressure over time

→ Example Graph CVC 3000 and VACUU·CONTROL®





Meaning

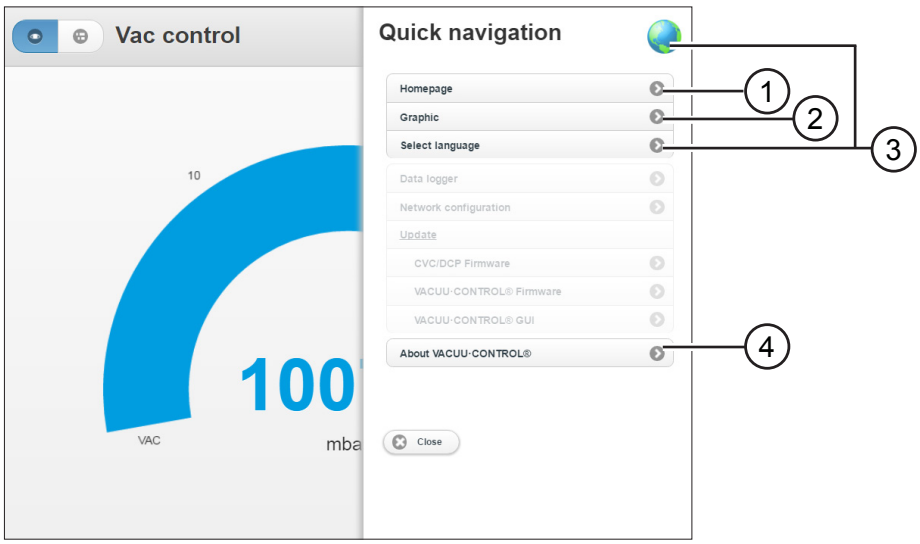
1	Pressure ▸ unit according to preset-ting at CVC 3000 (mbar, Torr, hPa)	**3**	Graph frame ▸ diagram pressure vs. time
2	Time unit ▸ continuously, hh:mm:ss		

6.3.3 Quick navigation

Alternatively, the pressure reading or pressure-time plot can be accessed via the “quick navigation”. “Quick navigation” also provides access to additional menus.

Quick navigation – view mode

Quick navigation in view mode



Meaning

1	**Homepage** Switch to homepage of view mode (bargraph)	3	**Select language** Open select language menu
2	**Graphic** Open display graph (pressure vs. time)	4	Open menu with information about **VACUU·CONTROL®**

⇨ Grayed out buttons and elements cannot be operated. They are optional or password protected.

6.4 Remote control – mode “Control”

WARNING

Misuse can cause physical injury or damage to property

Misuse or improper operation causes harm and can lead to physical injury or damage to property.

- ⇨ Observe all safety instructions of these instructions for use **and** the safety instructions of the remote controlled device.
- ⇨ Use the system only for its intended use.
- ⇨ Use the system only with knowledge to function and operation.
- ⇨ Never operate critical processes by remote control!
- ⇨ Prevent hazards caused by parallel entries, such as simultaneous operation via several end devices. Arrange operation by remote control with colleagues.
- ⇨ Set up password protection
  → *see chapter: “7.1.2 Password management”.*

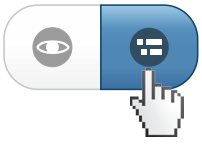
Remonte control/ Control mode

In addition to the status display, the control elements are enabled for operating by remote control = “Control” mode. This means you have direct access to the vacuum system.

Mode “Control” is intended for personnel with read-/write permission.

Switch to control mode

⇨ Click on selector switch “Control” on the upper left side.



☑ Selector switch “Control“ is marked.
☑ Display with current pressure appears.

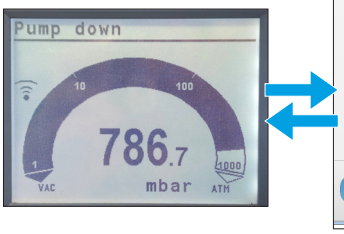
⇨ Ask your system administrator for the password, if an access window appears.

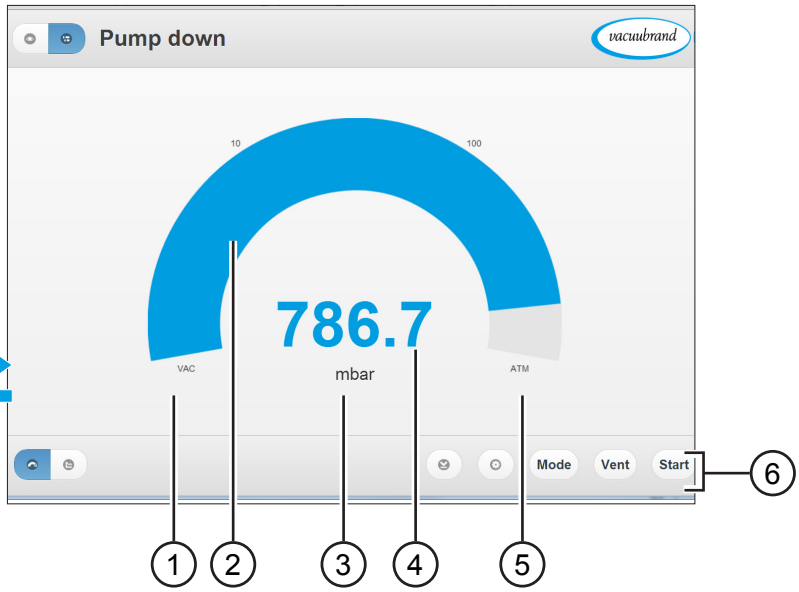
6.4.1 Display pressure reading

Once **VACUU·CONTROL®** is opened via web browser, the measured pressure of the vacuum controller CVC 3000 will be displayed. This applies to both modes: view mode and control mode. In control mode additional control elements are enabled.

View current pressure reading

→ Example Pressure reading CVC 3000 and VACUU·CONTROL® in “Control“ mode





Meaning

1	VAC ▸ Vacuum	**4**	Numerical value ▸ current pressure
2	Bargraph ▸ graphical element for pressure reading	**5**	ATM ▸ atmospheric pressure
3	Pressure ▸ unit according to presetting at CVC 3000 (mbar, Torr, hPa)	**6**	Enabled control elements

6.4.2 Display graphic

In addition to the bargraph, the display can be switched to a diagram similar to “Graphic” at CVC 3000.

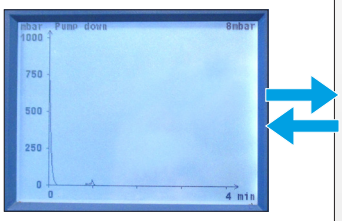
Open graph diagram

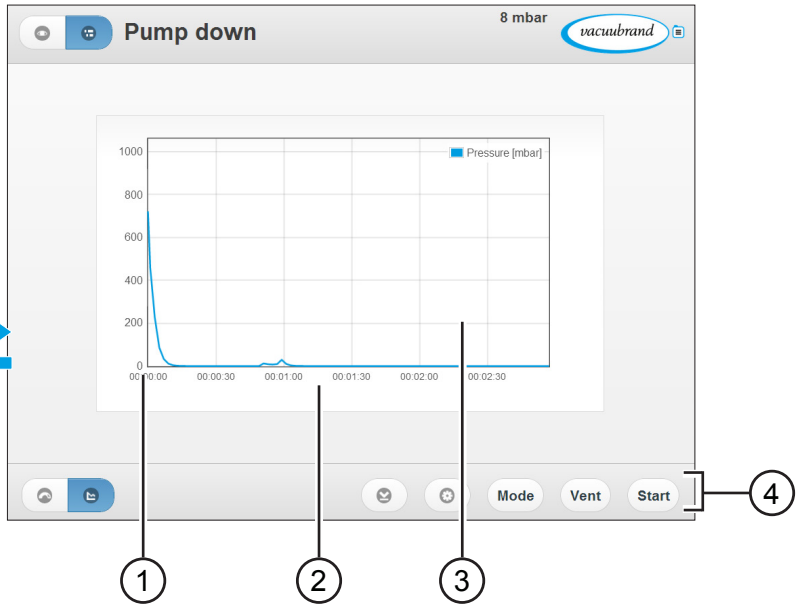
⇨ Click on selector switch “Graphic” placed at the bottom left.

☑ Selector switch “Graphic“ marked.
☑ Display with diagram appears.

View graph – pressure over time

→ Example Graph CVC 3000 and VACUU·CONTROL®





Meaning

1	Pressure ▸ unit according to presetting at CVC 3000 (mbar, Torr, hPa)	**3**	Graph frame ▸ diagram pressure vs. time
2	Time unit ▸ continuously, hh:mm:ss	**4**	Enabled control elements

6.4.3 Mode selection

Mode meanings

"Mode" has two different options:

- when operation has been stopped: to open the menu for selecting the operation mode.
- during running operation: to switch from "Pump down" to "Vac control", to "Auto mode".

