

VACUUM GAUGE

VACUU·VIEW®

VACUU·VIEW® *extended*



Instructions for use



Original instructions Keep for further use!

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

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

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1 Introduction

This manual is part of your product.

1.1 User information

Safety

Instructions for use
and
safety

- Read this manual thoroughly and completely before using the product.
- Keep this manual in an easily accessible location.
- Proper use of the product 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

- Instead of the term **VACUU-VIEW** mostly the term *Gauge or Vacuum gauge* is used in this manual, in order to make the text more readable.
- The illustrations in this manual are provided as examples in order for a better understanding.
- They are intended to aid in your understanding of the proper use of the product.

Contact

Contact us

- Please ask for replacement in case of an incomplete manual or download the manual on our website: 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 correct type and serial number of your product at call → see *Rating plate on the product*.

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1.2 About this document

1.2.1 Display conventions

Warning levels


	CAUTION
	<p>Indicates a potentially hazardous situation.</p> <p>Disregarding the situation could result in slight or minor injury or damage to property.</p> <p>⇒ Take appropriate action to avoid dangerous situation!</p>

NOTICE
<p>Notice for a potentially harmful situation.</p> <p>Disregarding the notice could lead to material damage.</p>



Additional notes

IMPORTANT!

- ⇒ Information or specific use recommendation, which must be observed.
- ⇒ Important information for proper operation.

	<ul style="list-style-type: none"> ⇒ Helpful tips and tricks ⇒ Additional information
---	---

Additional symbols

 	<p>Electric/electronic devices and batteries must not be disposed of in the domestic waste at the end of their service life.</p>
---	--

1.2.2 Handling instructions (action steps)

Presentation
convention operating
steps

Action step (single step)

⇒ Do the described step.

Result of action

Handling instructions (multiple steps)

1. first step

2. next step

Result of action

Follow steps in the described order.

1.2.3 Abbreviations

Used
abbreviations

abs.	absolute
ATM	Atmospheric pressure
d_i (di)	Interior diameter
DN	Nominal diameter
Gr.	Size
hPa	Pressure unit, Hectopascal (1 hPa = 1 mbar = 0.75 Torr)
KF	Small flange
max	Maximum value
mbar	Pressure unit, millibar (1 mbar = 1 hPa = 0.75 Torr)
min	Minimum value
RMA-N°	Return Merchandise Authorization number
Torr	Pressure unit (1 Torr = 1.33 mbar = 1.33 hPa)
VAC	Vacuum

1.2.4 Term definition

Product specific
terms

VACUU-BUS®	Bus system by VACUUBRAND
VACUU-SELECT®	Vacuum controller, controller with touchscreen; consisting of operating panel and vacuum sensor.
VACUU-BUS® connector	4-pin round connector for the bus system from VACUUBRAND .
CVC 3000	Vacuum controller, controller
DCP 3000	Vacuum gauge
Fine vacuum	Pressure measuring range in vacuum systems, from: 1 mbar-0.001 mbar (0.75 Torr–0.00075 Torr)
Rough vacuum	Pressure measuring range in vacuum systems, from: atmospheric pressure–1 mbar (atmospheric pressure–0.75 Torr)

2 Safety instructions

The complete information of this chapter must be observed by all persons working with the herein described product.

Use the product only when it is in proper working condition.

2.1 Intended use

Intended use **VACUU-VIEW** is a laboratory instrument for the measurement of absolute pressure in the range of rough vacuum or as **VACUU-VIEW extended** version for both measuring rough and fine vacuum.

The gauge may only be used indoors in non-explosive areas. Any other use is considered to be improper use.

2.2 Improper use

Improper use Improper use includes:

- Using the product contrary to its intended use.
- Operation with obvious malfunctions.
- Operation at inadmissible operating conditions.
- Unauthorized modifications or repairs provided by the customer.

2.3 General safety instructions

2.3.1 Safety precautions

- Safety precautions
- ⇒ Use the gauge only if you have understood its function and this manual.
 - ⇒ Please note that adhering process media can pose danger to humans and the environment.
 - ⇒ When handling with contaminated parts, follow the relevant regulations and safety precautions.
 - ⇒ Repairs are only allowed by the Service Department or your local supplier.

IMPORTANT!

For all service works hazardous substances need to be excluded.

- ⇒ Fill in the form [Health and Safety Clearance](#) thoroughly and completely and confirm with your signature.
-

2.3.2 Personnel

IMPORTANT!

It is the owner's responsibility to observe the proper use of the device.

- ⇒ 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.

2.3.3 ATEX equipment category

Installation and potentially explosive atmospheres

Installation and operation in areas where potentially explosive atmospheres can develop to a hazardous degree is not permitted.


The user is responsible for evaluating the hazards to the equipment so that, if necessary, protective measures can be taken for its installation and safe operation.

ATEX equipment labeling

ATEX category



VACUUBRAND devices with the marking shown on the rating plate.

VACUUBRAND devices marked  have an approval of ATEX equipment category 3 G; flammable substances as a mixture with air: gases, vapors.

⇒ Only use VACUUBRAND devices if they are in perfect working condition.

ATEX category
and peripherals

ATEX approval¹ only applies to the internal, wetted parts of the of the product, not to its surroundings.

The ATEX equipment category of the product is dependent on the connected components and peripheral devices. Components and connected peripherals need to have the same or higher ATEX approval. Without concordant categorization of peripherals, the specified category of the VACUUBRAND equipment loses its validity.

Prevent ignition
source

The use of venting valves is only permitted if this would not normally, or only rarely, cause explosive mixtures within the interior wetted part of the device, or do so only for a short time.

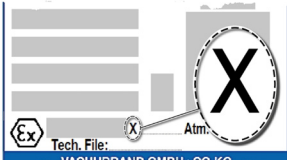
⇒ If necessary vent with inert gas.

⇒ After any work on the vacuum sensor, check its leakage rate.

Information on the ATEX equipment category is also available on our website at: [VACUUBRAND/Anwendungen/Zulassung ATEX-Gerätekategorie 3](https://www.vacuubrand.com/Anwendungen/Zulassung_ATEX-Gerätekategorie_3)

¹ -> See rating plate

Explanation of usage conditions X
Example extract type plate



Restrictions on operating conditions

Meaning for devices marked with X:

- The devices have a low mechanical protection and must be installed so that they cannot be mechanically damaged from the outside; e.g., installing pump stations with impact protection, attaching shatter protection for glass flasks, etc.
- The devices are designed for an ambient and media temperature of +10 °C to +40 °C during operation. These ambient and media temperatures must never be exceeded. When conveying/measuring non-explosive gases, extended gas suction temperatures apply, see chapter: Technical data, media temperature (gas).

2.4 Proper disposal

NOTE

Electronic components must not be disposed of in the domestic waste at the end of their service life.

Used electronic devices and batteries contain harmful substances that can cause damage to the environment or human health. Disused electrical devices also contain valuable raw materials, which can be recovered for reuse if the device is disposed of correctly within the recycling process.

End users are legally obliged to take used electric and electronic devices to a licensed collection point.

- ⇒ It is your responsibility to save and delete any data before disposing of your electronic device.
- ⇒ Correctly dispose of all electronic scrap and electric components at the end of their service life.
- ⇒ Observe the national regulations regarding disposal and environmental protection.



3 Product description

Goods arrival

Goods arrival Check the shipment for transport damage and completeness.
⇒ Report any transit damage immediately to the supplier.

NOTICE

Condensate could damage the gauge.

A large difference in temperature between storage location and installation location can cause condensation.

⇒ Let the product acclimatize for 3-4 hours before using it.

Included materials

Included materials

Gauge	
VACUU·VIEW with 2 m connection cable	20683220
or	
VACUU·VIEW extended with 2 m connection cable	20683210
Hose nozzle 10/6 G1/4" with O ring	20642474
Wall power supply plug* 30 W 24 V; with adapters and 2 m connection cable	20612090
Instructions for use	20901330
Safety Information for Vacuum Equipment	20999254
Original packaging	-----

* not required when connected to a VACUU-BUS[®] compatible gauge or controller.

Gauge description
and designs

3.1 VACUU-VIEW vacuum gauge

The gauge as stand-alone version will be supplied with wall power supply plug. The gauge includes a vacuum sensor and is equipped with an illuminated display for pressure display. The gauge is highly, chemically resistant.

VACUU-VIEW completes the **VACUU-BUS®** accessories program. For more demanding tasks the gauge can be used as an external vacuum sensor when connected to a controller **VACUU-SELECT**, **CVC 3000** or the gauge **DCP 3000**.

When operating with a **DCP 3000** measured values can be stored (data logger) and graphically displayed. Via the RS 232 interface the pressure can be read by an external Computer.

3.1.1 Designs

VACUU-VIEW



With chemically resistant ceramic diaphragm sensor for precise measurements in the range of **rough vacuum**. VACUU-VIEW provides gas-independent pressure indication with precise capacitive readout.

The material of the connection flange of **VACUU-VIEW** consists of black PP and is therefore easy to distinguish from the extended design.

VACUU-VIEW extended

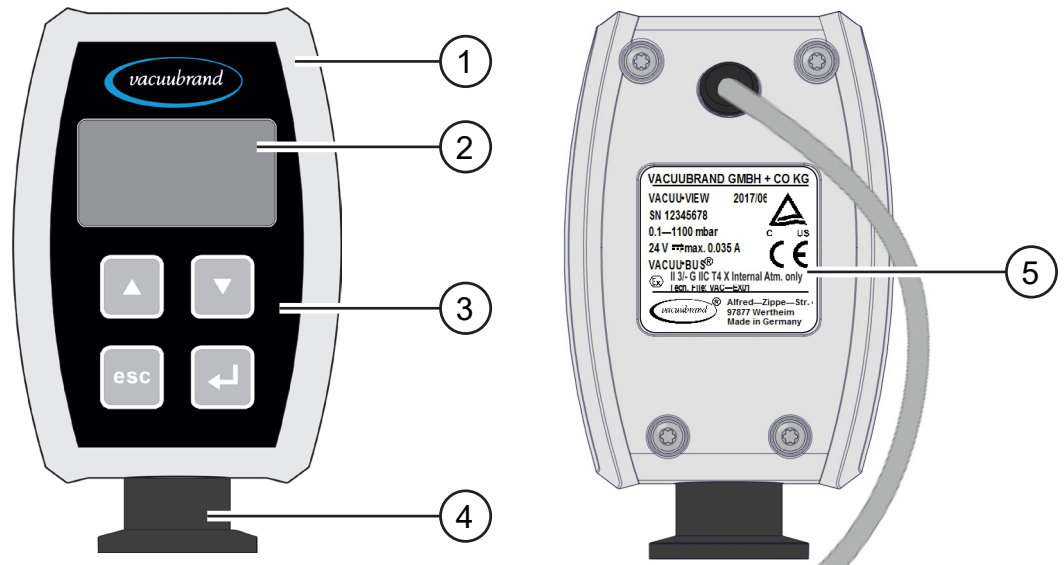


The heavy duty combination of ceramic diaphragm sensor and ceramic jacketed Pirani sensor ensures reliable readings in the wide range from atmosphere down to **rough until fine vacuum**. The gauge reliably measures in the complete measuring range.

