

VACUUM GAUGES AND CONTROLLERS



VACUUM GAUGES AND CONTROLLERS

The vacuum gauges DCP 3000, VACUU-VIEW and VACUU-VIEW extended (and also the CVC 3000 vacuum controllers) as well as the recommended accessories use VACUU-BUS® as their communication system. Uniform plug and socket connections make the system flexible and allow extension of the lines up to 30 m. The measuring instruments and components are completely self-configuring. Components connected to the gauges and controllers are automatically recognized, configured and supervised. At the DCP 3000 up to eight external vacuum sensors (four VACUU-VIEW, VSK 3000 and four VACUU-VIEW extended, VSP 3000) can be connected for simultaneous monitoring on the spot. Additionally the DCP 3000 can be used for relative pressure measurements (using VSK 3000 vacuum sensors as a reference) and as a data logger for up to 32,000 measurement values. For high vacuum measurements the DCP 3000 allows the connection with the combined Penning/Pirani gauge head MPT.

The final touch is put on this range of products with an ATEX-approved measuring instrument for use in locations with and measuring of potentially explosive atmospheres per ATEX category 2.

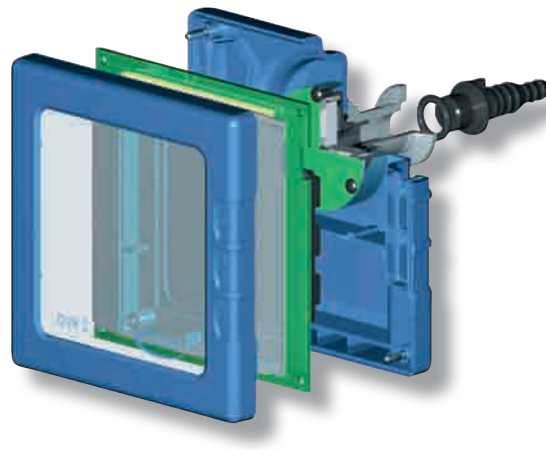


MEASUREMENT PRINCIPLE

State-of-the-art vacuum gauges for laboratory and industrial operation have to meet high standards in terms of gauge head resistance to chemicals, reliability in rugged applications and operator-friendly interfaces. VACUUBRAND has a comprehensive range of electronic measuring instruments for the range of atmospheric pressure to 5×10^{-9} mbar.

Ceramic diaphragm

We use a capacitive ceramic diaphragm gauge head in the rough vacuum range from atmospheric pressure to 0.1 mbar that measures independently of the type of gas and is exceptionally resistant to chemicals. It also has outstanding measuring accuracy, very low temperature dependence and excellent long-term stability.



Thermal conductivity (Pirani), chemically resistant plastics / ceramics

Pirani vacuum sensors are preferably used in the lower rough and fine vacuum ranges from below 10 to 10^{-3} mbar. They measure the heat conductivity of a gas that depends on the gas density and, therefore, pressure. The accuracy of this measuring process is best in the range of 10 to 10^{-2} mbar. The indicated pressure depends on the type of gas and deviates from the air adjustment (at the factory) depending upon the heat conductivity of the specific gas being measured. The VACUUBRAND products VACUU-VIEW extended and VSP 3000 feature an exceptional chemical resistance and robustness compared with conventional Pirani sensors (with metallic filament) as its wetted parts are made of special plastics and ceramics.

Combined thermal conductivity (Pirani) / cold cathode (Penning)

Cold cathode vacuum gauges ("Penning") are ionization gauges for the range 10^{-2} mbar to 5×10^{-9} mbar. They measure the gas density via a discharge current and therefore gas type dependent. They are advantageously combined with a Pirani gauge with automatic switching to it in the range above 10^{-2} mbar to atmospheric pressure. Due to their limited chemical resistance they are preferably used in clean high vacuum applications. VACUUBRAND offers for such applications the vacuum gauge DCP 3000 with the combined Pirani and cold cathode gauge head MPT.