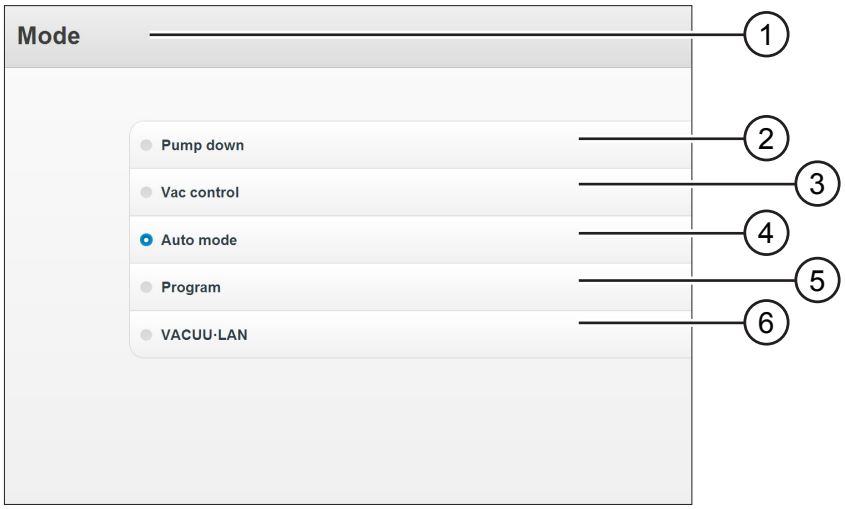
Open menu "Mode" (stopped operation)

⇨ Click on the "Mode" button.

☑ Button marked,
☑ "Mode" menu is displayed.

"Mode" menu

View mode menu

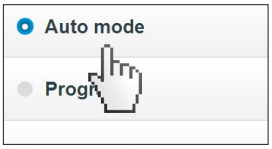


Meaning

1	Title bar with menu name
2	Pump down ▸ Continuous pumping with pressure and time target. ▸ VARIO: pumping with adjustable speed (pumping speed)
3	Vac control ▸ Control to a preset vacuum level
4	Auto mode ▸ Control of a VARIO pump in auto mode: find and adjust boiling pressure of solvents automatically; precise vacuum adaption even with variable process conditions. ▸ Alternatively for controllers of "detect" series, boiling point determination in two-point control (without vacuum adaption).
5	Program ▸ Ten programs with vacuum and time targets. Each program with ten program steps can be edited, saved or loaded.
6	VACUU·LAN ▸ Vacuum control optimized for vacuum network.

⇨ For details about the operation modes and information on use, please refer to the manual of the remote controlled device.

Select operation mode



1. Click on the required operation mode.

   ☑ Selected radio button is marked.

2. Confirm your selection with “OK“.

   ☑ View switches to the previous display.
   ☑ Status bar displays the selected operation mode.

During operation ...

...to switch from “Pump down” to “Vac control”

⇨ During “Pump down” operation, click on button “Mode”.

   ☑ Button momentarily marked,
   ☑ status bar displays “Vac control”.

...to switch from “Vac control” to “Auto mode[2]”

⇨ During “Vac control” operation, click on button “Mode”.

   ☑ Button momentarily marked,
   ☑ status bar displays “Auto mode”.

2 -> only valid for VARIO pumps!

6.4.4 Parameter settings

This button corresponds to the selection knob of the CVC 3000. “Parameter” is a menu to fine-tune the selected operation mode. Parameters can also be adjusted during operation.

Open menu “Parameter”

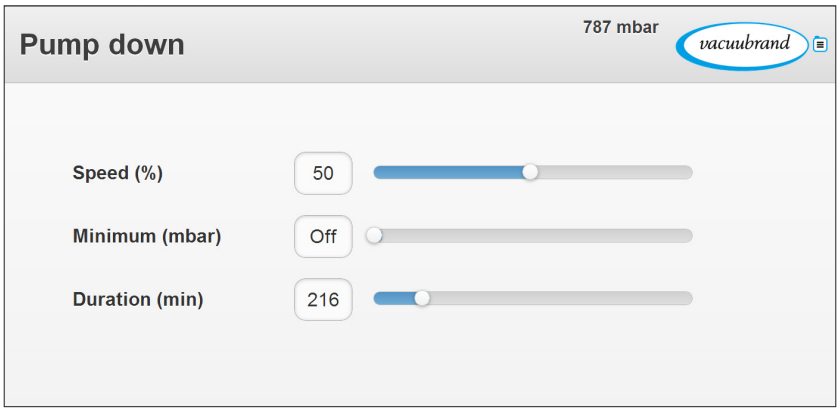
⇨ Click on the button with the gear-wheel icon.

☑ Button marked,
☑ “Parameter” menu is displayed.

The display[3] of the “Parameter” menu depends upon the mode selected and the remote-control device.

Parameter – Pump down

Menu control parameter Pump down



Meaning

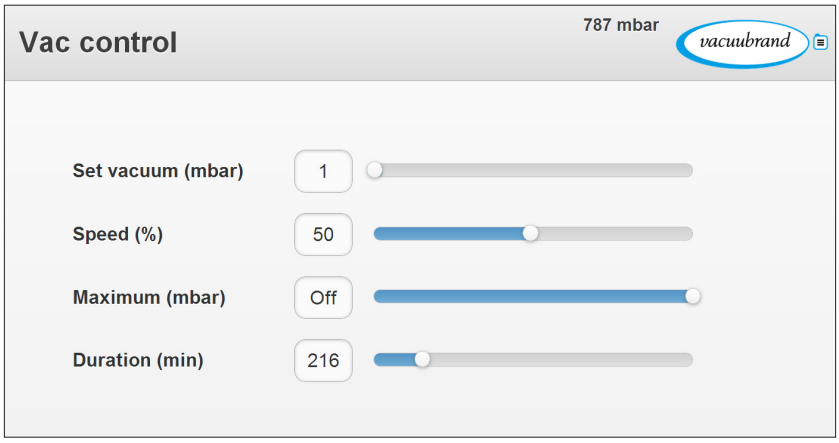
Parameter	Meaning
Speed (%)	Only VARIO: motor speed parameter for pump down. Adjustment range: 1–101 (101 = HI mode)*
Minimum (mbar)	Setting vacuum value which has to be reached. When this value is reached, the vacuum controller switches off or the in-line valve closes. Adjustment range: 0; 1–1060 (0 = OFF)
Duration (min)	Default value for process runtime from “Start“ on. Adjustment range: 0–1440 (0 = OFF)
Delay (min)	Delay time for an optional coolant valve.

** HI mode: optimum speed for the respective pressure, recommended setting.*

3 -> Screenshots of “Parameter“ are examples with VARIO pump with pressure unit in mbar.

Parameter – Vac control

Menu control parameter Vac control



Meaning

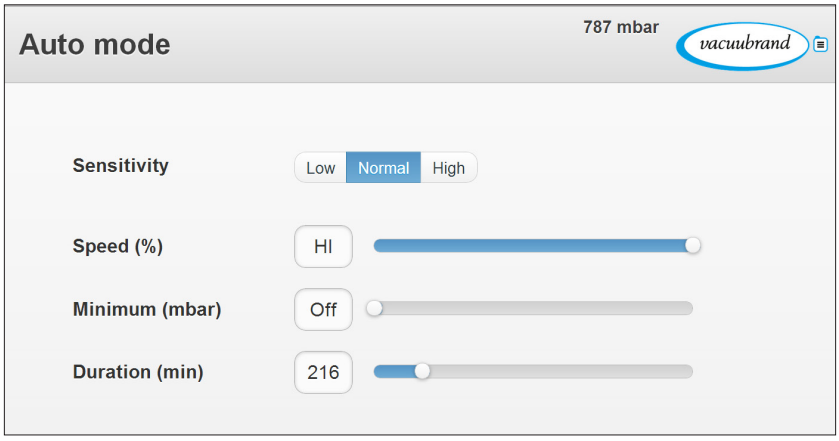
Parameter	Meaning
Set vacuum (mbar)	Adjustment of lower value for two-point control or precise for VARIO pumps. Adjustment range: 0–1060 (0 = Turbo mode)*
Speed (%)	Speed parameter for pump down; Adjustment range: 1–101 (101 = HI mode)**
Hysteresis	Control parameter for 2-point controllers. Adjustment range: 0; 1–1060 (0 = AUTO)
Maximum (mbar)	Adjustment of upper pressure. If this limit is exceeded, the vacuum pump switches off. Adjustment range: 0; 1–1060 (0 = OFF)
Duration (min)	Default value for process run time. Process time begins when user presses “Start“ button. Adjustment range: 0–1440 (0 = OFF)
Delay (min)	Delay time for an optional coolant valve. Coolant valve is closed after Delay time has been reached.