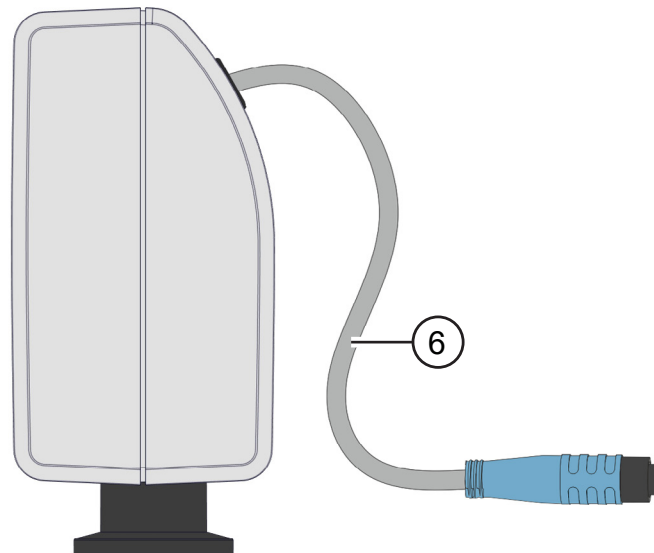
The connection flange of **VACUU-VIEW extended** consists of aluminium and has at the interior a PPS coating.

3.1.2 Device view

Front and rear side



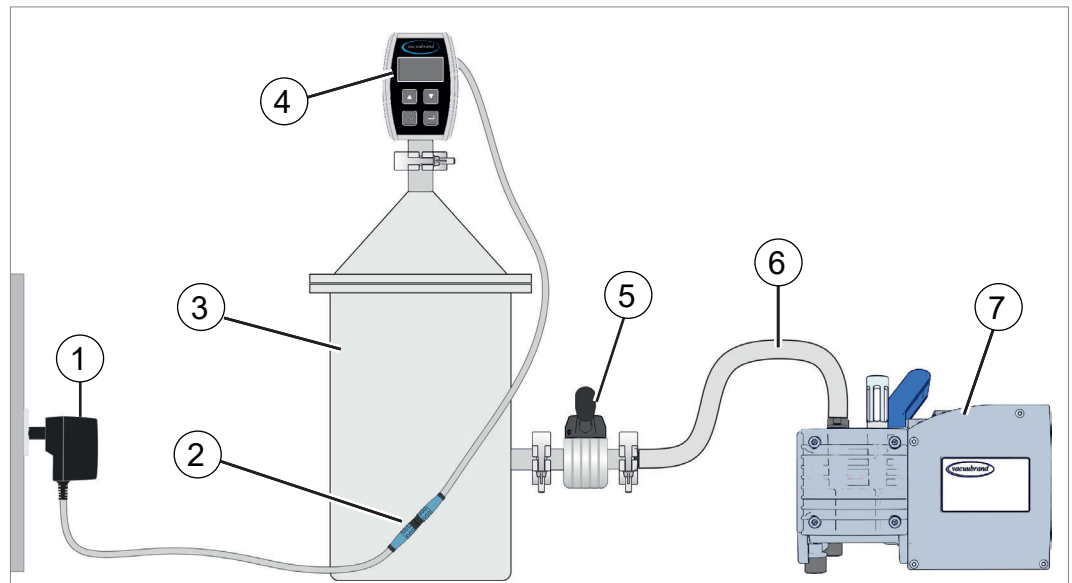
Side view



1	VACUU-VIEW
2	Display
3	Operating elements
4	Small flange KF DN16, inside thread G1/4" ▶ Material: PP black ⇒ VACUU-VIEW ▶ Material: Aluminium + PPS ⇒ VACUU-VIEW extended
5	Rating plate (here VACUU-VIEW)
6	Connection cable, 2 m ▶ for connection to wall power supply plug or ▶ for VACUU-BUS® connection to VACUU-SELECT, CVC 3000 or DCP 3000

3.2 Application example

→ Example
VACUU·VIEW direct
installation



- | | |
|---|---|
| 1 | Wall power supply, wall power supply plug |
| 2 | Plug connector, connection cable (each 2 m) |
| 3 | Vacuum chamber, tank, apparatus |
| 4 | VACUU·VIEW vacuum gauge
<i>(Stand-alone version including wall power supply plug)</i> |
| 5 | Vacuum valve |
| 6 | Vacuum hose |
| 7 | Diaphragm pump, vacuum pump |



Please observe the following points to get an optimal measuring result:

- ⇒ Connect the gauge as close as possible to the apparatus.
- ⇒ If possible use the small flange for connection.
- ⇒ Connect the vacuum line with a cross-section as wide as possible.

4 Connection and operation

4.1 Connection

4.1.1 Installation

IMPORTANT!

Never install the measuring instrument too close to hot equipment, like on top of a rotary vane pump, in order to avoid incorrect measurements or damages to the sensor.

The gauge is intended for assembly directly to the apparatus (application).

- ⇒ Observe all specifications for installation, connection and operation according to technical data,
→ see *chapter 9.1 Technical information*.
- ⇒ Also observe rating plate data.
- ⇒ Compare the permitted limits which are described in this manual, with your actual application regarding operating media, pressures, forces, moments, temperatures and voltage.

Installation conditions

- The gauge has acclimatized.
- Ambient conditions are observed and are within the limitation of use.

Consider installation conditions

Limitation of use		(US)
Ambient temperature	10–40 °C	50–104 °F
Altitude, max.	2000 m above sea level	6.562 ft above sea level
Relative humidity	30–85 %, non condensing	
Protection type/Impact energy	IP 54/5 J	
Pollution degree	2	
Avoid condensation or contamination by dust or liquids.		

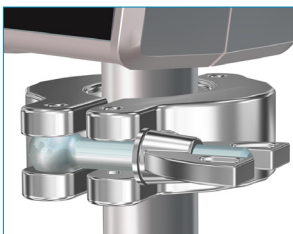
4.1.2 Vacuum connection

IMPORTANT!

- ⇒ Maximum admissible pressure at vacuum sensor: 1.5 bar/ 750 Torr (absolute).
- ⇒ Pollution and damages, especially at the flange, could affect the measurement.
- ⇒ If possible assemble the vacuum gauge vertically; this prevents condensate accumulation.

Connection via small flange

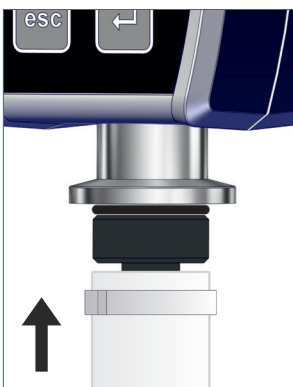
Required connection material: Clamping ring, centering or centering ring for KF DN 16.



1. Remove dust cap.
2. Put the gauge with the centering onto the connection of the apparatus → small flange KF DN16.
3. Fix the vacuum gauge with a clamping ring.

Connection via hose nozzle

Required connection material: Hose nozzle DN 6/10 mm G1/4" with O ring and compatible hose clip (option).



1. Remove dust cap.
2. Screw the hose nozzle plus the o ring hand-tight into the inside thread.
3. Use the hose nozzle to assemble the gauge to a vacuum hose or directly at the apparatus.
4. Fix the vacuum hose, e. g., with a hose nozzle.
5. Fix the vacuum gauge.

IMPORTANT!

- ⇒ Use a stable vacuum hose that is suitable for the required vacuum range. For fine vacuum range, flexible rubber hoses for example are not useful because of possible gas emission.
- ⇒ Connect hose tubes as short as possible.

4.1.3 Electrical connection

NOTICE

No wall power supply plug is required when connected as VACUU·BUS component, to a controller VACUU·SELECT, CVC 3000 or gauge DCP 3000.

⇒ Power supply of the gauge via VACUU·BUS.

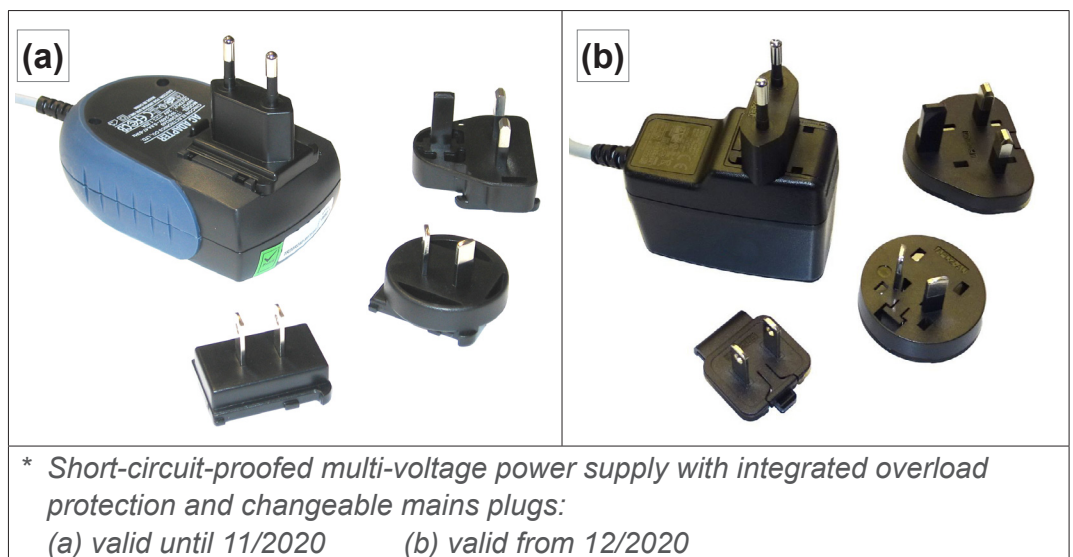
NOTICE

The CE/UKCA mark and a cTÜVus mark (see rating plate) may be voided if not using a VACUUBRAND power supply.

- ⇒ Use a VACUUBRAND wall power supply plug or another VACUUBRAND peripheral device (e. g., controller VACUU·SELECT) to provide the supply voltage.
- ⇒ If the supply voltage is not provided by VACUUBRAND wall power supply plug or any other VACUUBRAND peripheral device (e. g., Chemistry pumping unit PC 3001 VARIO select), the power supply must provide a stabilized 24 V DC voltage which must not provide more than 6.25 A even in case of failure.
- ⇒ If using additional overcurrent protection devices (e. g., fuses), these protection devices must interrupt the supply voltage at a maximum current of 8.4 A after 120 s at the latest.

Wall power supply plug*

Wall power supply,
wall power supply
plug



Prepare wall power supply plug

- Prepare connection
1. Take the wall power supply kit out of the packaging.
 2. Select the mains plug that fits to your mains socket.
 3. Connect the mains plug to the metal contacts of the wall power supply plug.
 4. Slide the mains plug until it locks.

Remove mains plug

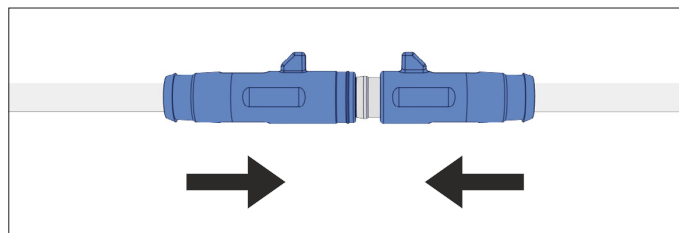
- Remove mains plug
1. Press the locking knob on top of the wall power supply plug.
 2. Remove the mains plug.
 - Another mains plug can be fixed.

Connect to mains

IMPORTANT!

- ⇒ Please install the power supply line in such a way, that no damage can cause to the cable due to sharp edges, chemicals or hot surfaces.