SERIES OVERVIEW

Vacuum gauges	Measurement principle	Measuring range	Page
DVR 2	Ceramic diaphragm	1080 - 1 mbar (hPa) 810 - 1 torr	pg. 172
DVR 3	Ceramic diaphragm	1080 - 1 mbar (hPa) 810 - 1 torr	pg. 173
VACUU-VIEW	Ceramic diaphragm	1100 - 0.1 mbar (hPa) 825 - 0.075 torr	pg. 174
VACUU-VIEW extended	Ceramic diaphragm sensor + ceramic jacketed Pirani sensor	1100 - 0.001 mbar (hPa) 825 - 0.001 torr	pg. 175
Set DCP 3000 + VSK 3000	Ceramic diaphragm	1080 - 0.1 mbar (hPa) 810 - 0.1 torr	pg. 176
Set DCP 3000 + VSP 3000	Thermal conductivity (Pirani), chemically resistant plastics / ceramics	1000 - 1×10^{-3} mbar (hPa) 750 - 1×10^{-3} torr	pg. 177
Set DCP 3000 + MPT	Combined thermal conductivity (Pirani) / cold cathode (Penning)	1000 - 5×10^{-9} mbar (hPa) 750 - 3.7×10^{-9} torr	pg. 177

Vacuum controller	Measurement principle	Measuring range	Page
CVC 3000 Basic device - controls vacuum, cooling water and venting to demand	Ceramic diaphragm	1080 - 0.1 mbar (hPa) 810 - 0.1 torr	pg. 179
CVC 3000 detect Controller package with integrated valve - for automatic detection of the boiling pressure	Ceramic diaphragm	1080 - 0.1 mbar (hPa) 810 - 0.1 torr	pg. 181

VACUUM GAUGES AND CONTROLLERS

- enhanced battery life due to choosable shutdown time and sampling rate, typical battery life one year continuous operation
- large analog and digital vacuum display: quick trend detection, precise readout
- user-selectable pressure units (mbar, hPa, Torr)
- with adjustable support rod for stand mounting operation
- capacitive alumina ceramic diaphragm vacuum sensor with excellent chemical resistance, accuracy and long term stability



DVR 2

TECHNICAL DATA

DVR 2

Upper measuring limit	1080 / 810 mbar/hPa / torr
Lower measuring limit	1 / 1 mbar/hPa / torr
Measurement principle	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Accuracy of measurement	< +/- 1 mbar/hPa/torr / +/- 1 digit (after adjustment, constant temp.)
Temperature coefficient	< 0.07 mbar/hPa/0.05 torr /K
Vacuum connection	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Permissible ambient temp. range storage / operation	-10 - 60 / 10 - 40 °C
Max. media temp. for continuous operation / short times	40 / 80 °C
Automatic switch-off	User-selectable: 1-1000 min (default 15 min) or continuous operation
Measurement cycle	User-selectable: Automatic or 1 x per 3s, 1 x per 1s, 3 x per 1s
Material of outer housing	Robust plastic housing with good chemical resistance
Degree of protection	IP 40
Power supply	9 V Lithium battery, 1.2 Ah Ultralife U9VL
Dimensions (L x W x H), approx.	115 x 115 x 66 mm
Weight, approx.	0.375 kg

ACCESSORIES

PTFE tubing KF DN 16 (1000 mm: 686031)
 Battery 9V Lithium 1.2 Ah (612220)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 Rubber vacuum tubing DN 6 mm (686000)

ITEMS SUPPLIED

Vacuum gauge complete with integrated vacuum sensor and battery, ready for use, with support rod and manual.

ORDERING INFORMATION

DVR 2

DVR 2 682902

VACUUM GAUGES AND CONTROLLERS

- large analog and digital vacuum display
- mains independent power supply unit BVE 9V, with ATEX approval, mercury and cadmium free
- enhanced battery life due to automatic shutdown and variable sampling rate
- high reliability, low EMI emission level near detection limit, high degree of immunity to electromagnetic interference for use in industrial environments
- capacitive alumina ceramic diaphragm vacuum sensor with excellent chemical resistance, accuracy and long term stability



DVR 3

TECHNICAL DATA

DVR 3

ATEX-approval	II 2G Ex ia IIC T4
Upper measuring limit	1080 / 810 mbar/hPa / torr
Lower measuring limit	1 / 1 mbar/hPa / torr
Measurement principle	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Accuracy of measurement	< +/- 1 mbar/hPa/torr / +/- 1 digit (after adjustment, constant temp.)
Temperature coefficient	< 0.07 mbar/hPa/0.05 torr /K
Vacuum connection	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Permissible ambient temp. range storage / operation	-10 - 60 / 10 - 40 °C
Max. media temp. for continuous operation / short times	40 / 80 °C
Automatic switch-off	User-selectable: 1-1000 min (default 15 min) or continuous operation
Measurement cycle	User-selectable: Automatic or 1 x per 3s, 1 x per 1s, 3 x per 1s
Material of outer housing	Robust plastic housing (conductive) with good chemical resistance
Degree of protection	IP 40
Power supply	Power supply unit BVE 9 V, ATEX - certification II 2G Ex ia IIC T5
Dimensions (L x W x H), approx.	116 x 116 x 66 mm
Weight, approx.	0.43 kg

ACCESSORIES

PTFE tubing KF DN 16 (1000 mm: 686031)
 Stainless steel tubing KF DN 16 (1000 mm: 673336)
 Power supply unit BVE 9 V (637986)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)

ITEMS SUPPLIED

Vacuum gauge complete with integrated vacuum sensor and power supply unit, ready for use, with manual.