** Turbo mode: auto-adapting vacuum controller for best ultimate vacuum.*

*** HI mode: optimum speed for the respective pressure, recommended setting.*

Parameter – Auto mode

Menu control parameter Auto mode



Meaning

Parameter	Meaning
Sensitivity	Motor speed responsiveness setting: - Low: fast; large amounts of solvents - Normal: normal - High: slow; small amounts, for solvents with tendency to foam
Speed (%)	For VARIO pumps: Motor speed parameter for pump down; For CVC 3000 Detect: Hysteresis parameter Adjustment range: 1–101 (101 = HI mode)*
Minimum (mbar)	For VARIO pumps only: Vacuum setting. Once reached, controller switches off the VARIO pump. Adjustment range: 0; 1–1060 (0 = OFF)
Duration (min)	Process runtime. Measured from when user presses “Start” button. Pump stops when Duration has been reached. Adjustment range: 0–1440 (0 = OFF)
Delay (min)	Delay time for an optional coolant valve. Coolant valve is closed after Delay time has been reached.

** HI mode: optimum speed for the respective pressure, recommended setting.*

Parameter – Program

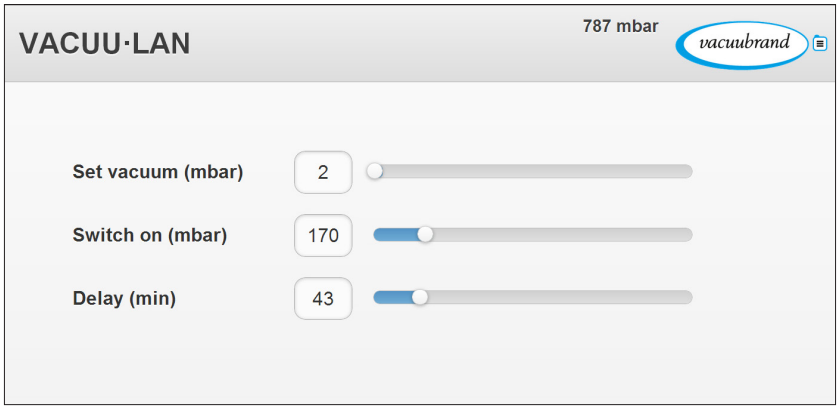
Menu control parameter Program

Meaning

Parameter	Meaning
Current program	Edit program, up to 10 programs are storable for CVC 3000.
... load from prog.	Load the selected program.
... save as prog.	Save the program under the selected number.

Parameter – VACUU·LAN

Menu control parameter VACUU·LAN



Meaning

Parameter	Meaning
Set vacuum (mbar)	Adjustment of the vacuum set point. Adjustment range: 1–1060
Switch on (mbar)	Maximum limit for vacuum level. If pressure exceeds this limit, the pump begins to pump down. Adjustment range: 0–1060
Delay (min)	Period for which the pump will attempt to maintain “Set vacuum” level. If no pressure increases are detected before the time period “Delay” expires, vacuum level will be allowed to rise to “Switch on” level. Adjustment range: 0–300 minutes

6.4.5 System start/stop

DANGER

Risk of hazard when operating critical processes by remote control.

Operating critical processes by remote control can lead to serious injury or damage to property.

⇨ Do not operate critical processes by remote control without direct access.

⇨ Only start procedures by remote control which can be operated without personal observation.

Start/Stop of vacuum control via remote control is similar to start/stop at CVC 3000 with start/stop button.

Starting the system

⇨ Click on the “Start“ button.

☑ Button marked,
☑ vacuum process runs.

Stopping the system

⇨ Click on the “Stop“ button.

☑ Button unmarked,
☑ vacuum process stopped.

6.4.6 Venting the system (Vent)

⚠	**DANGER** **Danger of explosion when venting with air by forming explosive mixtures.** Depending on the process venting can form explosive mixtures. ⇨ Never vent processes with air which can form an explosive mixture. ⇨ If necessary vent with inert gas (max. 1.2 bar abs.).

IMPORTANT! Certain process may cause pressure to build up.

The “Vent” button is used to vent the system. A short click on this button will momentarily vent the system as the process continues. Holding the vent button for longer than 2 seconds will cause the system to be vented to atmospheric pressure and the pump will stop running.

Momentarily venting

⇨ Click on the “Vent” button less than 2 seconds.

- ☑ Button momentarily marked,
- ☑ venting impulse, venting valve opens momentarily → short-term pressure increase.

Continuous venting

⇨ Click on the “Vent” button longer than 2 seconds.

- ☑ Button is marked as long as pressed,
- ☑ symbol for venting valve is blinking,
- ☑ venting valve open → continuous pressure increase until atmospheric pressure.

ⓘ ⇨ When atmospheric pressure is reached, the venting valve closes automatically.

Stop venting

⇨ Click on the “Vent” button (or on “Start“).

☑ Button unmarked,
☑ Venting has stopped, venting valve closes.

6.4.7 Download process data (Data logger)

The **VACUU·CONTROL**® application has a built-in data logger function. As long as the CVC 3000 is powered on, pressure/time data will be stored at adjustable intervals together with operational status information. The data are continuously written into a memory store of the RC adapter.

Memory capacity

The memory can store up to 200,000 data points. This data storage is overwritten on a rolling basis. Due to the local storage, a high data security is given.

Delete data

Data stored by the data logger will be deleted when the CVC 3000 and remote control adapter are disconnected; during software updates; or when the CVC 3000 is turned off.

IMPORTANT! The desired time interval for recording needs to be adjusted before running the process!

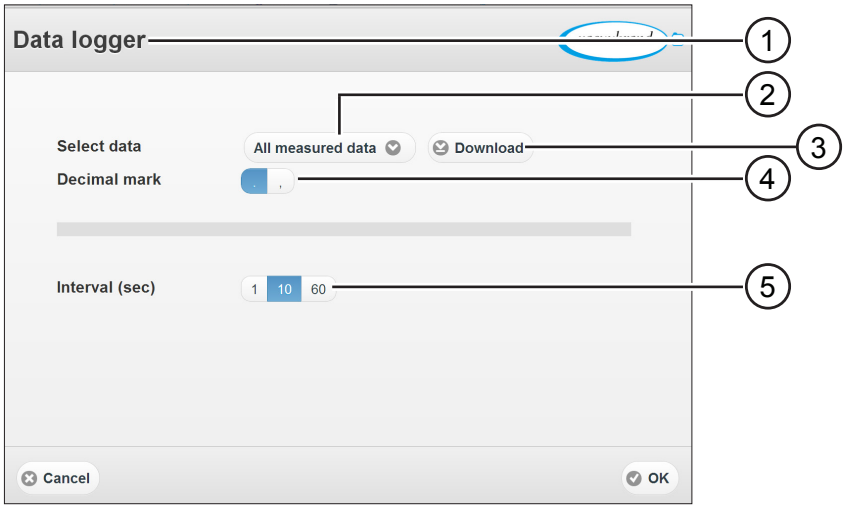
Open menu “Data logger”

⇨ Click on the “Data logger” button.

☑ Button marked,
☑ “Data logger” menu is displayed.

Menu “Data logger”

View data logger menu

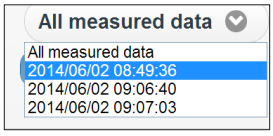


Meaning

1	Title bar with menu name
2	Drop down list ▸ Select time period of recorded data
3	Button ▸ Start download
4	Selector switch ▸ Preset decimal separator (point/comma)
5	Selector switch ▸ Preset time interval (1/10/60 second/s) default: 10 seconds

Download process data

IMPORTANT! The download of process data can last up to 10 minutes.



1. Select the measurement starting time from drop down list.

2. Determine the required decimal separation → for correct display of pressure value.

   ☑ Button marked.

3. Click on button “Download”.

   ☑ Measured data[4] are downloaded as *.csv-file,
   ☑ csv-file stored in local folder, e. g., in folder “Download”,
   ☑ or spreadsheet opens directly.

4 -> The maximum number of data points stored is 200,000. If you attempt to store more than 200,000 data points, the oldest data will be overwritten..

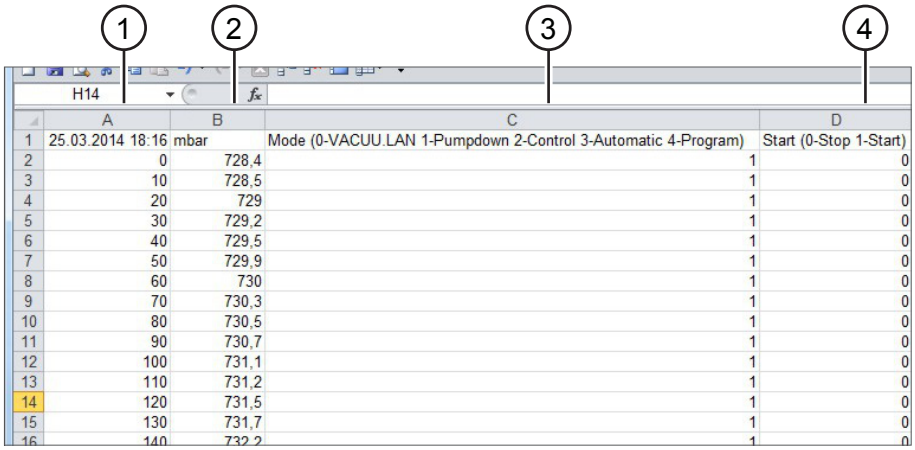
Display downloaded data

⇨ Open the downloaded csv-file with a spreadsheet.