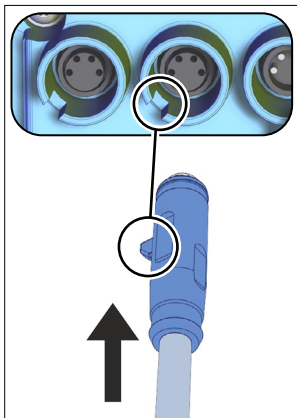
1. Connect the mains connector from the gauge to the female plug of the wall power supply.



2. Plug the wall power supply into the mains socket.

4.1.4 Controller, gauge and VACUU-BUS®

Meaning **VACUU-BUS®** is a communication system for peripheral accessories that are connected to **VACUUBRAND** controller or gauge. **VACUU-BUS®** components will be automatically detected by VACUU-SELECT/CVC 3000/DCP 3000. By uniform connectors and Y adapter the bus-system can be extended with up to 32 peripherals.



Connect VACUU-VIEW as VACUU-BUS® component (client)

⇒ Plug the mains connector of **VACUU-BUS®** into the port on the rear side of VACUU-SELECT, DCP 3000 or CVC 3000.

- Mains supply via controller or gauge.



Plug connectors of the newest series have a guide tongue for proper connection. Slide the connection into the guiding groove on the rear side of the controller or gauge.

Feature

VACUU-BUS
Address assignment

When using the gauge as **VACUU-BUS®** component, e. g., when connected to a CVC 3000, the controller detects the gauge automatically as vacuum sensor.

IMPORTANT!

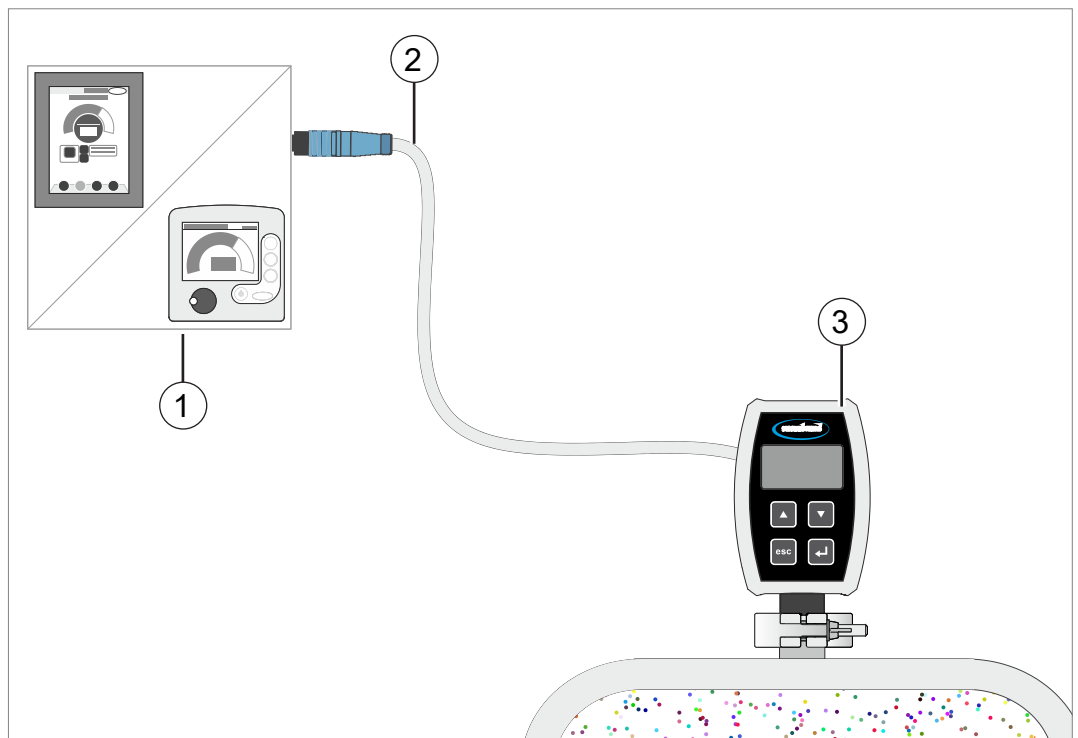
First perform address assignment at CVC or DCP, when working with several **VACUU-VIEW** gauges of the same type. For detailed descriptions about address assignment → see online manual 20999151 (CVC 3000).

Address assignment

VACUU-BUS component	Address-N°	Abbreviations in	
		CVC/DCP	VACUU-SELECT
VACUU-VIEW	1-4	VSK _	VS-C _
VACUU-VIEW extended	1-4	VSP _	VS-P _
Reference sensor	1-4	Ref._	VS-REF_

Connection example VACUU·BUS® mit VACUU·VIEW

→ Example
VACUU·VIEW
as VACUU·BUS®
component (client)

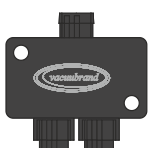


- 1 VACUU·SELECT, CVC 3000* (or DCP 3000*)
- 2 Connection cable (power supply via VACUU·BUS)
- 3 VACUU·VIEW – Rough vacuum measurement
or
VACUU·VIEW extended – Rough- until fine vacuum measurement

* Options with CVC 3000 or DCP 3000:

- ▶ using the RS 232 interface with an external application for reading the measuring data,
- ▶ with connection of several VACUU·VIEWs, address assignment and differential pressure measurement.

Y adapter



Up to 4 sensors VACUU·VIEW type and
4 sensors VACUU·VIEW extended type and
4 sensors VACUU·VIEW type -> reference sensor for
differential pressure
measurement

... can be connected to VACUU·SELECT, CVC 3000 or
DCP 3000 by VACUU·BUS®-Y adapters.

→ see also: *Address assignment on page 21*

Please regard the maximum total cable length of 30 m.

4.2 Operation

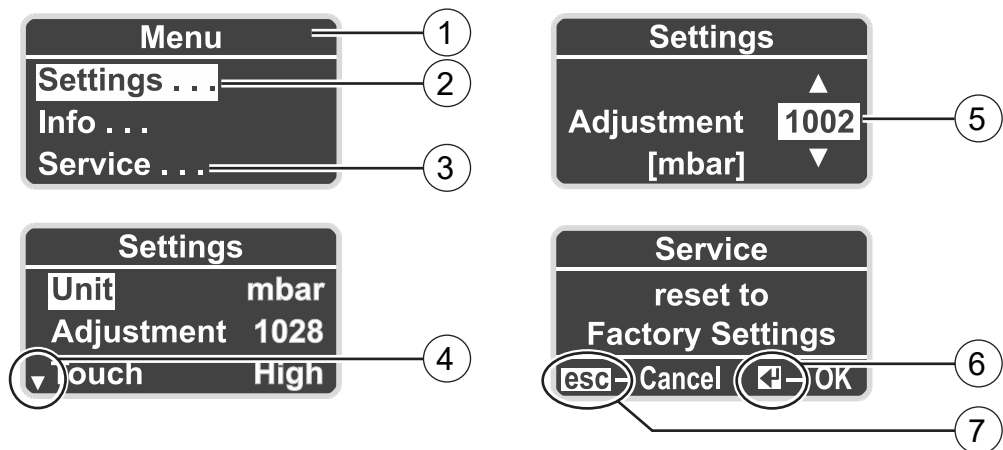
The operation is limited to the pre-settings about pressure unit and display settings, such as the sensitivity of the touch panel. Aside from that, version information can be displayed and factory settings or updates can be loaded. Operation of the gauge is unnecessary during the running measurement.

4.2.1 Display elements

Icons on the display show which key needs to be pressed to access a menu or submenu.

Meaning display and symbols

→ Examples
Icons and
illustrations on the
display







1	Title bar
2	Marking = active selection
3	... = Refers to submenu
4	Press key arrow <i>down</i>
5	Adapt value with <i>up</i> or <i>down</i>
6	Press <i>Enter</i>
7	Press <i>Esc</i>

4.2.2 Operating elements

The front side of the gauge consists of a glass with a touch-sensitive control pad including 4 keys.

Operating elements
touch keys

Key	Meaning
	Arrow <i>up</i> <ul style="list-style-type: none"> ▶ Menu selection ▶ Navigate upwards ▶ Increase value
	Arrow <i>down</i> <ul style="list-style-type: none"> ▶ Menu selection ▶ Navigate downwards ▶ Decrease value
	<i>Enter</i> <ul style="list-style-type: none"> ▶ Confirm entry ▶ Call up menu ▶ Confirm value
	<i>Escape</i> <ul style="list-style-type: none"> ▶ Abort action or exit menu ▶ Return to previous menu ▶ Return to pressure display

NOTICE

Damage of the glass surface.

Pointed or edged objects could damage the glass surface of the gauge.

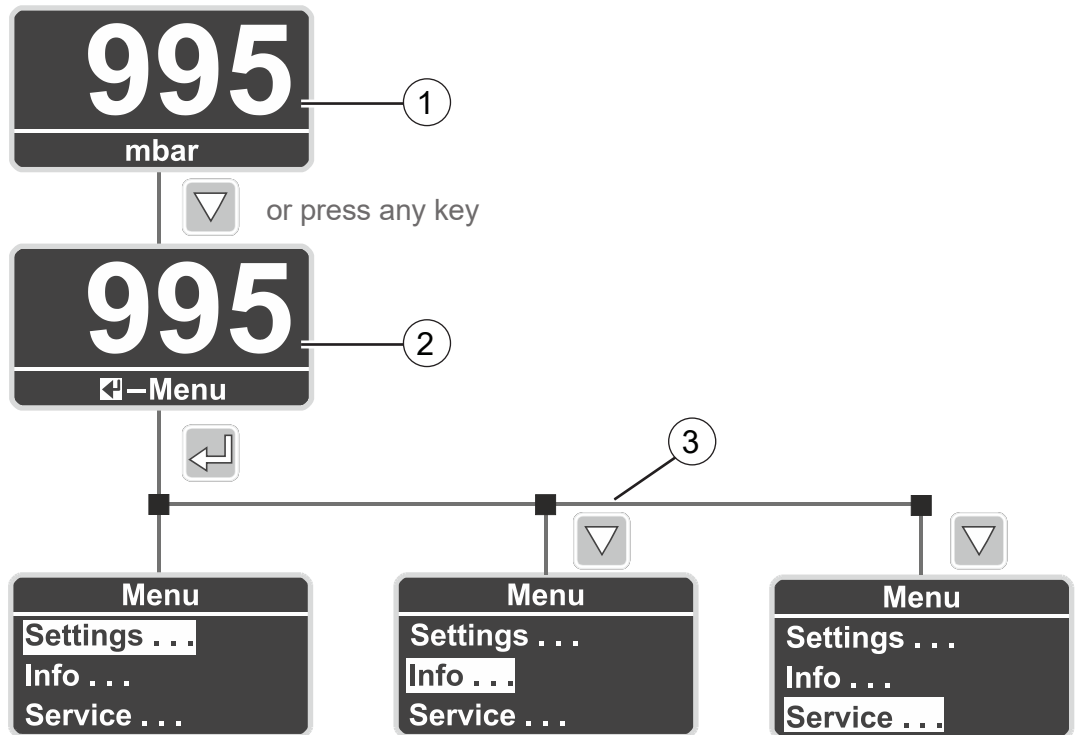
⇒ Operate the vacuum gauge only by a suitable touch stylus or finger.

4.2.3 Menu structure

The display with text **Menu** in the footer can be called up by any touch key. The menu language is English.