ORDERING INFORMATION

DVR 3

DVR 3

682903

VACUUM GAUGES AND CONTROLLERS

- highest precision in the range from atmosphere down to 0.1 mbar, perfect gauge for all rough vacuum applications
- compact design with integrated sensor for useful setup in laboratory and process
- chemically resistant ceramic diaphragm sensor, highly reliable at harsh laboratory conditions even in case of aggressive chemicals
- illuminated display, easy to read
- Display with menu driven handling easy to use e.g. for unit settings



VACUU·VIEW

TECHNICAL DATA

TECHNICAL DATA	VACUU·VIEW
Upper measuring limit	1100 / 825 mbar/hPa / torr
Lower measuring limit	0.1 / 0.075 mbar/hPa / torr
Measurement principle	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Accuracy of measurement	< +/- 1 mbar/hPa/torr / +/- 1 digit (after adjustment, constant temp.)
Temperature coefficient	< 0.07 mbar/hPa/0.05 torr /K
Vacuum connection	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Permissible ambient temp. range storage / operation	-10 - 60 / 10 - 40 °C
Max. media temp. for continuous operation / short times	40 / 80 °C
Material of outer housing	Robust plastic housing with good chemical resistance
Power supply	100-230 V ~ 50-60 Hz
Dimensions (L x W x H), approx.	50 x 62 x 103 mm
Weight, approx.	0.19 kg

ACCESSORIES

PTFE tubing KF DN 16 (1000 mm: 686031)
 Stainless steel tubing KF DN 16 (1000 mm: 673336)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 Rubber vacuum tubing DN 6 mm (686000)

ITEMS SUPPLIED

Vacuum gauge with integrated vacuum sensor, ready for operation, with kit hose nozzle DN 6/10 mm, wall-plug power supply and manual.

ORDERING INFORMATION

100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 683220

Ex*: ATEX: II 3G IIC T4 X, Internal Atm. only

VACUUM GAUGES AND CONTROLLERS

- Precision and chemical resistance in an exceptionally wide range from atmosphere down to 10^{-3} mbar, one gauge only for both rough and fine vacuum
- compact design with integrated sensors for useful setup in laboratory and process
- the chemical resistant combination of ceramic diaphragm sensor and ceramic jacketed Pirani sensor ensures a long product life even with aggressive chemicals
- illuminated display, easy to read
- display with menu driven handling, easy to use e.g. for unit settings



VACUU·VIEW EXTENDED

TECHNICAL DATA

TECHNICAL DATA	VACUU·VIEW EXTENDED
Upper measuring limit	1100 / 825 mbar/hPa / torr
Lower measuring limit	0.001 / 0.001 mbar/hPa / torr
Measurement principle	Ceramic diaphragm sensor + ceramic jacketed Pirani sensor
Accuracy of measurement	+/- 15% of indicated value in the range from 0.01-10 mbar / +/-3mbar for > 10mbar
Temperature coefficient	+/- 0.2 mbar/hPa/0.15 torr /K
Vacuum connection	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Permissible ambient temp. range storage / operation	-10 - 60 / 10 - 40 °C
Max. media temp. for continuous operation / short times	40 / 80 °C
Material of outer housing	Robust plastic housing with good chemical resistance
Power supply	100-230 V ~ 50-60 Hz
Dimensions (L x W x H), approx.	50 x 62 x 103 mm
Weight, approx.	0.19 kg

ACCESSORIES

PTFE tubing KF DN 16 (1000 mm: 686031)
 Stainless steel tubing KF DN 16 (1000 mm: 673336)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 Rubber vacuum tubing DN 6 mm (686000)

ITEMS SUPPLIED

Vacuum gauge with integrated vacuum sensors, ready for operation, with kit hose nozzle DN 6/10 mm, wall-plug power supply and manual.