☑ Spreadsheet starts up,
☑ documented data are displayed.

Spreadsheet with documented data

→ Example documented process data



Meaning table columns

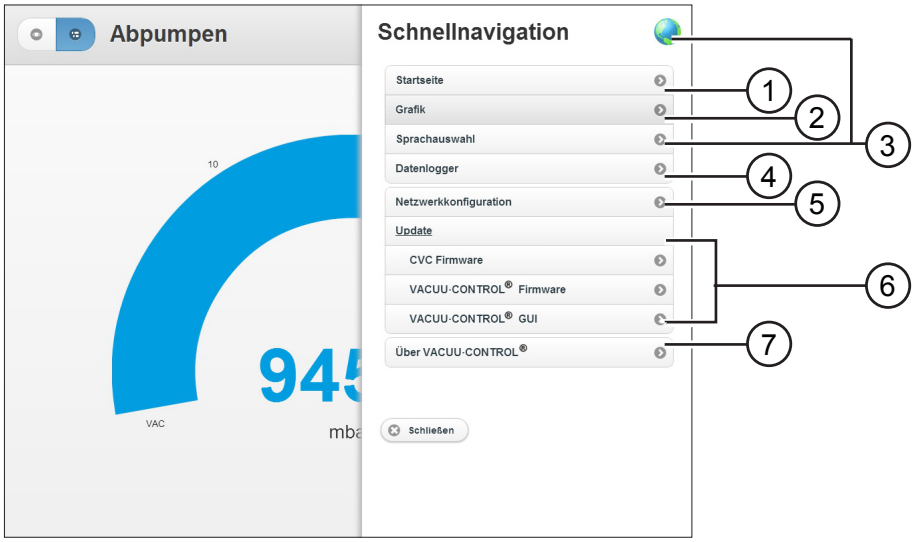
1	Date/Time starting time; process time (sec)	
2	Pressure values according to default setting (mbar, Torr, hPa)	
3	Operation mode – Mode	
	▸ 0 = VACUU LAN	▸ 2 = Vac control
	▸ 1 = Pump down	▸ 3 = Auto mode
		▸ 4 = Program
4	Status – vacuum process control	
	▸ 0 = Stop	▸ 1 = Start
		▸ 2 = End

6.4.8 Quick navigation

You can alternate between viewing the pressure reading and pressure-time graph by using the “quick navigation” button. “Quick navigation” also provides access to a range of other parameters.

Quick navigation – control mode

Quick navigation control mode



Meaning

1	**Homepage** Switch to homepage of control mode (bargraph)	5	**Network configuration** Open network configuration*
2	**Graphic** Open display graph (pressure vs. time)	6	**Update*** ▸ CVC firmware ▸ **VACUU·CONTROL®** firmware ▸ **VACUU·CONTROL® GUI**
3	**Select language** Open select language menu	7	Open menu with information about **VACUU·CONTROL®**
4	**Data logger** Open data logger menu		

** Password protected - sensible menus are for system administrator only.*

7 Network configuration and updates

CAUTION
Communication abort due to incorrect network configuration. Incorrect network configuration causes connectivity problems between the **VACUU·CONTROL®** adapter and your end device. ⇨ Do not change network configuration parameters. Seek help from a network administrator. ⇨ Do not change network settings during operation.
Connection loss during update. Remote process control is not possible while updating. ⇨ Never perform an update while operating your pump.
Malfunction/failure of remote control or CVC 3000. Interrupting an update, e.g., by aborting the update or by starting the same update from different end devices, may cause failure of the remote control or of your CVC 3000. ⇨ Never attempt to update the CVC 3000 from multiple web-enabled devices at the same time. ⇨ Always wait until the update has been completed.

Network configuration

Network configuration and updates are assigned to the 'Admin' user, providing unrestricted access to **VACUU·CONTROL®** remote control.

For initial login the password is factory-set to "**admin**". After logging in using the default password, the Administrator should change the password.

→ Example Login/input mask web browser

IMPORTANT!

⇨ Protect "Network configuration" and "Update" from unauthorized access.

⇨ Change password immediately after initial login.

7.1 Network configuration

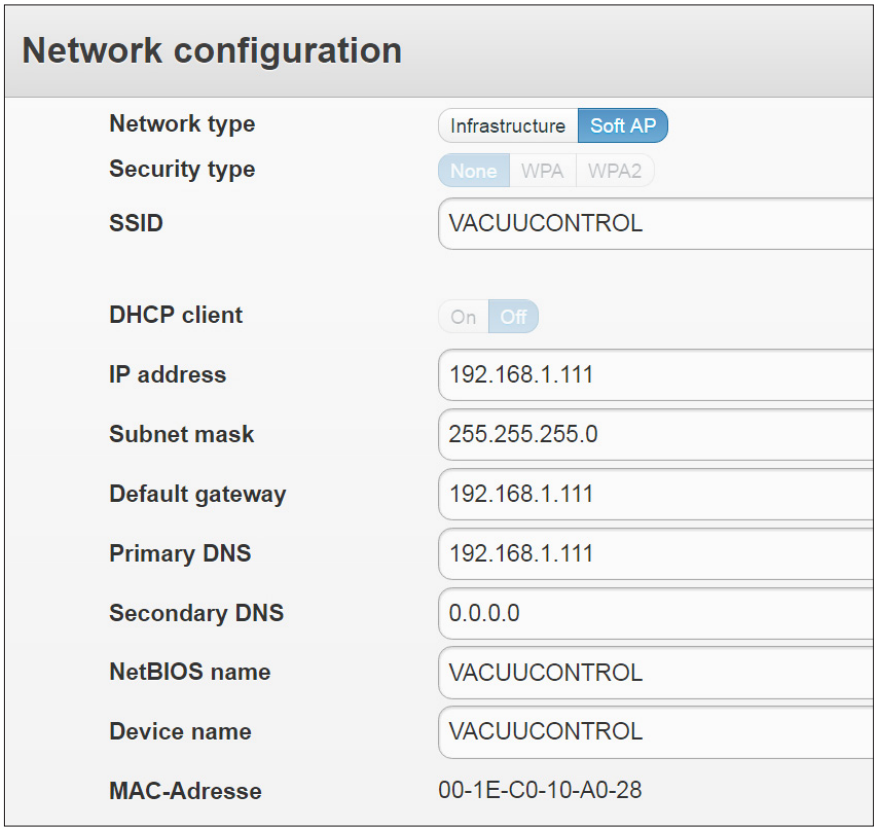
Use the “Network configuration“ menu to integrate **VACUU·CONTROL**® into your network and to assign access rights for users.

A password entry is required to access “Network configuration“.

7.1.1 Menu network configuration

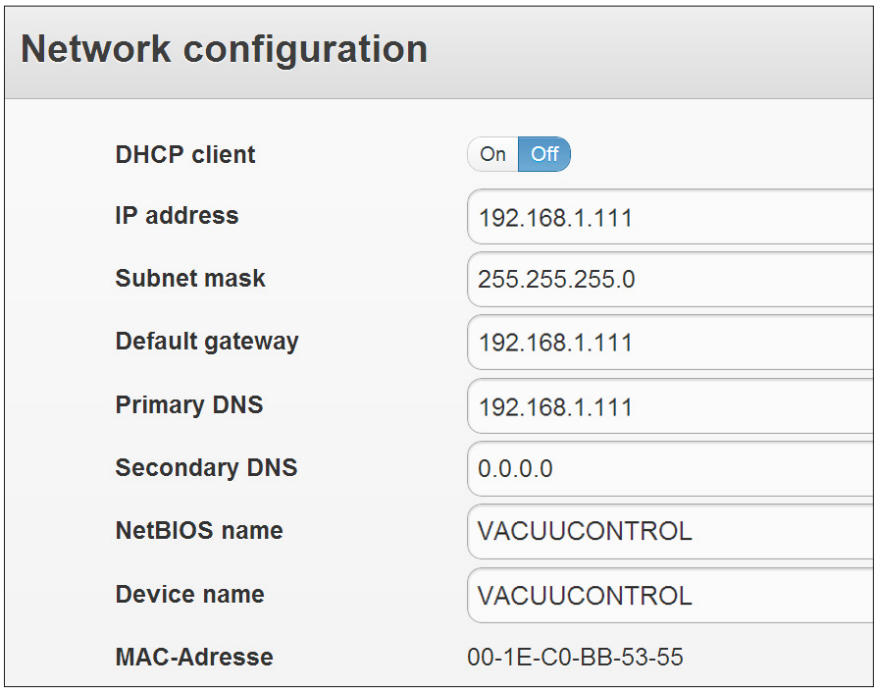
Menu WLAN version

Network configuration menu WLAN factory settings



Menu LAN version

Network configuration menu LAN factory settings



Meaning of setting options

Meaning setting options in network configuration

Settings	Description/Selectable Options
Network type	- Infrastructure - SoftAP
Security type	Select WLAN security type - None - WPA - WPA2
SSID	Name of wireless network
DHCP client	Dynamic Host Configuration Protocol; Protocol for dynamic assignment of IP addresses in your LAN. - On: use dynamic IP address - Off: use fixed IP address
IP address	IP address of **VACUU·CONTROL®** Factory setting: 192.168.1.111
Subnet mask	Mask to distinguish between internal and external addresses.
Default gateway	Gateway for connections from subnets.
Primary DNS Secondary DNS	Name service (not used)
NetBIOS name	Device name as alternative to IP address of remote control. Factory setting: VACUUCONTROL
Device name	Display title for browser tab and bookmarks or shortcuts.
MAC address	MAC address of adapter (information for network administration, not editable).