VACUU-VIEW Menus

Menu structure



- 1 Pressure reading
- 2 Call-up selection menus
- 3 Menus
 - ▶ Settings
 - ▶ Info
 - ▶ Service

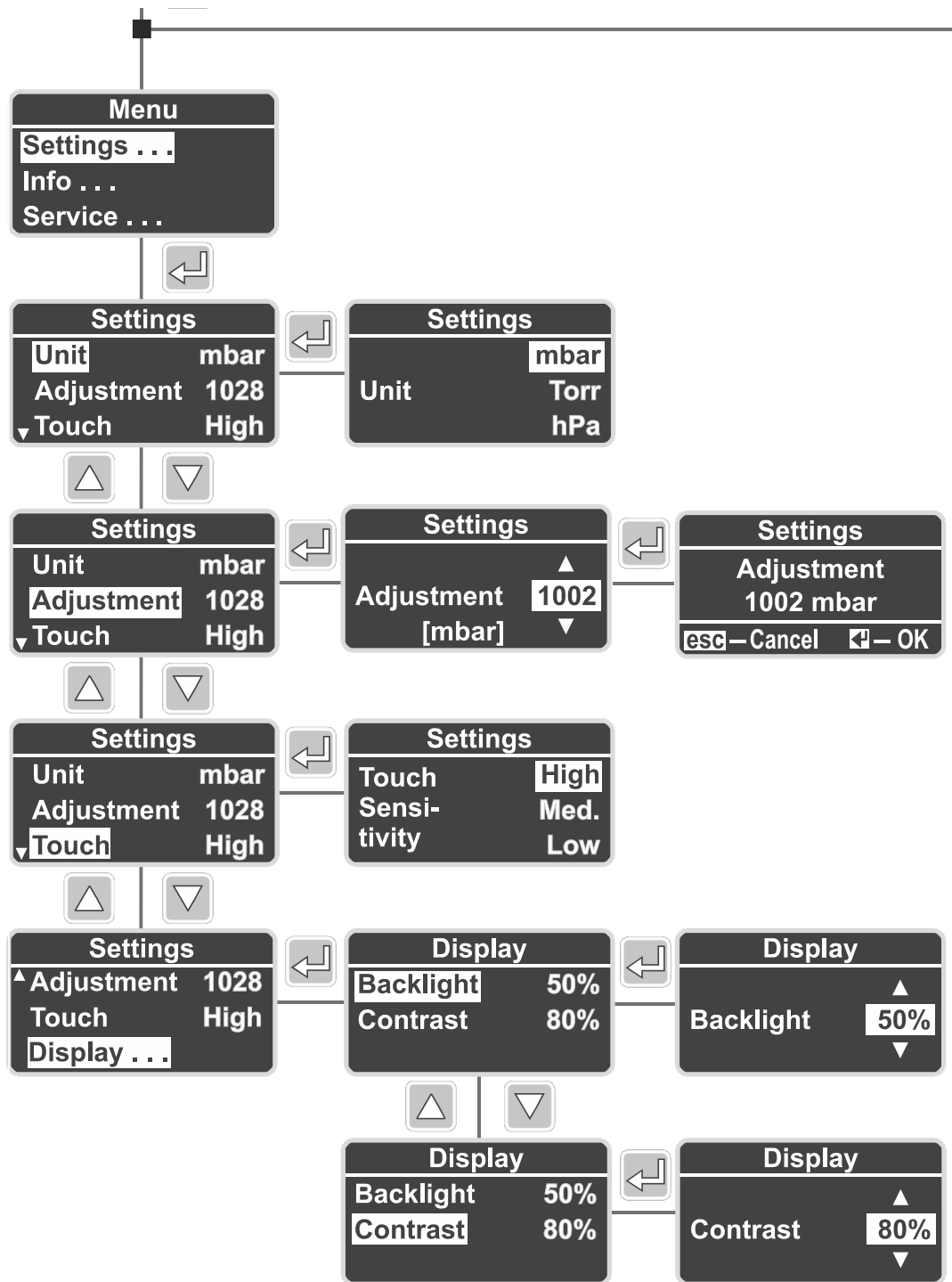


Without any action, the display returns automatically to pressure display.

- ▶ Menu → return to basic screen after approximately 5 seconds.
- ▶ Submenu → return to basic screen after approximately 20 seconds.
- ▶ Submenu *Diagnostics* → return to basic screen after approximately 60 seconds.

Menu Settings

Adjustment option
for Settings

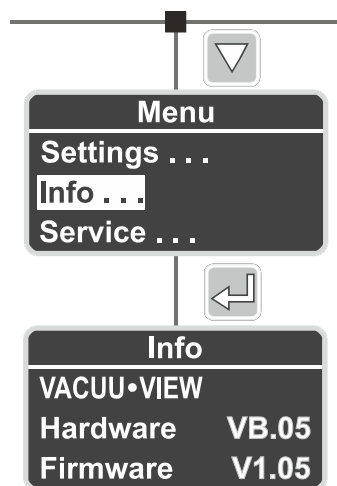


Menu Settings	
Unit	Default settings pressure unit ▶ mbar ▶ hPa ▶ Torr
Adjustment	Sensor adjustment ▶ ATM (700-1080 mbar) ▶ Vacuum (0 mbar)

Menu Settings	
Touch	Adjust sensitivity of the touch panel <ul style="list-style-type: none"> ▶ High ▶ Media ▶ Low
Display	Adjust brightness and contrast <ul style="list-style-type: none"> ▶ Backlight: 10% – 100 % ▶ Contrast: 10% – 100 %

Menu Info

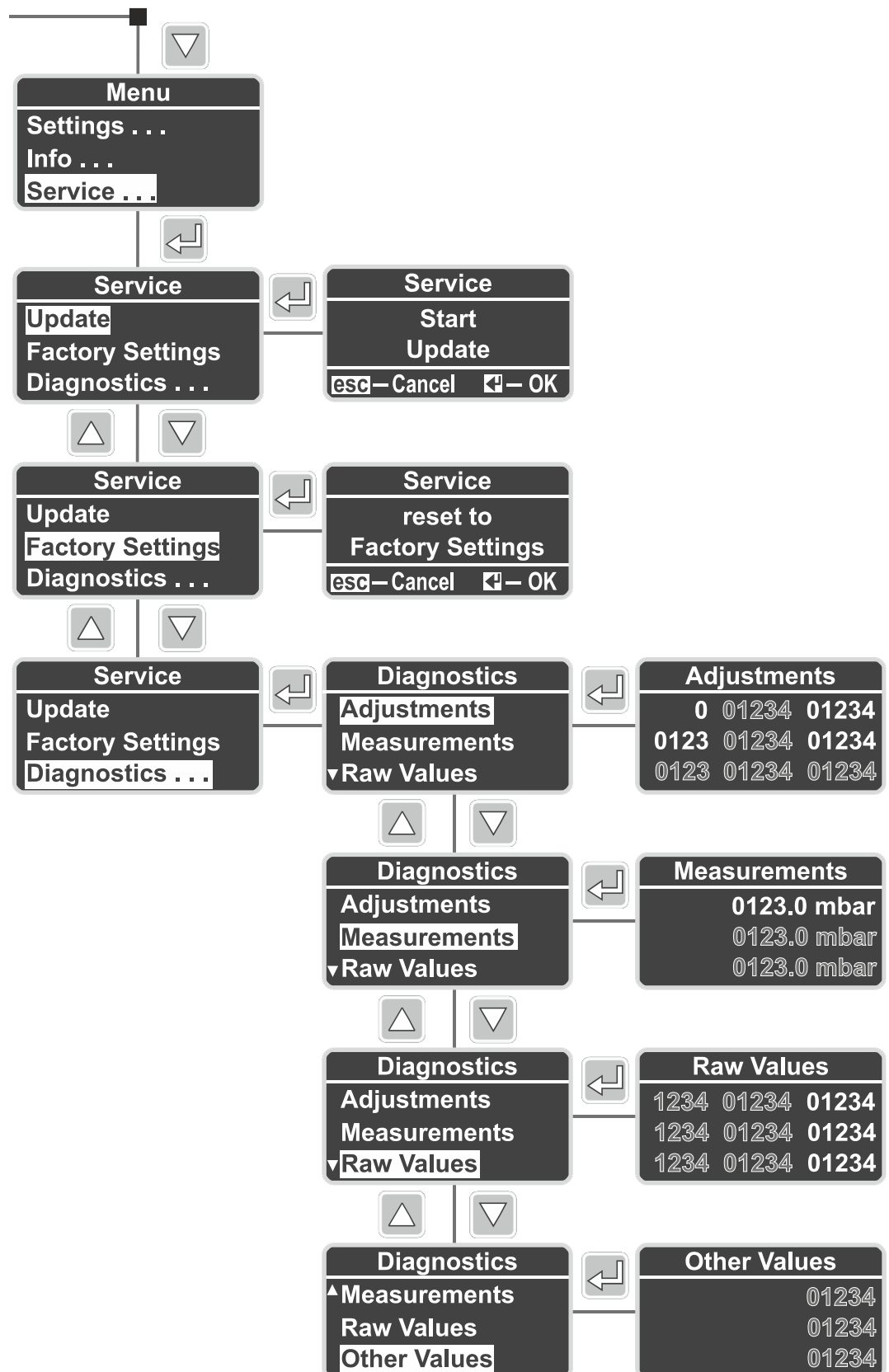
Call-up version information



Menu Info	
Info	Gauge type <ul style="list-style-type: none"> ▶ VACUU·VIEW ▶ VACUU·VIEW extended Gauge version (<i>display example</i>) <ul style="list-style-type: none"> ▶ Hardware: VB.xx ▶ Firmware: V1.xx

Service menu

Service menus



Service menus

Service menu	
Update	To perform software updates ▶ Start update
Factory Settings	Reset to factory settings ▶ reset to Factory Settings
Diagnostics* from software version V1.04	Call-up diagnostics menu ▶ Adjustment ▶ Measurements ▶ Raw Values
from software version V1.05	▶ Other Values

* Menu for our Service department for error determination.



The display of diagnostics sub-menus for **VACUU·VIEW** and **VACUU·VIEW extended** do vary.

5 Operation

5.1 Vacuum measurement

Directly after mains connection the gauge **VACUU-VIEW (extended)** starts measuring and displaying pressure reading.

Also when connected to a **VACUU-BUS®** system, pressure reading starts immediately. The measurement starts immediately after switching on *CVC 3000* or *DCP 3000*.

The gauge is intended for continuous operation.

Warm-up (warm-up times)

IMPORTANT!

⇒ Observe the warm-up times until full measurement precision is reached.

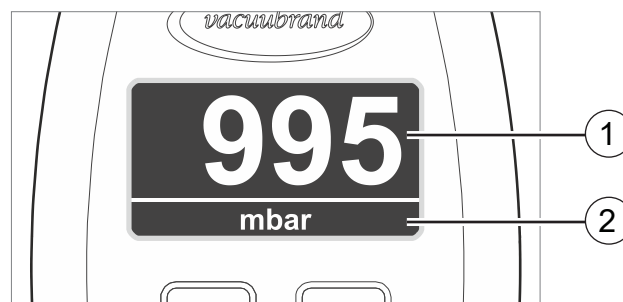
Warm-up times

VACUU-VIEW	Rough vacuum	▶ 3 minutes
VACUU-VIEW extended	Fine vacuum	▶ 15 minutes

5.2 Pressure reading

Display with pressure reading

Pressure reading, basic display



1	Pressure reading (min./max.)	
	VACUU-VIEW	▶ 0.1–1100 [mbar/hPa] ▶ 0.075–825 [Torr]
	VACUU-VIEW extended	▶ 0.001–1100 [mbar/hPa] ▶ 0.001–825 [Torr]
2	Pressure unit (mbar, hPa, Torr)	

5.3 Adjustment

NOTICE

For pressure < 5 mbar the VACUU-VIEW extended measures the pressure-dependent thermal conductivity of gas.