ORDERING INFORMATION

VACUU·VIEW EXTENDED

100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 683210

Ex*: ATEX: II 3G IIC T4 X, Internal Atm. only

VACUUM GAUGES AND CONTROLLERS

- up to four gauge heads VSK 3000 (Atm. - 0.1 mbar) and four VSP 3000 (Atm. - 10^{-3} mbar) can be simultaneously connected
- VSK 3000 capacitive alumina ceramic diaphragm vacuum sensor with very high chemical resistance, offers gas-type independent absolute pressure measurement
- outstanding measuring accuracy, temperature and long term stability
- rugged, splash-water proof vacuum sensor, also for rough operating conditions
- relative pressure measurement option (VSK 3000) and data logger feature (up to 32,000 values, readout via RS 232C)



DCP 3000 WITH VSK 3000

TECHNICAL DATA

SET DCP 3000 + VSK 3000

Vacuum sensor	VSK 3000
Cable length of vacuum sensor	2 m
Upper measuring limit	1080 / 810 mbar/hPa / torr
Lower measuring limit	0.1 / 0.1 mbar/hPa / torr
Measurement principle	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Accuracy of measurement	< +/- 1 mbar/hPa/torr / +/- 1 digit (after adjustment, constant temp.)
Temperature coefficient	< 0.07 mbar/hPa/0.05 torr /K
Vacuum connection	Small flange KF DN 16, PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Permissible ambient temp. range storage / operation	-10 - 60 / 10 - 40 °C
Max. media temp. for continuous operation / short times	40 / 80 °C
Material of outer housing	Robust plastic housing with good chemical resistance
Degree of protection, front side of display unit	IP 42
Dimensions of display unit (L x W x H)	144 x 124 x 114 mm
Weight of display unit	0.44 kg

ACCESSORIES

PTFE tubing KF DN 16 (1000 mm: 686031)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 Vent valve VBM-B (674217)
 Vacuum sensor VSK 3000 (636657)
 Vacuum sensor VSP 3000 (636163)
 Rubber vacuum tubing DN 6 mm (686000)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Vacuum gauge with external vacuum sensor VSK 3000, ready for operation, with kit hose nozzle DN 6/10 mm, wall-plug power supply and manual.

ORDERING INFORMATION

SET DCP 3000 + VSK 3000

100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 683170

VACUUM GAUGES AND CONTROLLERS

- up to four gauge heads VSK 3000 (Atm. - 0.1 mbar) and four VSP 3000 (Atm. - 10^{-3} mbar) can be simultaneously connected
- rugged VSP 3000 vacuum sensor made of plastics and ceramics with high chemical resistance
- rugged, splash-water proof VSP 3000 vacuum sensor, also for rough operating conditions
- VSP 3000 with wide measurement range from atmospheric pressure to fine vacuum
- combination of VSP 3000 with controller DCP 3000 and vacuum valves type VV-B allows fine vacuum control



DCP 3000 WITH VSP 3000

TECHNICAL DATA

Vacuum sensor	VSP 3000
Cable length of vacuum sensor	2 m
Upper measuring limit	1000 / 750 mbar/hPa / torr
Lower measuring limit	1×10^{-3} / 1×10^{-3} mbar/hPa / torr
Measurement principle	Thermal conductivity (Pirani), chemically resistant plastics / ceramics
Accuracy of measurement	+ - 15% of indicated value in the range 0.01-10 mbar/hPa/torr
Vacuum connection	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Permissible ambient temp. range storage / operation	-10 - 60 / 10 - 40 °C
Wetted materials	Alumina ceramics, PBT, PUR
Degree of protection, front side of display unit	IP 42
Dimensions of display unit (L x W x H)	144 x 124 x 114 mm
Weight of display unit	0.44 kg

SET DCP 3000 + VSP 3000

ACCESSORIES

Stainless steel tubing KF DN 16 (1000 mm: 673336)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 Vent valve VBM-B (674217)
 Vacuum sensor VSK 3000 (636657)
 Vacuum sensor VSP 3000 (636163)
 Vacuum sensor MPT 200 (683177)
 Rubber vacuum tubing DN 6 mm (686000)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED SET DCP 3000 + VSP 3000

Vacuum gauge with external vacuum sensor VSP 3000, ready for operation, with wall-plug power supply and manual.

ITEMS SUPPLIED SET DCP 3000 + MPT

Vacuum gauge with external vacuum sensor MPT, ready for operation, with wall-plug power supply and manual.