7.1.2 Password management

NOTICE

Pay attention to password protection in condition at delivery!

In condition at delivery, only the admin area (Network configuration & updates) is password protected.

The access to “View“ and “Control“ is open to enable a quick use of the web-based remote control.

⇨ Protect your system by assigning passwords.

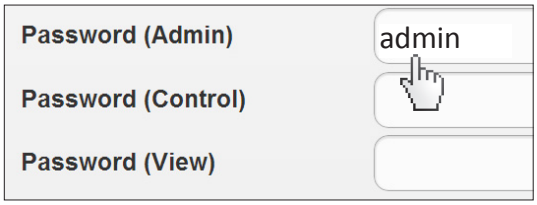
⇨ Change the password for the admin area (“Admin“) immediately after initial login.

Passwords can be between 1 and 19 characters. Each user group (e.g., View or Control) can be assigned one password.

IMPORTANT! Empty text boxes indicate that no password protection applies, i. e. no password protection!

Changing/editing passwords

1. Access the network configuration menu.
2. For example, click on the text box “Password (Admin)“.



3. Delete the existing password.
4. Enter the new password via keyboard. (1–19 characters).

   ☑ Entry is shown in clear text.

5. Confirm input with OK.

   ☑ New/changed password for “Admin” has been saved.

7.2 Updates

Updates

The update is split into several steps, i. e. into separate submenus → see separate buttons in “Quick navigation/Update“.

An authentication as admin is required to execute updates!

IMPORTANT! ⇨ Required updates must be carried out in the following order:

1. CVC 3000 firmware
2. **VACUU·CONTROL**®-LAN/WLAN RC adapter firmware
3. **VACUU·CONTROL**® GUI user interface in your web browser

The required update files are provided online on our website → Download.

Correlations between file extensions and update files:

File extension update files

File extension	For update of
*.da1	**CVC 3000** firmware
*.da2	**VACUU·CONTROL**® LAN firmware
*.da2	**VACUU·CONTROL**® WLAN firmware
*.da3	**VACUU·CONTROL**® GUI (user interface)

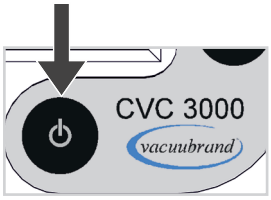
7.2.1 CVC 3000

Required CVC firmware

In order to use the **VACUU·CONTROL**® application, your CVC 3000 requires firmware version **V2.30** (or higher).

For CVC 3000 controllers with firmware versions between V2.00 and V2.29, a firmware update is needed before establishing the initial connection.

IMPORTANT! CVC 3000 controllers with firmware versions earlier than V2.00 cannot be updated for use with RC adapters.



Determine the firmware version loaded on CVC 3000

⇨ First turn off, then turn on your CVC 3000 controller.

☑ The firmware version is shown for a short time on the CVC 3000 display.

When do I need to update?

Not every **VACUU·CONTROL**® update necessitates a CVC 3000 firmware update.

IMPORTANT!

⇨ Do not switch off any connected device while updating!

⇨ Depending on connection a firmware update may take up to 20 minutes.

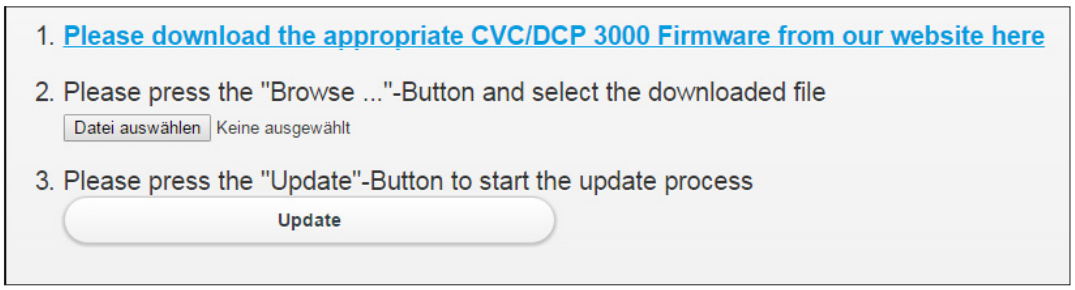
Updating CVC 3000 firmware

Updating CVC firmware

1. Turn on your CVC 3000 controller, with the **VACUU·CONTROL**® adapter connected.
2. Use your web browser to navigate to the **VACUU·CONTROL**® interface.
3. Switch to “Control mode“.
4. Click “Quick navigation“ and then click “CVC Firmware“.
5. Enter the required password in the login window.

   ☑ “CVC Firmware Update“ menu opens.

6. Follow the on-screen instructions.



   ☑ Update starts,
   ☑ progress bar shows update status,
   ☑ “Update“ is displayed on CVC display (from V2.30).

7. Wait for the update to terminate → see bar display. If the screen freezes while updating, reload the page.

   ☑ On-screen message in web browser,
   ☑ **VACUU·CONTROL**® restarts,
   ☑ an icon is displayed on the CVC 3000 display when connected to **VACUU·CONTROL**®.

Possible icons on CVC display

Icon on CVC display

Icon	Meaning	Icon	Meaning
	VACUU·CONTROL® adapter connected		Controller in remote mode; only controllable via remote control!

7.2.2 LAN/WLAN firmware

Along with your **VACUU·CONTROL®** LAN adapter or WLAN adapter you automatically receive the current **VACUU·CONTROL®** firmware.

Due to product improvements or modifications it may be necessary to update the firmware.

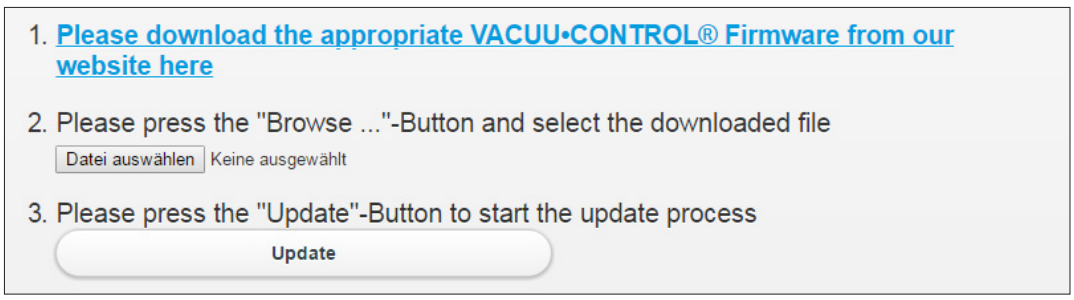
Updating VACUU·CONTROL® firmware

Updating firmware VACUU·CONTROL® adapter

1. Turn on your CVC 3000 controller, with the **VACUU·CONTROL®** adapter connected.
2. Use your web browser to navigate to the **VACUU·CONTROL®** interface.
3. Switch to “Control mode“.
4. Click “Quick navigation“ and then click “**VACUU·CONTROL®** Firmware“.
5. Enter the required password in the login window.

   ☑ **VACUU·CONTROL®** Update“ menu opens.

6. Follow the on-screen instructions.



   ☑ Update starts.

7. Wait for the update to terminate → see progress bar.
8. **VACUU·CONTROL®** restarts.

7.2.3 User interface (GUI)

Due to product improvements or modifications or updates of the LAN-/WLAN firmware it may be necessary to update the GUI.