The gauge is factory adjusted for air. For gases with higher mass, this may (<5 mbar) result in incorrect measurements.

- light gases: Pressure reading increased
- heavy gases: Pressure reading decreased

⇒ If required perform the adjustment with the gas that is to measured. H₂, He, Ar, CO₂.

The adjustment is only possible after the warm-up time of the gauge has been completed.

⇒ Perform adjustment only when the gauge is ready for use.

5.3.1 Sensor adjustment, in general

Adjustment is not part of the everyday operation. Perform adjustment only when the measured values differ from reference normal or when irregularities in pressure reading emerge.

IMPORTANT!

Only perform **sensor adjustment** during **operation** with a fully warmed-up sensor (consider warm-up time 15–20 minutes).

Precondition for a proper sensor adjustment is the connection to a reliable source of vacuum, e. g., adjustment of a **VACUU-VIEW extended** with a high vacuum pump and a precise reference gauge.

In case of a polluted vacuum system, e. g., with oil, particles or humidity could contaminate the sensor and cause mismeasurements and/or falsify sensor adjustment.

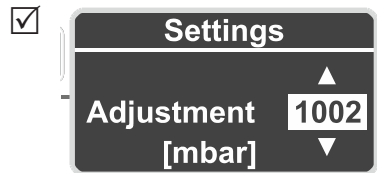
⇒ Clean polluted sensors before adjustment → see chapter: **8 Cleaning**.

5.3.2 Adjustment at atmospheric pressure

Perform sensor adjustment at atmospheric pressure

Sensor adjustment
at atmospheric
pressure

1. Call up the *menu Settings/Adjustment*.



2. If necessary, correct the value to the precise atmospheric pressure in accordance with the reference gauge by pressing the *arrow* keys.
3. Press *Enter* to confirm entry.
4. Subsequently confirm safety prompt by pressing *Enter*.
 - The pressure value will be stored automatically after confirming the safety prompt.
 - VACUU-VIEW (extended)** adjusted to atmospheric pressure.



VACUU-VIEW already displays the actual pressure. Normally, only corrections in the range of ± 5 are required.

5.3.3 Adjustment to reference pressure

Adjustment VACUU·VIEW to reference pressure

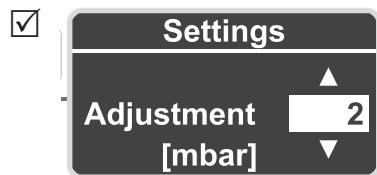
Adjustment at
reference pressure

1. Connect the gauge **VACUU·VIEW** to a vacuum pump which pumps to a precise vacuum, e. g., down to 2 mbar.

IMPORTANT!

⇒ Check the accuracy of the ultimate vacuum with a calibrated reference vacuum gauge.

2. Call up the *menu Settings/Adjustment*. The value on the display should be **2** referring to the reached vacuum of the vacuum pump.
3. If necessary, correct the value for reference pressure **2** by pressing the *arrow* keys.



4. Press *Enter* to confirm entry.
5. Subsequently confirm safety prompt by pressing *Enter*.
 - VACUU·VIEW** adjusted to reference pressure.



The adjustment to a reference pressure should only be carried out when this pressure is accurately and reliably known.

We recommend the adjustment to 0 mbar by using a high vacuum pump (end vacuum < 0,1 mbar)

→ see also *5.3.4 Adjustment under vacuum*

5.3.4 Adjustment under vacuum

NOTICE

The adjustment at vacuum for VACUU·VIEW extended always occurs to the final measured value with 0 mbar. An adjustment to a reference vacuum value is not possible.
⇒ Pump down to an ultimate vacuum as low as possible.

VACUU·VIEW (extended) adjusted under vacuum.

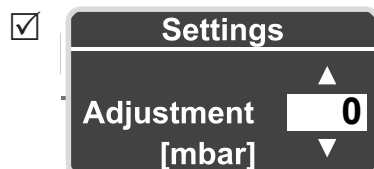
Adjustment under vacuum

1. Connect the gauge **VACUU·VIEW extended** to a high vacuum pump which pumps to a precise end vacuum lower than $< 10^{-3}$ mbar
or
connect the gauge **VACUU·VIEW** to a high vacuum pump which pumps to a precise vacuum lower than $< 0,1$ mbar.

IMPORTANT!

⇒ Check the accuracy of the ultimate vacuum with a calibrated reference vacuum gauge.

2. Please wait until the high vacuum pump has reached ultimate vacuum and until the gauge has completed warm-up.
3. Call up the *menu Settings/Adjustment*. The value on the display should be 0 .



4. Press **Enter** to confirm entry.
5. Subsequently confirm safety prompt by pressing **Enter**.
 VACUU·VIEW (extended) adjusted under vacuum.

6 Service menus

6.1 Update

NOTICE

Damage to the gauge due to incorrect execution of updates.

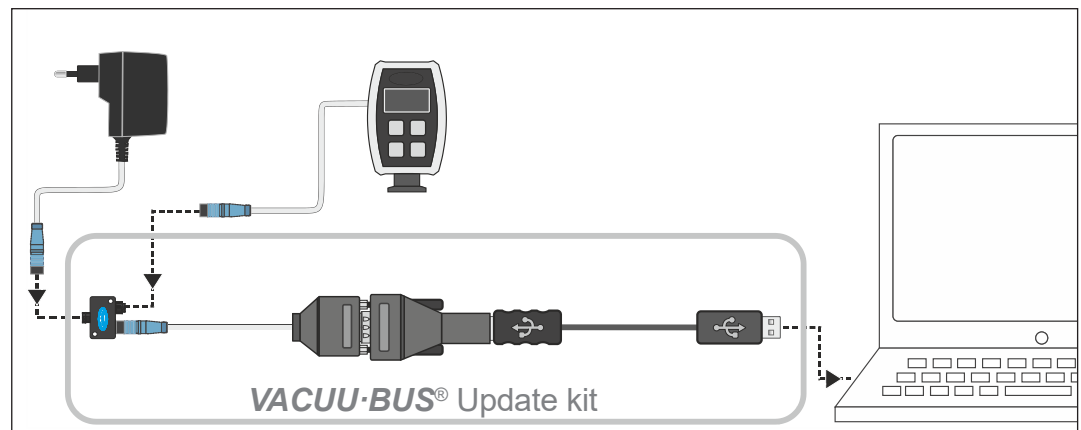
Gauges may be damaged by incorrect or unauthorized procedure.

- ⇒ Please note that you must have the necessary authorizations and basic knowledge for an update.
- ⇒ Always connect only one gauge to the **VACUU·BUS®** Update kit and run updates individually.

6.1.1 Preparation

Connect **VACUU·BUS®**-Update-Kit¹

→ Example
Connect Update kit



1. Disconnect **VACUU·BUS®** connector from gauge and wall power supply plug.
2. Connect wall power supply plug, gauge and **VACUU·BUS®** Update kit one after the other to the Y adaptor.
3. Connect the **VACUU·BUS®** Update kit to a PC or laptop (= end device).
 - With the first connection of the Update kit the operating system displays an information prompt, e. g., Hardware Wizard displays Found New Hardware.
4. Plug the wall power supply into the mains socket.

¹ → see chapter 9.2 Ordering information

Download and start update software²

Download update
file

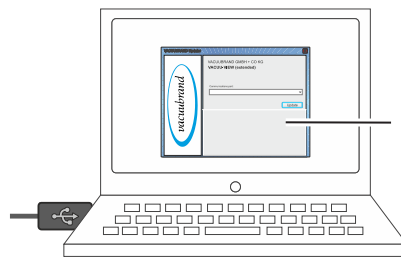
1. Download the [ZIP file](#) with updates for your device from **VACUUBRAND** homepage onto your computer.

2. Unzip the ZIP file:
Right-click on the ZIP file ⇒ **Extract to...**

3. Open the extracted folder.

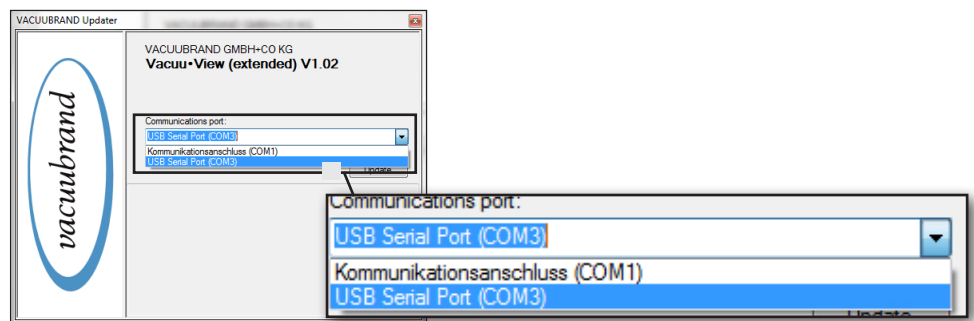
Start application
(exe)

4. Start the update application by double-click on the icon .



Update application

5. Select the required COM port from the drop down list to which the **VACUU·BUS**® Update kit is connected: **USB Serial Port**.



→ Example



If no COM port is displayed for selection, you need to install the hardware driver for RS485/USB.

⇒ Ask the responsible staff member of your IT department to install the required hardware driver (CD-ROM is included to the Update kit).



⇒ First, please read the description in chapter **6.1.2 Update gauge** carefully before proceeding.

² Valid for both VACUU·VIEW as well as VACUU·VIEW extended.

6.1.2 Update gauge

IMPORTANT!

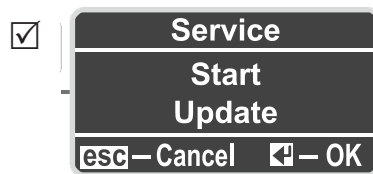


- ⇒ Please regard that you ever need to use the gauge and then promptly switch to the Update window on your monitor.
- ⇒ Also note that the time window in which the update application searches a connected device, takes **20 seconds**.

Perform software update

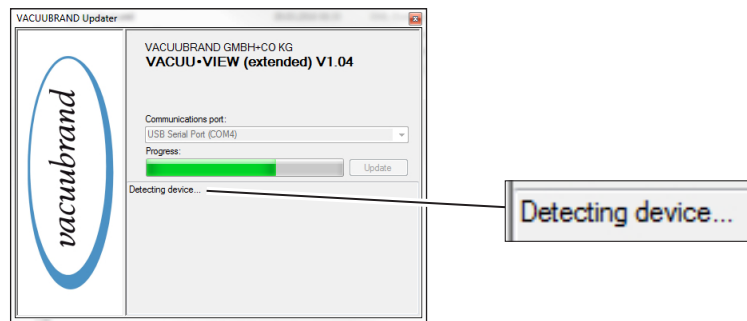
1. At your VACUU-VIEW gauge call-up the menu *Service/Update*.