ORDERING INFORMATION SET DCP 3000 + VSP 3000

100-230 V ~ 50-60 Hz CEE/CH/UK/US/AUS/CN 683190

ORDERING INFORMATION SET DCP 3000 + MPT

100-230 V ~ 50-60 Hz CEE/CH/UK/US/AUS/CN 683175

VACUUM GAUGES AND CONTROLLERS



VACUUM CONTROLLER

A lot of applications in the laboratory call for electronic vacuum control, that is, constantly adapting the pump's volume flow rate to process requirements. The maximum volume flow rate of the unregulated pump can be changed in various ways:

- ◆ by cyclically turning the pump on/off (vacuum controller CVC 3000 in conjunction with vacuum management module VMS-B)
- ◆ by cyclically opening/closing an in-line solenoid valve (CVC 3000 or CVC 3000 detect) or
- ◆ by continuously adjusting the pump speed (VARIO®-pumps with CVC 3000)

The controller can be used both in vacuum networking solutions where parameters are set once for controlling the vacuum or as a stand-alone controller. The CVC 3000 with its large display, the user-friendly full-text menus and the stable stand is also perfect for use on the lab bench.

Many accessories can be easily connected to vacuum controllers: A coolant valve, an external venting valve or a liquid level sensor for catchpots are often required. Communication with sensors, VARIO® - pumps, the Peltronic® condenser and all other connected components takes place via the

VACUU-BUS® control system. It is self-configuring, meaning that connected components will be automatically detected, configured and monitored by the vacuum controller. The self-configuration of the vacuum controllers due to the VACUU-BUS® system makes them especially user-friendly and rules out any mix-up of components. Chemically resistant IP 67 connectors allow the connection of many components.

VACUU-BUS®

- ◆ self-configuring "plug and play"
- ◆ tight, chemically highly resistant connector plugs
- ◆ no danger of confusion of the plugs
- ◆ automatic connection to all VACUU-BUS® components including sensors, valves and pumps

- controls vacuum, cooling water and venting on demand
- intuitive operation with turn-and-tap jog wheel and clear text menus, with integrated venting valve
- interactive communication (PC) through RS 232C serial interface
- self-configuring due to VACUU-BUS® system: valves (vacuum, venting, coolant), sensors (vacuum, liquid level), Peltronic® condenser



CVC 3000

TECHNICAL DATA

CVC 3000

Control range	1080 / 810 mbar/hPa / torr - 0.1 / 0.1 mbar/hPa / torr
Measurement principle	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Accuracy of measurement	< +/- 1 mbar/hPa/torr / +/- 1 digit (after adjustment, constant temp.)
Temperature coefficient	< 0.07 mbar/hPa/0.05 torr /K
Vacuum connection	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm
Venting valve, connection	Integrated, hose nozzle DN 4-5 mm
Ambient temperature range (storage)	-10 - 60 °C
Ambient temperature range (operation)	10 - 40 °C
Max. media temp. continuous operation	40 °C
Max. media temperature for short times	80 °C
Material of outer housing	Robust plastic housing with good chemical resistance
Degree of protection	IP 20
Degree of protection, front side of display unit	IP 42
Dimensions (L x W x H), approx.	144 x 124 x 115 mm
Weight, approx.	0.44 kg

ACCESSORIES

Rubber vacuum tubing DN 6 mm (686000)
 PTFE tubing DN 10/8 mm (638644)
 DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 VACUU-BUS® accessories
 Vacuum sensor VSK 3000 (636657)
 Vacuum sensor VSP 3000 (636163)
 Kit KF DN 16 for VKR/VSK/CVC (699939)
 In-line solenoid vacuum valve VV-B 6C (674291)

ORDERING INFORMATION

CVC 3000

100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 683160

ORDERING INFORMATION PACKAGE CVC3000 + VV-B6C

ITEMS SUPPLIED

Vacuum controller complete with integrated ceramic vacuum sensor and venting valve. With wall-plug power supply, ready for use, with manual.

Package CVC3000 with in-line isolation valve VV-B6C
 100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 683169
 Built-in versions upon request

VACUUM GAUGES AND CONTROLLERS

- the CVC 3000 runs vacuum processes by control of external vacuum, venting and cooling water valves
- intuitive operation with turn-and-tap jog wheel and clear text menus
- rugged VACUU-VIEW extended vacuum gauge with high chemical resistance and mechanical robustness
- VACUU-VIEW extended with wide measurement range from atmospheric pressure to fine vacuum (10^{-3} mbar)
- the in-line solenoid valve is chemically highly resistant (series C)



PACKAGES FOR FINE VACUUM CONTROL WITH CVC 3000 FOR ROTARY VANE PUMPS

TECHNICAL DATA

Control range	1100 / 825 mbar/hPa / torr - 1×10^{-3} / 1×10^{-3} mbar/hPa / torr
Pressure transducer, cable length	VACUU-VIEW extended / 2 m
Measurement principle	Ceramic diaphragm sensor + ceramic jacketed Pirani sensor
Accuracy of measurement	+/- 15% of indicated value in the range from 0.01-10 mbar / +/-3mbar for > 10mbar
Vacuum connection	Small flange KF DN 16 / hose nozzle DN 10 mm Small flange KF DN 25 / hose nozzle DN 15 mm