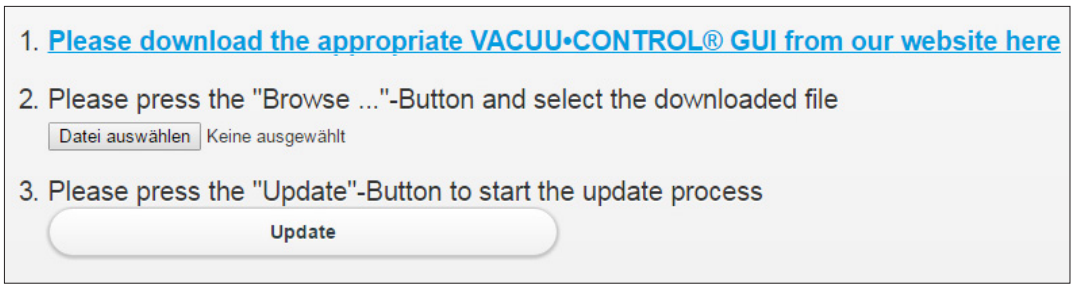
Updating VACUU·CONTROL® GUI

Updating GUI (user interface)

1. Turn on your CVC 3000 controller, with the **VACUU·CONTROL®** adapter connected.
2. Use your web browser to navigate to the **VACUU·CONTROL®** interface.
3. Switch to “Control mode“.
4. Click “Quick navigation“ and then click “**VACUU·CONTROL®** GUI“.
5. Enter the required password in the login window.

   ☑ “**VACUU·CONTROL®** GUI Update“ menu opens.

6. Follow the on-screen instructions.



   ☑ Update starts,
   ☑ progress bar shows update status.

7. Wait for the update to terminate.

   ☑ On-screen message on web browser.

8 Resolving problems

NOTICE

Possible material damage due to improperly executed troubleshooting.

Technical support

Technical support

⇨ To identify errors and potential remedies, please refer to the troubleshooting table: **“Fault – Possible cause – Remedy“**.

In case you need additional assistance, please contact our Service department.

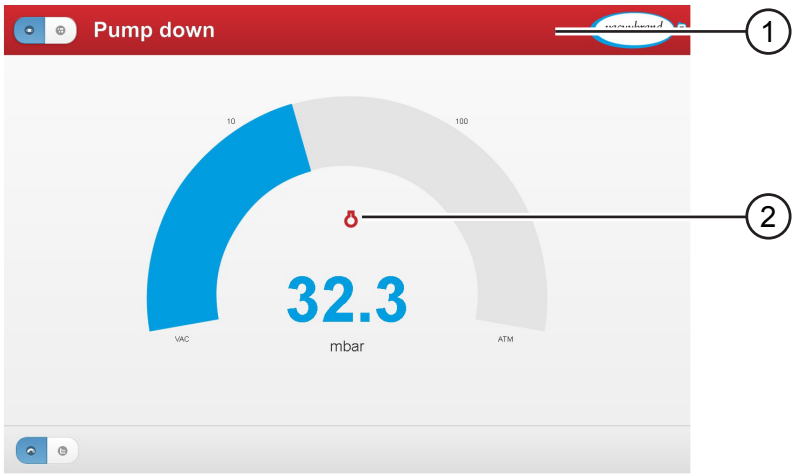
8.1 Error display

8.1.1 External errors

Error messages from the vacuum system are displayed both on the CVC 3000 controller and on the **VACUU·CONTROL®** interface.

User interface in case of external errors

→ Example User interface (GUI) in case of malfunction



1	Red title bar
2	Display symbol in case of malfunction (within the bar graph)

Display symbols in case of malfunction

Display symbols/ display icons in case of malfunction

Icon	Meaning
	Warning! External error
	Catchpot full (with liquid level sensor only)
	Fault at coolant valve
	Fault at pump
	Fault at venting valve
	Fault at in-line valve

⇨ Error messages of vacuum pumps or valves are often caused by disrupted data connections → check cable connections.

⇨ Refer to the instructions for use of the remote controlled devices for further information on troubleshooting.

8.1.2 Internal errors

Error messages that result from internal errors of the remote control are displayed directly in the web browser.

Error messages shown on user interface (GUI)

Error message shown on user interface	✓Remedy
Controller is switched off!	✓ switch on controller
You are using an outdated browser that is not compatible with this software. Please try again with a later browser version!	✓ install the latest software version of the web browser → see *"3.2 System requirements"* chapter
Network configuration changed.	✓ reload site ✓ wait, consider booting time for WLAN adapter ✓ check network connection, select and connect again.
CVC 3000 needs update to work properly with VACUU·CONTROL™. Go to update page.	✓ update CVC firmware, → *see chapter "Updating CVC 3000 firmware"*
This controller is currently not supported.	✓ contact our Service, and ask for a list with compatible devices
No communication with controller. Please check settings.	✓ connect controller ✓ check baud value at controller (CVC/Configuration/Baud = 19200) ✓ check RS232 settings at CVC and if necessary reset to factory settings ✓ system administrator: reset **VACUU·CONTROL™** to factory settings
Update in progress. Please wait.	✓ wait until update has finished
Connection interrupted! Please reload page.	✓ reload page
JavaScript disabled.	✓ enable JavaScript for your web browser
Update failed. Check file.	✓ check update file or restart download → Link

8.2 Troubleshooting table

Fault	▸ Cause	✓Remedy	Personnel
Network out of range.	▸ WLAN signal impaired by interfering signals. ▸ Distance between WLAN adapter and end device is too far.	✓ Do not place WLAN adapter in the vicinity of sources of electro-magnetic interference ✓ In case of larger distances, use a WLAN router to integrate the WLAN adapter into your network.	Admin

Fault	▸ Cause	✓Remedy	Personnel
Frequent network or connection losses.	▸ Interference. ▸ Signal is impaired by other radio technology, e. g., Bluetooth, microwave oven. ▸ Interfering signals, e. g, from transmission mast, magnet or foreign network. ▸ Distance between WLAN adapter and end device is too far. ▸ End device has connected automatically to another, stronger or preferred wireless network.	✓ Do not place WLAN adapter in the vicinity of other radio technology. ✓ Do not place WLAN adapter in the vicinity of jammers. ✓ Reduce distance to WLAN adapter. ✓ ✓ Check if your end device is still connected to the VACUUCONTROL-SoftAP. ✓ Disconnect preferred wireless network connections. ✓ Select and connect VACUUCONTROL again. ✓ Select VACUUCONTROL and start connecting again.	Admin
No WLAN connection. **Authentication error.**	▸ CVC 3000 or pumping system switched off. ▸ Another user is already connected to the SoftAP. ▸ Options of network configuration not known. ▸ SUB-D plug loose. ▸ Distance between WLAN adapter and end device is too far. ▸ Structural restrictions, reinforced concrete, steel beams, water etc...	✓ Switch on CVC 3000 or pumping system. ✓ Check if another user is already logged in. Agree upon access. ✓ Read instruction for use of network router, network connection or end device. ✓ Check SUB-D connection and fix. ✓ Reduce distance to WLAN adapter. ✓ In case of larger distances or structural interferences use a WLAN router to integrate the WLAN adapter into your network. ✓ Use repeater or ✓ use LAN-Adapter. ✓ If indicated reset to factory settings.	Admin
WLAN network is not displayed.	▸ WLAN adapter not correctly connected. ▸ VACUU-CONTROL WLAN network uses the same SSID as another network. ▸ WLAN adapter defective. ▸ SSID has been changed. ▸ WLAN adapter has been integrated into an existing network (infrastructure).	✓ Check plug connection. ✓ Check name of WLAN network. ✓ Replace defective parts.	Admin
No connection to adapter.	▸ CVC 3000 or pumping system switched off. ▸ SUB-D plug loose.	✓ Switch on CVC 3000 or pumping system. ✓ Check SUB-D connection . ✓ Fix SUB-D connection .	Control, Admin

Fault	▸ Cause	✓Remedy	Personnel
No connection to adapter.	▸ Ethernet cable (LAN) not plugged in correctly. ▸ Cable break. ▸ Incorrect address entered into address bar of web browser. ▸ Adapter defective.	✓ Check for connection icon in CVC 3000 display. ✓ Check patch cable. ✓ Check plug connection. ✓ Check IP address. ✓ Replace defective parts.	Admin
VACUU· CONTROL interface will not display in web browser window.	▸ Display unit switched off or defective. ▸ Hardware or web browser do not meet system requirements. ▸ Web page can not be found. ▸ Password input incorrect.	✓ Switch on display unit. ✓ Install current web browser → see chapter “3.2 System requirements“. ✓ Check address in browser window. ✓ Enter password. ✓ Inform your system administrator.	View, Control, Admin
Data logger no measured values available.	▸ Data memory of adapter has been deleted due to a power failure. ▸ CVC 3000 separated from mains (power source). ▸ Voltage supply from CVC to adapter has been interrupted, e. g., SUB-D plug has been removed. ▸ Firmware has been updated.	✓ Keep adapter connected to CVC until all measured values have been downloaded. ✓ Save the measured values first, then run the update. ✓ Do not operate power switch.	View, Control, Admin
Patch cable connected directly to computer but no connection is established.	▸ Computer is not supporting Gbit/s Ethernet standard (LAN) → Auto-MDI-X.	✓ Plug crossover adapter into Ethernet connection of computers. Ethernet cable → crossover adapter → computer.	Admin
User interface is not displayed.	▸ JavaScript not enabled. ▸ JavaScript is blocked.	✓ Enable JavaScript in your web browser. ✓ Allow JavaScript.	Control, Admin
IP address has been entered, but user interface is not displayed.	▸ Connection has been interrupted. ▸ Enter key has not been pressed. ▸ IP address has been changed in network configuration.	✓ Check connection. ✓ Reload or refresh page.	Control, Admin
CVC 3000 does not start.	▸ Firmware update has failed. ▸ Update has been interrupted.	✓ Repeat CVC firmware update or ✓ contact our Service.	Admin
Several CVCs have been equipped with VACUU·CONTROL - all are named VACUUCONTROL.	▸ Device names still set to factory-settings: VACUUCONTROL ▸ Device names have not been changed in the network configuration.	✓ Call up the network configuration menu, switch on the devices one after another, assign different device names in the network configuration, e. g., LAB_Z1, LAB_X2 etc.	Admin