Perform software update



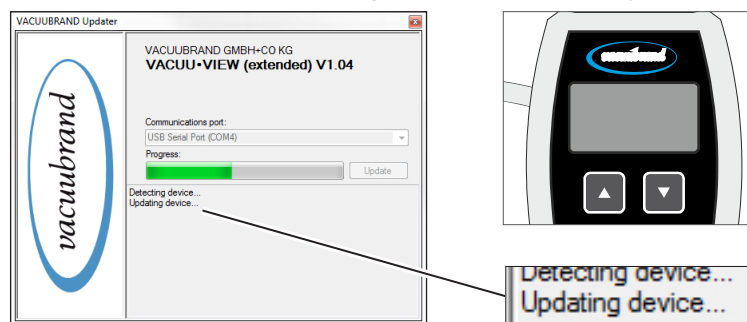
2. Click on the button .

- Detection** for connected device starts.



3. Press *Enter* key on the gauge within the time the progress bar is displayed.

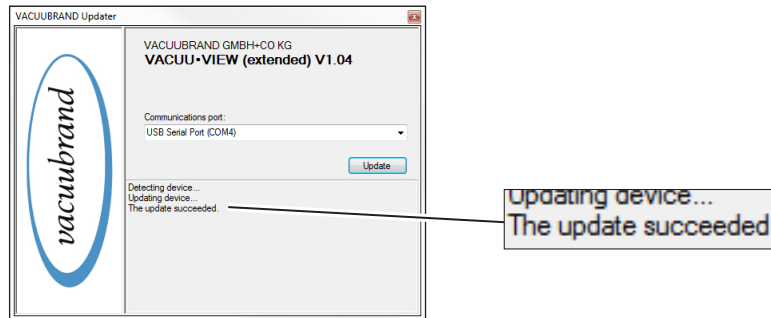
- Update starts.**
- Within the update progress the display is switched off.



Perform software
update

4. Wait until the update is completely loaded.

- The following prompt appears in the update application:



- Update succeeded.
- The display of the gauge is switched on again.



IMPORTANT!

⇒ Regard the warm-up time also after updating the gauge.

6.2 Factory Settings

Reset to factory settings

Factory settings

1. Call up *menu Service/Factory Settings* .



2. Press *Enter* to start Reset.

Factory settings loaded.

6.3 Submenu Diagnostics

From *software version V1.04* a diagnostic menu is included for VACUU-VIEW® gauges.

Call-up diagnostics menu

Diagnostics menus ⇒ Call up the *menu Service/Diagnostics ...*



Call-up sub-menus


1. Press arrow key to select one of the sub-menus.
2. Press *Enter*, to call up the selected sub-menu.

When contacting our Service Department the *Diagnostics* values might help to localize an error.

IMPORTANT!

- ⇒ Please send us photos of the displayed values. As well measured under vacuum as at atmospheric pressure.
 - ⇒ Email the photos to: service@vacuubrand.com
 - ⇒ Details about the product type and serial number from the rating plate are also required.
-

7 Resolving problems

	CAUTION
	<p>Malfunction because of incorrect repair by the customer.</p> <p>The gauge is not intended for the repair by customer.</p> <ul style="list-style-type: none"> ⇒ Never open the vacuum gauge. ⇒ If the gauge is defective, please send it to our Service Department or your local supplier.

7.1 Error display

For error indication the backlight of the display switches to red.

Example error display



- | | |
|---|--|
| 1 | Error display with red backlight |
| 2 | Error indication as clear text <ul style="list-style-type: none"> ▶ Over Pressure – pressure overload ▶ Under Range – measuring fallen below lowest range ▶ Sensor Failure – sensor error |

7.2 Fault – Cause – Remedy

Resolving problems

Fault	▶ Possible cause	✓ Remedy
Over Pressure	<ul style="list-style-type: none"> ▶ Pressure too high. ▶ Measuring range exceeded. 	<ul style="list-style-type: none"> ✓ Vent the system or apparatus. ✓ Reduce pressure. ✓ Perform sensor adjustment. ✓ Call-up diagnostics menu and inform our Service about the status.
Under Range	<ul style="list-style-type: none"> ▶ Below measuring range (negative pressure reading). 	<ul style="list-style-type: none"> ✓ Perform sensor adjustment. ✓ Call-up diagnostics menu and inform our Service about the status.
Sensor Failure	<ul style="list-style-type: none"> ▶ Defective sensor. 	<ul style="list-style-type: none"> ✓ Call-up diagnostics menu and inform our Service about the status. ✓ Send in.
Front glass broken	<ul style="list-style-type: none"> ▶ Incorrect cleaning agent used. ▶ Mechanically damaged. 	<ul style="list-style-type: none"> ✓ Send in.
Readings deviate from the reference standard	<ul style="list-style-type: none"> ▶ Sensor measures incorrectly. ▶ Reading of other gas than air. 	<ul style="list-style-type: none"> ✓ Perform sensor adjustment. ✓ Perform sensor adjustment with the gas to be measured. ✓ Call-up diagnostics menu and inform our Service about the status.
Adjustment ----	<ul style="list-style-type: none"> ▶ A for sensor adjustment inadmissible pressure is reached (no adjustment possible in between pressure range 20 – 700 mbar). 	<ul style="list-style-type: none"> ✓ Wait approximately 5 – 10 minutes until the sensor is ready for use. ✓ Perform adjustment at > 700 mbar or < 20 mbar. ✓ For adjustment connect a vacuum pump with precise vacuum and then move pump down to the possible pressure range.
Menu Settings/ Adjustment warm up	<ul style="list-style-type: none"> ▶ Sensor warm-up not completed. 	<ul style="list-style-type: none"> ✓ Wait approximately 5 – 10 minutes until the sensor is ready for use. ✓ Subsequently perform sensor adjustment if necessary.

Possible error during an update

Fault	Possible cause	Remedy
No display	<ul style="list-style-type: none"> ▶ No power, wall power supply plug defective or not connected. 	<ul style="list-style-type: none"> ✓ Check power supply, connect wall power supply plug to a socket.
USB serial port not detected (No COM-port for selection listed)	<ul style="list-style-type: none"> ▶ No driver installed for RS485/USB interface. ▶ Driver for RS485/USB interface not enabled. 	<ul style="list-style-type: none"> ✓ Install the driver for the RS485 / USB interface from the supplied CD-ROM or via Internet download. ✓ Enable connection at the Device Manager.
Display switched off, no device reaction	<ul style="list-style-type: none"> ▶ Update running = no error. ▶ Update failed. 	<ul style="list-style-type: none"> ✓ Wait until the update is completed. ✓ Repeat Update: <ol style="list-style-type: none"> 1. Remove VACUU·BUS® connector from Y adapter. 2. Click on Update button in the update application. 3. Reconnect VACUU·BUS® connector to Y adapter within detection for connected device (progress bar). ✓ Send in the gauge, if the problem persists.
Update failed	<ul style="list-style-type: none"> ▶ Update failed. ▶ Connection: Device ⇆ Update kit ⇆ End device, connection interrupted. ▶ No power, wall power supply plug defective or not connected. ▶ No connected device found. 	<ul style="list-style-type: none"> ✓ Connection: Do not interrupt connection: Device ⇆ Update kit ⇆ End device. ✓ Check power supply, connect wall power supply plug to a socket. ✓ Connect the device that needs to be updated → see also illustration in chapter 6.1.1 Preparation.

Technical support

⇒ To identify errors and potential remedies, please refer to the troubleshooting

Fault – Cause – Remedy table:

For technical help or in case of errors you need additional help for, please contact your local supplier or our [Service](#)¹ department.

⇒ For practical help in contact with our Service department also use ***6.3 Submenu Diagnostics on page 40***

¹ -> Phone: +49 9342 808-5660, Fax: +49 9342 808-5555, service@vacuubrand.com

8 Cleaning

Clean the sensor to remove malfunctions that are caused by a polluted sensor. We recommend to clean the sensor before adjustment.

IMPORTANT!

This chapter does not contain descriptions for the decontamination of the product. This chapter describes only simple cleaning and care measures.

8.1 Housing surface

Clean surface

Clean surface ⇒ Clean polluted surface with a clean, slightly wetted cloth. To moisten the cloth we recommend water or mild soap.

8.2 Sensor

Clean sensor

- Clean sensor
1. Fill a small amount of solvent via flange into the gauge, e. g., cleaning solvent.
 2. Let the solvent react for a few minutes.
 3. Pour the solvent.
 - ☑ Dissolved substances or discolorations in the solvent are possible.
 4. Repeat this procedure until no more pollutants are in the solvent.
 5. Air or ventilate the gauge until the internal chamber has dried.
 6. Re-adjust the sensor.

9 Appendix

9.1 Technical information

Designs	
Vacuum gauge – <i>Rough vacuum</i>	VACUU-VIEW
Vacuum gauge – <i>Fine vacuum</i>	VACUU-VIEW extended

9.1.1 Technical data


Technical data

Ambient conditions		(US)
Ambient temperature	10–40 °C	50–104 °F
Working temperature	10–40 °C	50–104 °F
Transport and storage temperature	-10–60 °C	14–140 °F
Altitude, max.	2000 m above sea level	6.562 ft above sea level
Protection class (IEC 60529)	IP 54	
Protection class (UL 50E)	Type 5	
Impact energy	5 J	
Relative humidity	30–85 %, non condensing	
Pollution degree	2	
Avoid condensation or contamination by dust, liquids or corrosive gases.		

Plug-in power supply	30 W	25 W
Input voltage	100–240 VAC	100–240 VAC
Frequency	50–60 Hz	50–60 Hz
Power consumption, max.	0,8 A	0,7 A
Output current, max.	1,25 A	1,05 A
Output voltage, short circuit proof	24 VDC	24 VDC
Weight	0.3 kg	0.14 kg
Dimensions L x B x H	108 mm x 58 mm x 34 mm 4.3 in. x 2.3 in. x 1.4 in.	71 mm x 57 mm x 33 mm 2.8 in. x 2.2 in. x 1.3 in.
Cable length, approx.	2 m (79 in.)	
Power plug	AC, replaceable: CEE/UK/US/AUS	

Electrical data gauge		(US)
Supply voltage, max.	24 VDC	24 VDC
Capacity, max.	1,3 W	1.3 W

Technical data

Power Surge Category	II	
Interface	VACUU·BUS®	
Vacuum data		
VACUU·VIEW	(US)	
Measuring range, absolute	1100–0,1 mbar	825–0.075 Torr
Accuracy of measurement	< ±1 mbar/hPa/Torr, ±1 digit (after adjustment, constant temperature)	
Measuring principle	Ceramic diaphragm (alumina), capacitive, gas type independent, absolute pressure	
Temperature coefficient	< ±0,07 mbar/K	< ±0.05 Torr/K
Sensor	internal	internal
Max. admissible pressure, absolute	1,5 bar	1125 Torr
Max. admissible media temperature (gas) non-explosive atmosphere:		
momentarily	80 °C	176 °F
Continuous operation	40 °C	104 °F
ATEX approval if the ATEX marking is shown on the rating plate	II 3/- G Ex h IIC T4 Gc X Internal Atm. only Tech.File: VAC-EX02	
Inner part (pumped gases)		
Max. admissible media temperature (gas)  atmosphere:		
momentarily	40 °C	104 °F
Continuous operation	40 °C	104 °F
VACUU·VIEW extended (only deviant items)		
Measuring range, absolute	1100–0,001 mbar 1100–0,001 hPa	825–0.001 Torr
Temperature coefficient	< ±0,2 mbar/K	< ±0.15 Torr/K
Resolution at pressure ranges	0,001 hPa (0,001–0,1 hPa) 0,01 hPa (0,1– hPa) 0,1 hPa (1–10 hPa) 1 hPa (10–1100 hPa)	
Accuracy of measurement	±15% of indicated value in the range from 0,01–5 mbar/hPa/Torr, ±3 mbar for > 5 mbar	
Measuring principle	Ceramic diaphragm sensor + ceramic jacketed Pirani sensor	
Connections		
Cable (length)	2 m	79 in.
Plug connector	VACUU·BUS®	
Vacuum connection	Small flange KF DN 16 Hose nozzle DN 6/10	

Technical data

Display		
Type	LC display (LCD)	
Brightness control	yes	
Pressure reading	switchable: mbar, Torr, hPa	
Weight and dimensions*		
		(US)
Weight	190 g	0.4 lb
Dimension sheet	103 mm x 62 mm x 50 mm 4 in. x 2.4 in. x 2 in.	