CVC 3000 + VACUU-VIEW EXTENDED, KF DN 16 / KF DN 25**ITEMS SUPPLIED****CVC 3000 + VACUU-VIEW EXTENDED, KF DN 16**

Package for fine vacuum control, consisting of: Vacuum controller CVC 3000 (without internal vacuum sensor and venting valve) with VACUU-VIEW extended and power supply, in-line solenoid valve VV-B 15C KF DN 16, T-piece KF DN 16, hose nozzle DN 10 mm (PP), clamping and sealing rings, ready for use, with manual.

ORDERING INFORMATION**CVC 3000 + VACUU-VIEW EXTENDED, KF DN 16**

100-230 V ~ 50-60 Hz
CEE/CH/UK/US/AUS/CN 683201

ITEMS SUPPLIED**CVC 3000 + VACUU-VIEW EXTENDED, KF DN 25**

Package for fine vacuum control, consisting of: Vacuum controller CVC 3000 (without internal vacuum sensor and venting valve) with VACUU-VIEW extended and power supply, in-line solenoid valve VV-B 15C KF DN 25, T-piece KF DN 25, hose nozzle DN 15 mm (PP), clamping and sealing rings, ready for use, with manual.

ORDERING INFORMATION**CVC 3000 + VACUU-VIEW EXTENDED, KF DN 25**

100-230 V ~ 50-60 Hz
CEE/CH/UK/US/AUS/CN 683202

- ◆ detect function for independent vapor pressure detection - time saving for other tasks
- ◆ compact unit with chemically resistant vacuum valve and common laboratory hose connections - immediately ready for use
- ◆ the vacuum measuring is integrated within the valve block - direct connection of the CVC 3000 detect between pump and vacuum application
- ◆ integrated venting valve - simple pressure balance or ventilation with inert gas at the end of the process
- ◆ non-return valve - no interference of parallel applications at a common vacuum source



CVC 3000 DETECT

The CVC 3000 detect is a ready to use two-set-point vacuum controller - available both as bench-top device and as a unit designed for attaching to a lab scaffold. It consists of the vacuum controller CVC 3000 with integrated ceramic vacuum sensor and venting valve that forms together with a non-return valve and the chemically resistant solenoid valve a very compact and easy to install unit for vacuum control. The electronic vacuum control increases the process efficiency and decisively improves the solvent recovery for existing vacuum sources like oil-free vacuum pumps or vacuum networks. In the "detect" mode the controller does approach and detect the boiling pressure and switches to the two-point vacuum control mode by itself. Manual settings are possible at any time during current operation.

ACCESSORIES

DAkkS calibration with first delivery (900214)
 DAkkS recalibration (900215)
 VACUU-BUS® accessories
 Rubber vacuum tubing DN 6 mm (686000)
 Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

VACUUM-CONTROLLER CVC 3000 DETECT, BENCH-TOP DEVICE

Vacuum controller CVC 3000 detect bench-top device, complete with vacuum solenoid valve, non-return valve, integrated ceramic diaphragm vacuum sensor and venting valve. With power supply, ready to use, with manual

ITEMS SUPPLIED

VACUUM CONTROLLER CVC 3000 DETECT FOR ATTACHING TO A LAB SCAFFOLD

Vacuum controller CVC 3000 detect for lab scaffold, complete with vacuum solenoid valve, non-return valve, integrated ceramic diaphragm vacuum sensor and venting valve. With mounting bracket for lab scaffold, power supply, ready to use, with manual

TECHNICAL DATA Display unit

Page 179

ORDERING INFORMATION

VACUUM-CONTROLLER CVC 3000 DETECT, BENCH-TOP DEVICE

100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 2614860

ORDERING INFORMATION

VACUUM CONTROLLER CVC 3000 DETECT FOR ATTACHING TO A LAB SCAFFOLD

100-230 V ~ 50-60 Hz
 CEE/CH/UK/US/AUS/CN Ex* 2614120

VACUUM GAUGES AND CONTROLLERS

- ✦ Remote monitoring and controlling of pumping units or vacuum systems with CVC 3000 or DCP 3000 through easy integration with computer networks
- ✦ full simultaneous operation via the CVC 3000 / DCP 3000 or by remote control
- ✦ LAN and WLAN-adapter enables the control with fixed or mobile devices (PCs, smartphones, tablets, notebooks,...)
- ✦ available as an add-on for all CVC 3000 and DCP 3000 from software version 2.0 onwards (2009)
- ✦ process documentation via integrated datalogger and notification signal at the end of the process



