



# VACUU·SELECT®

NEW VACUUM CONTROLLER FOR CHEMISTRY AND LIFE SCIENCE

time-saving, easy-to-use, versatile



Technology for Vacuum Systems

## SIMPLY UNDER CONTROL

### VACUU·SELECT® - THE NEW VACUUM CONTROLLER

Looking for an intuitive, easy-to-use vacuum controller? VACUUBRAND has introduced the VACUU·SELECT controller - an application-based controller with state-of-the-art touch screen display for all your vacuum processes.

VACUU·SELECT has you covered. Use manual set-point-control for simple processes, run fully automated distillations or create your own application with simple drag-and-drop editing. VACUU·SELECT comes with pre-defined applications for all common tasks in the lab.

The controller takes care of all vacuum processes for you. For solvent evaporation, VACUU·SELECT detects boiling points and adjusts the vacuum process as necessary. You can virtually forget about the vacuum process and devote your attention to other tasks.

VACUU·SELECT - ready for your process.





## SIMPLY EFFICIENT

- intuitive user interface
- pre-defined procedures for individual applications
- easy drag-and-drop editing for creating new procedures
- fully automatic evaporations at the touch of a button
- integrated contextual help
- choose from 14 languages



## DESIGNED FOR THE CHEMISTRY LAB

- for all chemical and life science processes
- all wetted parts made from chemical resistant materials
- touch screen display can be operated even with safety gloves
- installation flexibility: put the control panel where you need it
- ready for modern laboratory networks



## A SOLUTION THAT ALWAYS WORKS

- as part of VACUUBRAND chemistry pumping units
- independent controller for existing vacuum sources
- fine vacuum control down to  $10^{-3}$  mbar, e.g. for Schlenk lines or lyophilization
- built-in unit for laboratory furniture, vacuum networks and industrial process systems



## SIMPLY EFFICIENT

### Intuitive user interface



Using the VACUU-SELECT controller is just like using a smartphone. Interactive menus designed specifically for lab applications get you up and running in no time.

- application-based navigation
- integrated contextual help function with application-specific tips
- choose from 14 languages



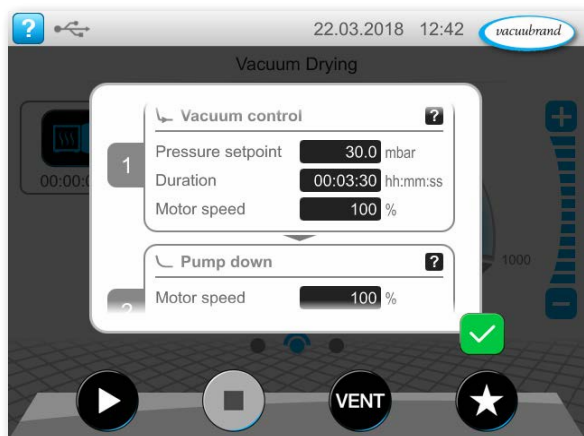
### Ready to use vacuum procedures for all common applications



VACUU-SELECT includes predefined vacuum procedures for all common lab applications. The process steps and control parameters can easily be adjusted to suit any application.

It's as simple as

- pick your application
- use the predefined parameters or adjust as necessary
- press Start





## Fully automatic evaporations at the touch of a button

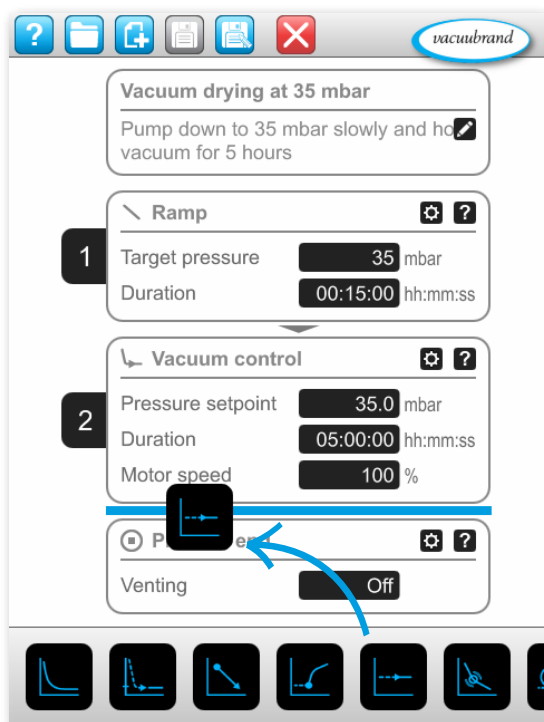


Automatic evaporation mode is perfect for controlling applications like rotary evaporation or vacuum distillation. Simply press the start button and the boiling pressure will be detected automatically and continuously adapted throughout the process. This makes the process run quickly, and without foaming. There's no need for manual adjustments or constant babysitting.

The function "automatic evaporation" works in combination with a **VARIO chemistry diaphragm pump**.



## Easy customization through drag and drop editing



Use the new drag and drop editor to adapt the pre-defined processes for your work. Insert, delete, and modify process steps in an instant to create individualized vacuum processes. Once created, your process will run exactly the same way, time after time. This ensures reproducibility and frees up time for other tasks.

Here's how you create your very own process

- drag & drop the desired process steps into the right sequence
- adjust the parameters, like target pressure or duration
- save your customized application and make it a Favorite
- select it from the Favorites menu and hit Start



## DESIGNED FOR THE CHEMISTRY LAB

Covers all common vacuum processes



### One for all

VACUU-SELECT works with a wide range of vacuum sources - whether integrated into a VARIO pump, used with an existing lab pump, or in connection with a lab vacuum system. All common lab applications are supported by a single controller. VACUU-SELECT simply has you covered.