Fault	Cause	✓Remedy	Personnel
Measured values are only displayed in the web browser window, not downloaded.	▸ Browser-dependent.	✓ Use a different web browser for downloading, e. g., Firefox or Internet Explorer 10 or ✓ select “save as“ in your web browser.	Control, Admin
No GUI update possible via quick navigation.	▸ Firmware of an adapter has been updated. ▸ The current GUI does not match the firmware update. A message recommending a GUI update appears.	✓ Use the direct link “IP-Address/admin/webLocal.html“ to update the GUI software. ✓ Reload page after update. ✓ Contact our Service.	Admin
No internet connection.	▸ WLAN adapter configured as SoftAP or ▸ computer connected directly to LAN adapter.	✓ Integrate WLAN adapter via WLAN router into your network. ✓ Use mobile data connection via your SIM card to connect to the internet.	Control, Admin
Connection loss is displayed.	▸ Network error. ▸ Web browser overloaded. ▸ Controller or vacuum system switched off. ▸ Cable removed from adapter. ▸ Cable defective or loose contact at connector. ▸ Adapter has been removed. ▸ More than X users are already accessing the VACUUCONTROL remote control. .	✓ Remove network error. ✓ Reload page. ✓ Switch on controller or vacuum system again. ✓ Check cables and connections. ✓ Replace defective parts. ✓ Remote control requires a connected adapter for operation → reconnect adapter.	Control, Admin
Language changes automatically	▸ With each website relaod, the language switches to the one that is preset on the connected DCP 3000. ▸ Storing cookies (to fix language selection) is not possible with WLAN-/LAN adapter.	✓ Reselect required language	View, Control, Admin

The troubleshooting table **“Fault - Cause - Remedy“** will help you identify and correct the most common errors.

⇨ Please contact our Service department if you are unable to resolve an error using the information provided in this table.

8.3 Reset to factory default settings (Reset)

CAUTION

Damage due to interrupted connection to the vacuum system.

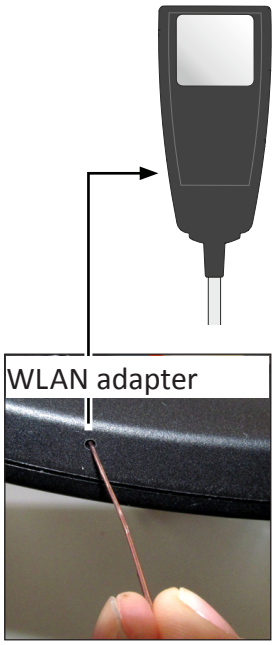
If **VACUU·CONTROL®** adapter is reset to factory default settings, contact to the vacuum system will be lost. The remote control will stop functioning.

⇨ Stop any vacuum process prior to resetting to factory settings.

⇨ Only authorized personnel may carry out a reset.

The remote control can be reset to factory settings directly at the LAN or WLAN adapter. The latest **VACUU·CONTROL®** Firmware and GUI updates are preserved. Data like measured values in the data logger or passwords etc. are deleted.

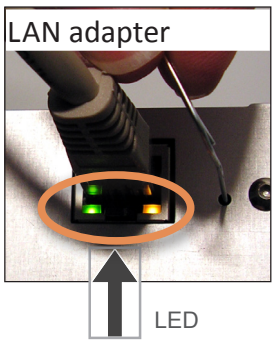
For resetting, the LAN/WLAN adapter has to be connected to the controller CVC 3000.



Reset – WLAN adapter

1. Switch off pumping unit/CVC 3000 controller.
2. Use a straight, stable wire[1], Ø = 0.8 -1 mm, l = 25 mm.
3. Insert the wire into the small opening at the LAN/WLAN adapter.
4. Press the reset push-button and keep pressed for about 10 seconds while switching on the pumping unit/CVC 3000.

☑ Perceptible movement of push-button,
☑ **VACUU·CONTROL®** reset to factory settings.



Reset – LAN adapter

1. Use a straight, stable wire, Ø = 0.8 -1 mm, l = 25 mm.
2. Insert the wire into the small opening at the LAN/WLAN adapter.
3. Press the reset push-button and keep pressed until both the yellow and the green LED at the Ethernet connection switch off simultaneously.

☑ Perceptible movement of push-button,
☑ **VACUU·CONTROL®** reset to factory settings.

1 -> Ø = diameter

9 Appendix

9.1 Technical information

Type

Type	
RC adapter	VACUU·CONTROL®

9.1.1 Technical data

Technical data

Electrical data	
Power supply	via CVC 3000
Plug connection	RS 232 SUB-D 9-pole
Degree of protection	IP 40

Dimensions and weight	
Dimension LAN adapter	90 mm x 55 mm x 35 mm 3.54 in x 2.16 in x 1.37 in
Dimension WLAN adapter	47 mm x 114 mm x 26 mm 1.85 in x 4.48 in x 1.02 in
SUB-D cable, length	420 mm 16.53 in
Weight LAN-Adapter	236 g
Weight WLAN adapter + holder	113 g

LAN version	
Web based remote control	VACUU·CONTROL® LAN
Network name	**VACUUCONTROL**
IP factory setting	192.168.1.111
Data rate	100 Mbps
Data storage capacity	2 MB

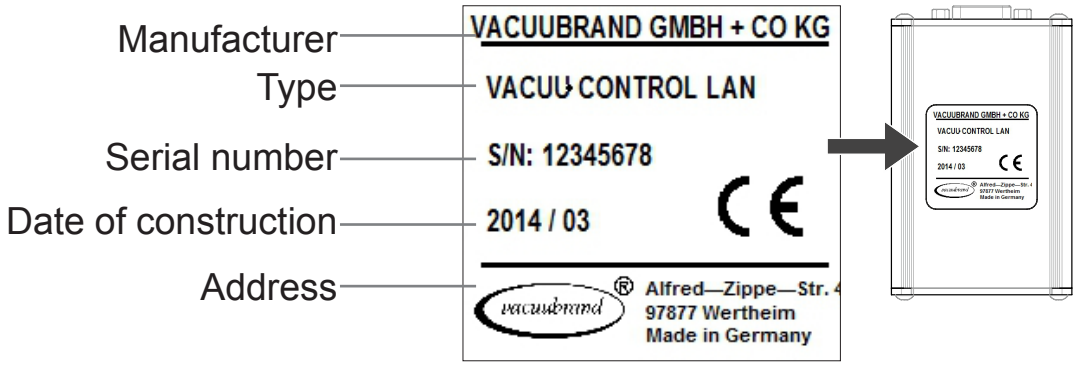
WLAN version	
Web based remote control	VACUU·CONTROL® WLAN
Network name	**VACUUCONTROL**
Network standard	802.11g
Network type	SoftAP, infrastructure
Data rate	max. 54 Mbps
Frequency range	2,405 - 2,48 GHz
Safety	open, WPA-PSK, WPA2-PSK
Signal strength	Output power: 16 dBm, Sensitivity: -88 dBm RSSI: supported
IP factory setting	192.168.1.111
Data storage capacity	2 MB

9.1.2 Rating plate

⇨ In case of malfunction, please note type and serial number on the rating plate.
⇨ When contacting our service department, name us product type and serial number. With this information we can offer selective support and advice for your product.