* without wall power supply

9.1.2 Wetted materials

Wetted materials

Component	Wetted materials
VACUU-VIEW	
Vacuum sensor	Aluminium oxide ceramics
Metering box + small flange	PP
Sealing ring at the sensor	chemically resistant fluorelastomer
Hose nozzle	PPS, glass fiber reinforced
O ring (KF 16)	FKM
VACUU-VIEW extended (only deviant items)	
Metering box + small flange	PPS, glass fiber reinforced
Sealing ring at the sensor	FFPM

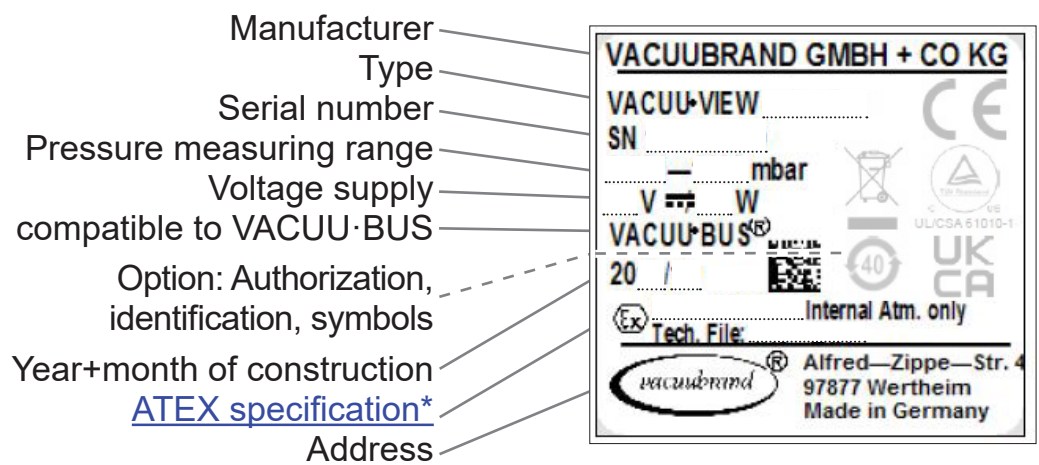
9.1.3 Rating plate



- ⇒ 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 VACUU·VIEW, in general

Rating plate



* Group and category, marking G (gas), type protection, explosion group, temperature class (additionally see : [Approval for ATEX equipment](#)).

9.2 Ordering information

Vacuum gauge	Order N°
VACUU·VIEW , ready-for-use inclusive wall power supply plug	20683220
VACUU·VIEW extended, ready-for-use inclusive wall power supply plug	20683210

Ordering information accessories

Accessories	Order N°
Vacuum hose DN 6 mm (l = 1000 mm)	20686000
Vacuum hose DN 8 mm (l = 1000 mm)	20686001
PTFE hose KF DN 16 (l = 1000 mm)	20686031
Stainless steel tubing KF DN 16 (l = 1000 mm)	20673336
DAkKS calibration with first delivery	20900214
DAkKS recalibration	20900215
VACUU·BUS®/USB Update kit	20683230

Ordering information spare parts

Spare parts	Order N°
VACUU·VIEW	20683221
VACUU·VIEW extended	20683211
Hose nozzle 10/6 G1/4" with O ring	20642474
Wall power supply plug 30 W, 24 V; with adapters	20612090
Wall power supply plug 25 W, 24 V; with adapters	20612089
Y adapter VACUU·BUS	20636656
Extension cable VACUU·BUS, 2m	20612552
Wall duct VACUU·BUS	20636153
Instructions for use	20901330

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**.

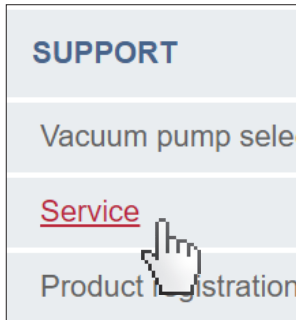


- ⇒ Information about the complete product range are available in the current [product catalog](#).
- ⇒ For orders, questions about vacuum control and optimal accessories, please contact your specialized distributor or an [international sales office](#) of **VACUUBRAND GMBH + CO KG**.

9.3 Service

Service offer and
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 (on request),
- [Calibration](#) (DAkkS accredited),
- return, disposal.

⇒ Visit our website for further information:
www.vacuubrand.com.

Servicing handling

Meet the
terms of service

1. Contact your local supplier or our Service Department.
2. Request a RMA number for your order.
3. Clean the product thoroughly and if necessary decontaminate it professionally.
4. Please fill in this form [Health and Safety Clearance](#) completely.
5. Return your product including:
 - RMA-N°,
 - Repair- or service order,
 - Form ***Health and Safety Clearance***,
 - Short error description.

Return (reshipment)



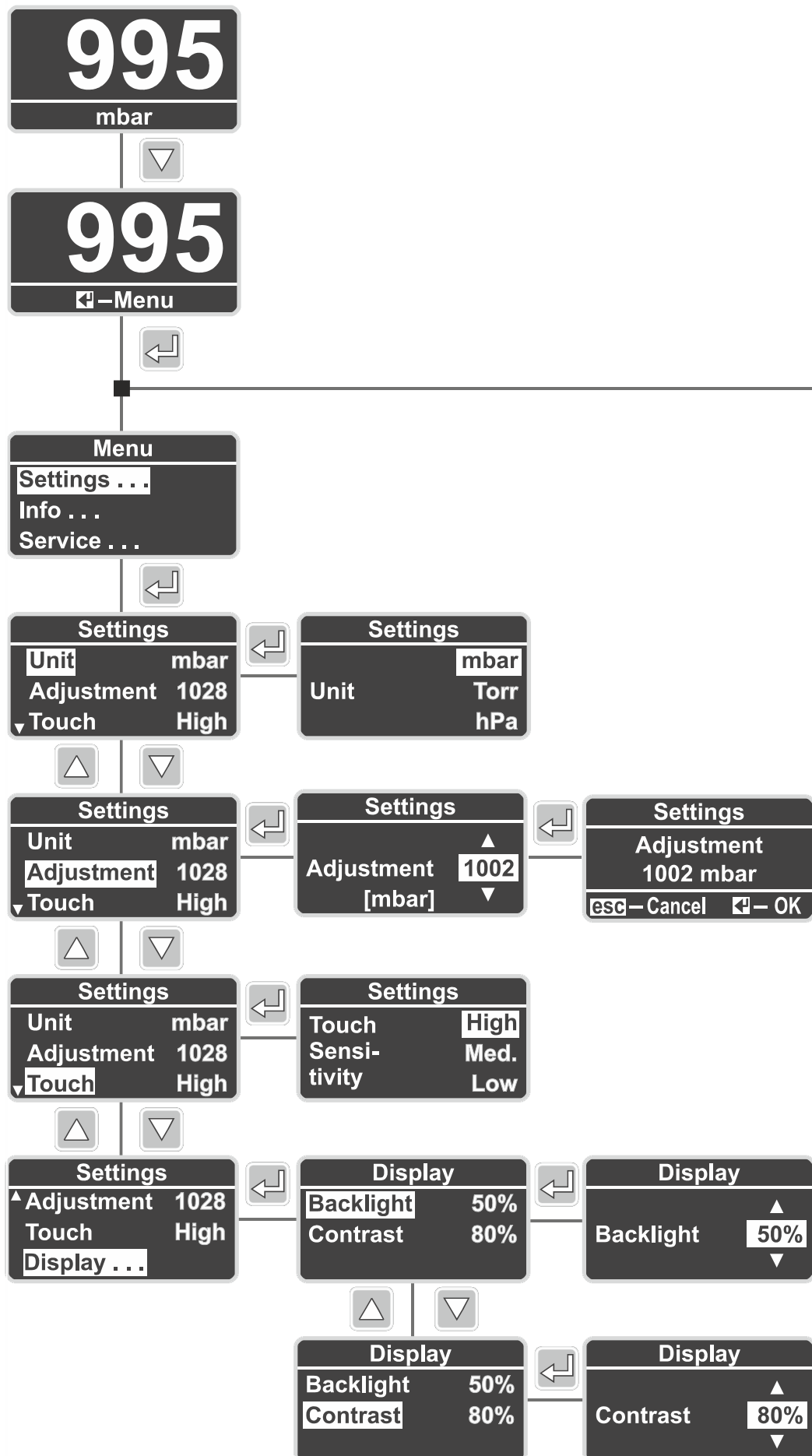
- ⇒ Reduce downtime, speed up the service process. Please keep the required data and documents ready when contacting our Service Department.
- ▶ Your order can be quickly and easily processed.
 - ▶ Hazards can be excluded.
 - ▶ A short description or photos may help for error location.

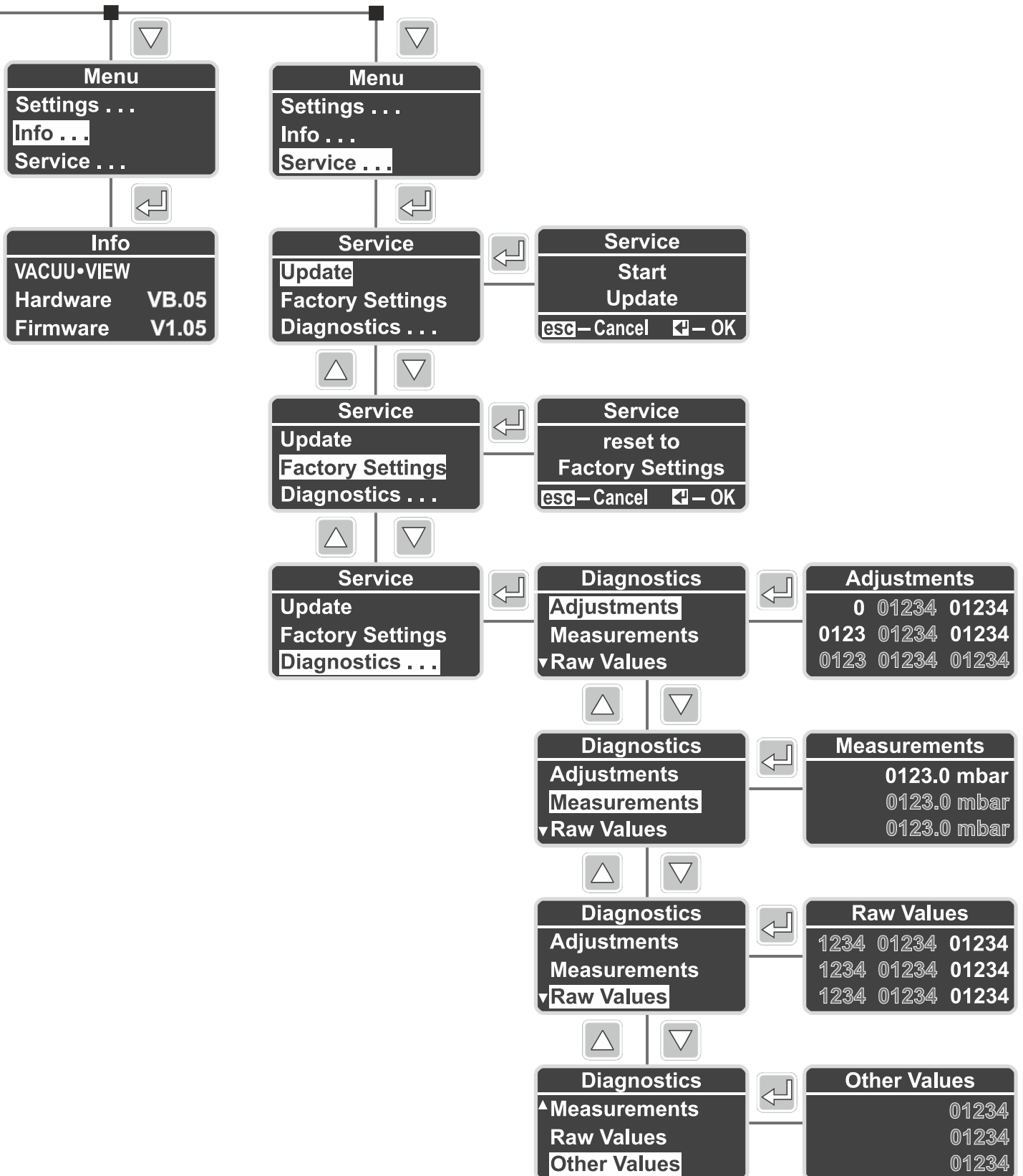
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9.5 Overview menu structure Vacuu-View (extended)