VACUU·CONTROL®

Remote controlling, monitoring or recording of vacuum systems

The web-based remote control VACUU·CONTROL® enables the monitoring and control of vacuum pumping units via computers or mobile devices such as Smartphones. With the LAN or WLAN adapter all pumping units and vacuum systems equipped with the CVC 3000 vacuum controller or a DCP 3000 vacuum gauge can be integrated into a computer network (Exception: fine vacuum control with CVC 3000 is not supported). In this way it is possible for multiple pumping units to be controlled or monitored from a single PC on the one hand or alternatively an individual pumping unit can be observed from several devices. The vacuum system can be operated fully and simultaneously at any time directly at the pumping unit. With the built-in datalogger function, processes are automatically documented. Notification of the end of the process automatically appears when a selective pressure is reached or after a set time.

With VACUU·CONTROL® the user can control and monitor his application at any time, for example from the office, using a LAN or WLAN - enabled device. So at the same time users can focus on and carry out other work whilst monitoring the process remotely. The vacuum process is automatically documented with the datalogger function and is fully traceable. The remote VACUU·CONTROL® can be used as a flexible alternative to building in a CVC 3000 controller into the laboratory furniture. The monitoring of multiple vacuum systems via a central control station is also possible.

ORDERING INFORMATION

VACUU·CONTROL® WLAN	Sub-D 9-pol	683110
VACUU·CONTROL® LAN	Sub-D 9-pol / RJ45	683120

ITEMS SUPPLIED, VACUU·CONTROL® WLAN

Remote control adapter WLAN for integration into WLAN PC networks, with web based, graphical user interface, delivered completely with cable for connection to RS 232C interface of controller CVC 3000 or vacuum gauge DCP 3000.

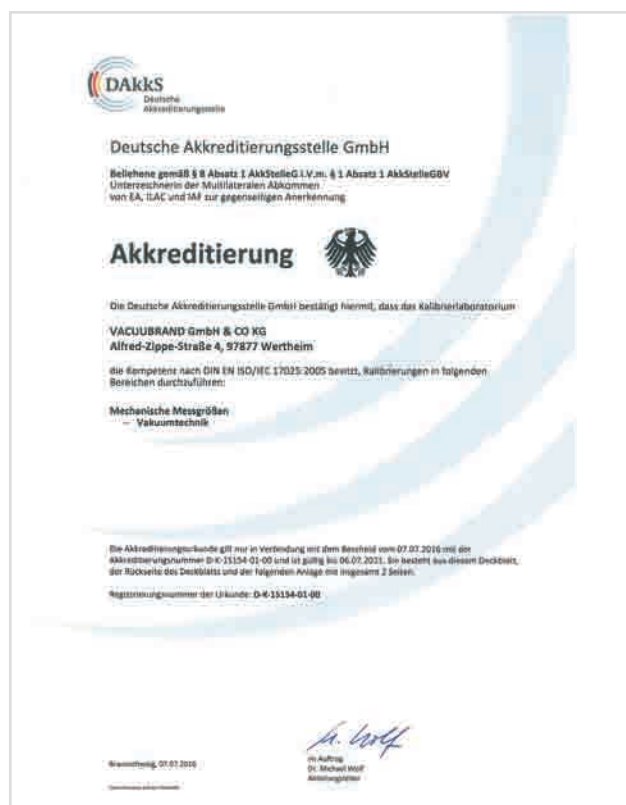
ITEMS SUPPLIED, VACUU·CONTROL® LAN

Remote control adapter LAN with RJ45 socket for integration into LAN PC network, with web based, graphical user interface, delivered completely with cable for connection to RS 232C interface of controller CVC 3000 or vacuum gauge DCP 3000. Incl. LAN patch cable and crossover adapter.

DAKKS CALIBRATION FOR VACUUM GAUGES AND VACUUM CONTROLLERS

Calibration of vacuum gauges in the VACUUBRAND laboratory for DAKKS calibration

The monitoring and calibration of measurement instruments is an important requirement of quality management systems (e.g., ISO 9001, QS 9000). In particular, the traceability to nationally recognized standards must be ensured. VACUUBRAND is accredited by the national accreditation body for the Federal Republic of Germany (DAKKS) as a calibration laboratory for vacuum measuring instruments. VACUUBRAND's DAKKS laboratory is approved to calibrate and certify vacuum gauges in the range from 1300 to 10^{-3} mbar (abs.) and to issue the corresponding DAKKS Calibration Certificates. VACUUBRAND also offers DAKKS calibration as a service for vacuum gauges from other manufacturers.