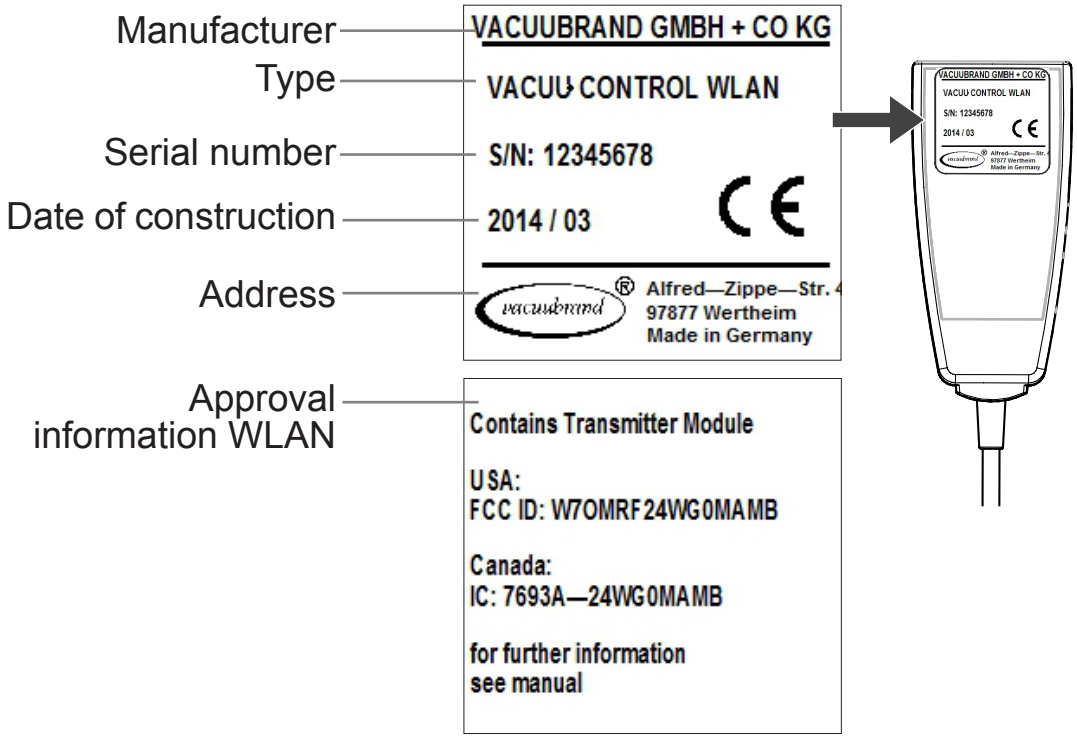
Rating plate LAN adapter

→ Example Rating plate LAN adapter



Rating plate WLAN adapter

→ Example Rating plate WLAN adapter



WLAN approval

WLAN approval FCC

USA – FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WLAN approval IC

Canada – IC

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

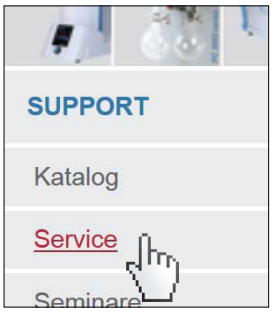
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

9.2 Service

Service range

Take advantage of the comprehensive service range of **VACUUBRAND GMBH + CO KG**.

Service in detail



- product guidance and practical solutions,
- fast delivery of spare parts and accessories,
- professional maintenance,
- immediate repairs processing,
- service on the spot[1],
- calibration (DAkkS accredited),
- return, disposal.

⇨ For further information visit our website www.vacuubrand.com.

9.2.1 Terms of service

Service, including notification of claim, repair order, calibration, or return, always requires the same steps to be taken for smooth handling.

⇨ Reduce downtime, speed up the handling. Keep the required data and documents ready when contacting the service department.
Advantage: Your order can be quickly and easily processed. A short description or photos may help for error location.

Returns Process

Meet the terms of service

1. Contact your local dealer or our service department[2].
2. Request a RMA number for your order.
3. Return your product including:
   - RMA number,
   - repair order,
   - short error description.

1 -> Some services are not available in all areas.

2 -> Tel: +49 9342 808-5660, Fax: +49 9342 808-5555, service@vacuubrand.com

9.2.2 Service requests

Contact

Service request and service order

1. Contact your local dealer or our service department.
2. Inform us which service features you require.
3. Send us your service request providing the following information:

- serial number and type from rating plate,
- a short description of your request, e. g., error description for repair order, exchange etc..

☑ Our service will provide you with a RMA number.
☑ Clearance for return.

9.2.3 Return

Sending in

Send in your product (return)

1. Pack your product securely for transportation.
   Mark the RMA number on the outside of the packaging.
2. Send in your product.

9.3 Glossary

Crossover

For direct wiring of two computers of the same type via crossover cable or crossover adapter. Due to auto MDI-X capability, usually crossover cables and crossover adapters are not necessary.

CSV file format

“comma-separated values”. Within csv-files tables and lists of variable lenghts can be mapped. The data logger provides the measured values in “*.csv”.

Firmware

Software that is embedded in electronic devices. The web application for remote control **VACUU·CONTROL®** is permanently installed on the adapter (LAN or WLAN). The firmware is functionally fixed to the hardware, which means, remote control is only possible with adapter.

Bookmark

A bookmark is a Uniform Resource Identifier (URI) that is stored for later retrieval for quick access to a website. Depending on the used browser, bookmarks are also called “favorites” or “internet shortcuts”.

Patch cable

Or Ethernet cable. Cable type of network technology and telecommunications, such as Ethernet networks.

Shortcut

Key combination on a smartphone to set a linked icon on the homescreen for easy access to the application, just like a bookmark. For how to create shortcuts read user manual of your smartphone.

Web application

Any application software/firmware that is displayed on a web browser or is created in a browser-supported programming language = web-based.

Web browser

Displays the graphical user interface of web applications or web-based software.

9.4 Index

A
Abbreviations 10
Access rights 14
active log off 18
Adapter function 24
Additional icons 8,9
Admin 15
Assembly example 19

B
bargraphic. 34
Button examples. 33
Buttons 31

C
Changing/editing password . . 61
Checking the connection 28
Control = control mode 31
Control element 33
Control mode 43
Convention for warnings. 9
Copyright © 8
Creating bookmarks 29
CVC 3000. 10,62

D
Data logger. 54
Delete data 54
Design of steps. 10
Diagramm-Grafik 35
Display and operating elements . . 30
Display conventions 9
Display elements 34
Display graphic. 45
display icons. 35
Display pressure reading . . 40,44
Display symbols 35
Download 54,55

E
Enabled control elements. . . . 30
end device 19
Environmental protection 18
Error display 66
Establishing initial connection. 27
Establishing LAN connection . 28
explosive mixtures 17

F
Fault-Cause-Remedy 68
Features 20
File extension 62
Foreseeable misuse 13

G
Graphic. 45
graphic diagram 35
graphic = pressure over time . 41
GUI - user interface 65

H
Hardware components 22
HI mode 49

I
Improper use 12,13
Included materials 23
Installation and connection. . . 24
Intended use. 12
Internal errors 68
IP address factory setting. . . . 29

J
Javascript 21

L
labeled buttons. 33
LAN connection 28
Language setting 39
LAN version 22
LAN-/WLAN firmware update . 64
Larger vacuum systems 26
Login/input mask 58
Log off. 18

M
Malfunction symbols. 67
Memory capacity 54
Menu “Data logger”. 55
Menu network configuration . . 59
Mode “Control” 43
Mode selection 46
mode „View“ 31
Mode “View” 40
Momentarily venting 53

N
Network configuration and updates 58
Network configuration menu LAN. 60
Network configuration menu WLAN 59

O
Open default view. 29,38
Operating elements 31
Operation 38

P
Parameter = Programm 51
Parameter settings 48
Parameter = VACUU-LAN . . . 51
Password 58,61
Password management 61
Personal responsibility 16
Pressure reading 34
Product description. 19
Product features 20

Q
Quick navigation. 32,42,57

R
Radio button 31
Rating plate 74
RC adapter 73
Recommended web browser . 21
Required CVC firmware 62
Reset 72
Responsibility Assignment Matrix. 16

S
Safety 7
Safety instructions 12
Safety precaution 16
Safety symbols 8
Schnellnavigation 32
Scope of supply 23
Select operation mode 47
Selector switch 31
Service request. 77
Slider 32
Sonderdarstellung Titelzeile . . 37
Standard pressure display . 30,34
Status bar 36
Switch to control mode 43
System compontens VACUUBRAND 20
System requirements 20
System start/stop 52

T
Target groups 15
Technical data. 73
Technical information 73
Technical support 66
Term definition 11
Terms of service 76
Text box 37
Titelzeile 37
Title bar. 37
Title bar = status bar. 36
Tooltip 37
Troubleshooting table 68
Turbo mode 49

U
Updates 62
User interface 30
User interface (GUI) 30
user permissions 16

V
Venting the system (Vent). . . . 53
View 15

W
Warning levels 9
WLAN approval 75
WLAN connection. 27
Working conditions 12

vacuubrand

Technology for Vacuum Systems

Version: 999324_EN_VACUU•CONTROL(CVC)_24012014_1.7 TDD2 © VACUUBRAND GMBH + CO KG – 2014

Manufacturer:
VACUUBRAND GMBH + CO KG
Alfred-Zippe-Str. 4
97877 Wertheim
GERMANY

Phone:
- Head office +49 9342 808-0
- Sales +49 9342 808-5550
- Service +49 9342 808-5660

Fax: +49 9342 808-5555
E-Mail: info@vacuubrand.com
Web: www.vacuubrand.com