9.6 Declaration of Conformity (EC)

EG-Konformitätserklärung EC Declaration of Conformity Déclaration CE de conformité



Hersteller / Manufacturer / Fabricant:

VACUUBRAND GMBH + CO KG · Alfred-Zippe-Str. 4 · 97877 Wertheim · Germany

Hiermit erklärt der Hersteller, dass das Gerät konform ist mit den Bestimmungen der Richtlinien:

Hereby the manufacturer declares that the device is in conformity with the directives:

Par la présente, le fabricant déclare, que le dispositif est conforme aux directives:

- 2014/30/EU
- 2014/35/EU
- 2014/34/EU
- 2011/65/EU, 2015/863

Messgerät / Vacuum gauge / Vacuomètre

Typ / Type / Type: **VACUU-VIEW / VACUU-VIEW extended**

Artikelnummer / Order number / Numéro d'article: 20683220, 20683221 / 20683210, 20683211, 20636315

Seriennummer / Serial number / Numéro de série: Siehe Typenschild / See rating plate / Voir plaque signalétique

Angewandte harmonisierte Normen / Harmonized standards applied / Normes harmonisées utilisées:

EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019,

IEC 61010-1:2010 + COR:2011 + A1:2016, modifiziert / modified / modifié + A1:2016/COR1:2019,

EN 61326-1:2013 (IEC 61326-1:2012), EN 1127-1:2019,

EN ISO 80079-36:2016 (ISO 80079-36:2016), EN IEC 63000:2018 (IEC 63000:2016)

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen / Person authorised to compile the technical file / Personne autorisée à constituer le dossier technique:

Dr. Constantin Schöler · VACUUBRAND GMBH + CO KG · Germany

Ort, Datum / place, date / lieu, date: Wertheim, 05.10.2023

(Dr. Constantin Schöler)

Geschäftsführer / Managing Director / Gérant

ppa.

(Jens Häibel)

*Technischer Leiter / Technical Director /
Directeur technique*

VACUUBRAND GMBH + CO KG

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Web: www.vacuubrand.com

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9.7 Declaration of Conformity (UK)

Declaration of Conformity



Manufacturer:

VACUUBRAND GMBH + CO KG · Alfred-Zippe-Str. 4 · 97877 Wertheim · Germany

Hereby the manufacturer declares that the device is in conformity with the directives:

- Electromagnetic Compatibility Regulations 2016 (S.I. 2016 No. 1091, as amended by S.I. 2019 No. 696)
- Electrical Equipment (Safety) Regulations 2016 (S.I. 2016 No. 1101, as amended by S.I. 2019 No. 696)
- The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (S.I. 2016 No. 1107, as amended by S.I. 2019 No. 696)
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012 No. 3032)

Vacuum gauge

Type: **VACUU-VIEW / VACUU-VIEW extended**

Order number: 20683220, 20683221 / 20683210, 20683211, 20636315

Serial number: See rating plate

Harmonized standards applied:

EN 61010-1:2010+A1:2019, EN 61010-1:2010/A1:2019/AC:2019-04,
EN IEC 61326-1:2013, EN 1127-1:2019, EN ISO 80079-36:2016, EN IEC 63000:2018

Person authorised to compile the technical file:

Dr. Constantin Schöler · VACUUBRAND GMBH + CO KG · Germany

Place, date: Wertheim, 05.10.2023

(Dr. Constantin Schöler)
Managing Director

ppa.

(Jens Kaibel)

Technical Director

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9.8 Declaration of Conformity 符合性声明 – China RoHS 2

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DECLARATION OF CONFORMITY – China RoHS 2

VACUUBRAND GMBH + CO KG has made reasonable efforts to ensure that hazardous materials and substances may not be used in its products.

In order to determine the concentration of hazardous substances in all homogeneous materials of the subassemblies, a “Product Conformity Assessment” (PCA) procedure was performed. As defined in GB/T 26572 the “Maximum Concentration Value” limits (MCV) apply to these restricted substances:

- Lead (Pb): 0.1%
- Mercury (Hg): 0.1%
- Cadmium (Cd): 0.01%
- Hexavalent chromium (Cr(+VI)): 0.1%
- Polybrominated biphenyls (PBB): 0.1%
- Polybrominated diphenyl ether (PBDE): 0.1%

Environmentally Friendly Use Period (EFUP)

EFUP defines the period in years during which the hazardous substances contained in electrical and electronic products will not leak or mutate under normal operating conditions. During normal use by the user such electrical and electronic products will not result in serious environmental pollution, cause serious bodily injury or damage to the user’s assets. The Environmentally Friendly Use Period for VACUUBRAND products is 40 years.



MATERIAL CONTENT DECLARATION FOR VACUUBRAND PRODUCTS						
有毒有害物质或元素 Hazardous substances						
部件名称 Part name	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(+VI)	多溴联苯 PBB	多溴二苯醚 PBDE
包装 Packaging	0	0	0	0	0	0
塑料外壳 / 组件 Plastic housing / parts	0	0	0	0	0	0
真空油 Vacuum oil	0	0	0	0	0	0
电池 Battery	0	0	0	0	0	0
玻璃 Glass	X	0	0	0	0	0
电子电气组件 Electrical and electronic parts	X	0	0	0	0	0
控制器 / 测量设备 Controller / measuring device	X	0	0	0	0	0
金属外壳 / 组件 Metal housing / parts	X	0	0	0	0	0
电机 Motor	X	0	0	0	0	0
配件 Accessories	X	0	0	0	0	0
此表格是按照SJ/T 11364-2014中规定所制定的。 This table is created according to SJ/T 11364-2014.						

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- O: 表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。
 O: Indicates that the above mentioned hazardous substance contained in all homogeneous materials of the part is below the required limit as defined in GB/T 26572.
- X: 表示该有毒有害物质至少在该部件某一均质材料中的含量超出GB/T 26572规定的限量要求。
 X: Indicates that the above mentioned hazardous substance contained in at least one of the homogeneous materials of this part is above the required limit as defined in GB/T 26572.

电池、玻璃器皿和配件可能不属于所附设备所包含的内容，它们可能有各自单独的EFUP标记和/或可能正在维护其部件EFUP标记的更新。

Batteries, glassware and accessories might not be content of the enclosed device and may have its own EFUP-marking and/or might be maintaining parts with changing EFUP-marking.

除上表所示信息外，还需声明的是，这些部件并非是有用铅（Pb）、汞（Hg）、铬（Cd）、六价铬（Cr(+VI)）、多溴联苯（PBB）或多溴二苯醚（PBDE）来制造的。

Apart from the disclosures in the above table, the subassemblies are not intentionally manufactured or formulated with lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr+VI), polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE).

Products manufactured by VACUUBRAND may enter into further devices (e.g., rotary evaporator) or can be used together with other appliances (e.g., usage as booster pumps).

With these products and appliances in particular, please note the EFUP labeled on these products.

VACUUBRAND will not take responsibility for the EFUP of those products and appliances.

Place, date: Wertheim, 06 September 2022



(Dr. Constantin Schöler)
 Managing Director

ppa.



(Jens Kaibel)

Technical Director

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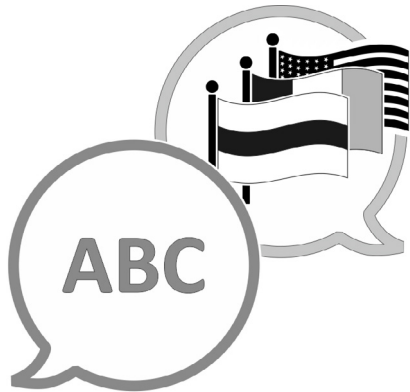
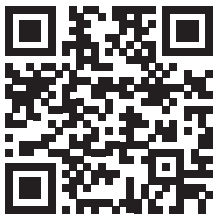
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9.9 CU Certificate

<h1>Certificate</h1>		 TÜVRheinland®
Certificate no.	CU 72228817 01	
License Holder: VACUUBRAND GMBH + CO KG Alfred-Zippe-Str. 4 97877 Wertheim Deutschland	Manufacturing Plant: VACUUBRAND GMBH + CO KG Alfred-Zippe-Str. 4 97877 Wertheim Deutschland	
Test report no.: USA- 31880183 003	Client Reference: Dr. A. Wollschläger	
Tested to: UL 61010-1:2012 R7.19 CAN/CSA-C22.2 NO. 61010-1-12 + GI1 + GI2 (R2017) + A1		
Certified Product: Measurement and control device for vacuum	License Fee - Units	
Model : (1) VACUU VIEW; (2) VACUU VIEW extended;	7	
Designation : (3) VACUU SELECT; (4) VACUU SELECT complete;		
(5) VACUU SELECT Sensor;		
(6) VSP 3000; (7) CVC 3000; (8) VSK 3000;		
(9) VSK PV; (10) DCP 3000		
Rated Voltage: DC 24V; class III (all devices)		
Rated Power : (1+2) 1.3W; (3) 5.0W; (4) 13W; (5) 1.2W;		
(6) 1.6W; (7+10) 3.4W; (8+9) 0.12W		
Degree of : (7+10) IP20/Type 1 (UL50E)		
Protection : (3+4) IP40/Type 1 (UL50E)		
(5) IP41/Type 2 (UL50E)		
(1+2+6+8+9) IP54/Type 5 (UL50E)		
Appendix: 1, 1-13	7	
Licensed Test mark:	Date of Issue (day/mo/yr) 09/02/2023	
 C U S	<small>TUV Rheinland of North America, Inc., 12 Commerce Road, Newtown, CT 06470, Tel (203) 426-0888 Fax (203) 426-4009</small>	



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