ORDERING INFORMATION

DAKKS CALIBRATION WITH FIRST DELIVERY

DVR 2, DVR 3, CVC 3000, VACUU-VIEW, VACUU-VIEW extended, VSK 3000, VSP 3000,
DCP 3000 + VSK 3000, DCP 3000 + VSP 3000 900214

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DAKKS RECALIBRATION

DVR 2, DVR 3, CVC 3000, VACUU-VIEW, VACUU-VIEW extended, VSK 3000, VSP 3000, DCP 3000 + VSK 3000,
DCP 3000 + VSP 3000, DVR 4, DVR 4S, DVR 5, VAP 5, CVC 2 II, CVC 2000 II, VNC 1, VNC 2 900215

VACUUM GAUGES AND CONTROLLERS ACCESSORIES

VACUU·BUS®-COMPATIBLE ACCESSORIES

For the CVC 3000 vacuum controller and the DCP 3000 gauges we feature a unique range of accessories including valves (for vacuum, coolant and venting), external sensors (for vacuum and liquid level) and modules (for communication or switching). These accessory components are plug-and-play and self-configuring due to the VACUU·BUS® digital bus system for read-out or control and communication with VARIO® pumps. Uniform plug-and-socket connections prevent confusion and make it possible to arbitrarily connect nearly any required number of components, even over distances of up to 30 m. The plugs are liquid-tight and highly resistant to chemicals.

Bus plug at CVC 3000



The Vacuum-Management-System module VMS-B switches a vacuum pump according to actual demand from one or two applications. It is operated by one or two vacuum controllers CVC 3000. If two CVC 3000 are connected to the VMS-B it switches off the pump only if both applications do not need a vacuum supply anymore.

VMS-B module for vacuum controller CVC 3000 to switch a vacuum pump



The Digital-I/O-Module is a digital interface for VACUU·BUS® compatible vacuum gauges and controllers. There is a galvanically isolated input gate and a potential-free semiconductor relay for output switching. By default the Digital-I/O-Module is configured as bidirectional fault indicator module to communicate malfunctions in a vacuum system to the process control system, or in case of external malfunction to interrupt the process.

Digital-I/O-Module VACUU·BUS®



The Analog-I/O-Module is an analog interface for the VACUU·BUS® system of vacuum measuring gauges and controllers. The input and output signal follows the industry standard of 0-10 V. In the default configuration of the module the actual vacuum value is indicated as a 0-10V output. Therefore the controller CVC 3000 and the measuring gauge DCP 3000 can be easily connected to a plotter and used for GMP documentation. Other module configurations allow input and output of vacuum level and motor speed as 0-10V signals.

Analog-I/O-Module VACUU·BUS®



VACUU·BUS®-COMPATIBLE ACCESSORIES

The liquid level sensor is designed to be mounted at the neck of a VACUUBRAND 500 ml catchpot and works with the CVC 3000 controller. It monitors the liquid level in catchpots of emission condensers and inlet separators. The process is halted and an alarm sounded if the catchpots are close to overflowing. The sensor detects all common solvents without any contact to the solvents.

Liquid level sensor for VACUUBRAND catchpot 500 ml



ORDERING INFORMATION

Vacuum sensor VSK 3000	636657
Vacuum sensor VSP 3000	636163
Vacuum sensor MPT	683176
Vacuum gauge VACUU·VIEW	683220
Vacuum gauge VACUU·VIEW extended	683210
In-line valve VV-B 6 with KF DN 16 or hose nozzle DN 6/10	674290
In-line valve VV-B 6C with KF DN 16 or hose nozzle DN 6/10	674291
In-line valve VV-B 15C with KF DN 16	674210
In-line valve VV-B 15C with KF DN 25	674215
Coolant valve VKW-B, G3/4" / G1/2", with hose nozzle DN 6	674220
Air admittance valve VB M-B with KF DN 16 and hose nozzle DN 6/10	674217
Liquid level sensor for VACUUBRAND catchpot 500 ml	699908
Extension cable VACUU·BUS® 2 m	612552
Extension cable VACUU·BUS® 10 m	2618493
Y-adapter VACUU·BUS®	636656
VACUU·BUS® wall feedthrough (plug-socket), for wall thickness of 1 - 10 mm	636153
Digital-I/O-Module VACUU·BUS®	636228
Analog-I/O-Module 0-10V VACUU·BUS®	636229
VMS-B module for vacuum controller CVC 3000 to switch a vacuum pump	676030