- rotary evaporation, with proven VACUUBRAND fully automatic mode at the touch of a button
- all other applications in the rough vacuum range down to 1 mbar
- Fine vacuum control down to  $10^{-3}$  mbar, e. g. for Schlenk lines or freeze-drying
- vacuum control for kilolabs and pilot plant scale

Durable & chemical resistant



### Thick-skinned where it's needed

Proven chemical resistant wetted materials and sealed display electronics protect the controller against corrosion and ensure durability.

- glass touch panel display
- chemical resistant wetted materials
- ceramic vacuum sensor

Touch screen display can be operated even with gloves



### You can leave your glove on

Even when wearing thick safety gloves, VACUU-SELECT still responds to your touch.

## Variable set up of the control panel



### **Put the controller where you want it to be**

The VACUU-SELECT controller allows you to separate the control panel from the sensor. Leave the pump in the base cabinet and put the display on the bench. Installation flexibility allows you to set up your work space as you like it.

## Ready for the future



### **Your data - always under control**

VACUU-SELECT can be integrated into modern networks and data management systems. Read out data using a USB stick or network interface. Modern software allows for simple updates and add-ons.





## A SOLUTION THAT ALWAYS WORKS

### VACUU·SELECT Complete Controller - for existing vacuum pumps



#### All-in-one, when and where you need it

The VACUU·SELECT Complete Controller includes the control module, and integrated vacuum sensor, control valve, and venting valve. Available with a table top stand, for lab scaffold mounting, or for panel mounting.

- install the controller in your vacuum line, between the pump and your application
- the VACUU·SELECT controller detects solvent boiling then holds the pressure level to maintain process control
- venting valve allows connection of inert gas
- integrated check valve minimizes interference and maximizes vacuum stability



### Fine vacuum control configurations down to $10^{-3}$ mbar



#### Convenient control down to $10^{-3}$ mbar

Complete packages provide everything you need for controlling vacuum down to  $10^{-3}$  mbar.

- VACUU·SELECT covers fine vacuum applications like freeze drying and Schlenk lines
- control range from atmospheric pressure down to  $10^{-3}$  mbar
- combination of vacuum controller VACUU·SELECT with fine vacuum sensor, high flow vacuum control valve and all required connections



## All-in-one chemistry pumping units

### Something great just got better

VACUUBRAND chemistry pumping units - now with VACUU·SELECT



### VACUUBRAND chemistry pumping units with valve control

- these units combine VACUU·SELECT with VACUUBRAND's powerful, reliable chemistry diaphragm pumps and electronic control valves
- the VACUU·SELECT detects solvent boiling then holds the pressure level to maintain process control
- independent control for up to two separate processes using a single controller



### Speed controlled VARIO chemistry pumping units: unparalleled precision in vacuum control

- the ultimate combination of speed controlled pumping and intuitive application-based control
- minimizes process times and prevents bumping and foaming
- pump speed adjusts dynamically to process conditions - running whisper-quiet, minimizing power consumption and service requirements

## Built-in vacuum control for lab furniture and vacuum systems



### Easy-to-use control for lab vacuum networks

The VACUU·SELECT Complete Controller can easily be built into lab furniture and casework and integrated into VACUU·LAN lab vacuum networks, for convenient, modular, and controlled lab vacuum networks.



## ELECTRONIC VACUUM CONTROL

### Benefits from electronic vacuum control

- minimizes process times
- enables automated processes
- generates reproducible results
- minimizes risk of foaming and sample loss

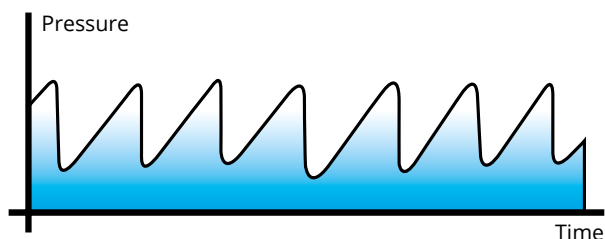
### State of the art control can make all the difference

VACUU-SELECT supports **two vacuum control procedures**. Classic 2-point control uses a solenoid valve with the VACUU-SELECT controller. Advanced VARIO control achieves unparalleled precision with motor speed control.

#### Classic 2-point vacuum valve control

Compatible with any vacuum source

- detects the onset of solvent evaporation then maintains a stable vacuum level
- pump is permanently running at full speed

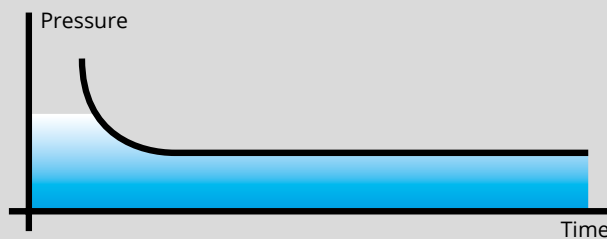


The vacuum controller switches a vacuum valve on and off, holding the vacuum level stable within a tight range or hysteresis. VACUU-SELECT automatically adjusts the hysteresis based on process demands in order to minimize pressure fluctuations and maintain process control. This is especially important for evaporative processes, where the hysteresis is automatically set based on the first vapor pressure detected.

#### Precise VARIO® control via motor speed control

Available only with VARIO vacuum pumps

- automatic vapor pressure detection and continuous pressure optimization
- matches pumping speed to actual demand at all times



VARIO pumps and pumping units combined with the VACUU-SELECT controller deliver unparalleled precision, free of hysteresis. Pumping speed is continuously and automatically adapted to achieve optimal gas flow based on the rate of solvent evaporation or gas load, and the system volume. VARIO control always seeks to optimize process conditions and minimize process time.

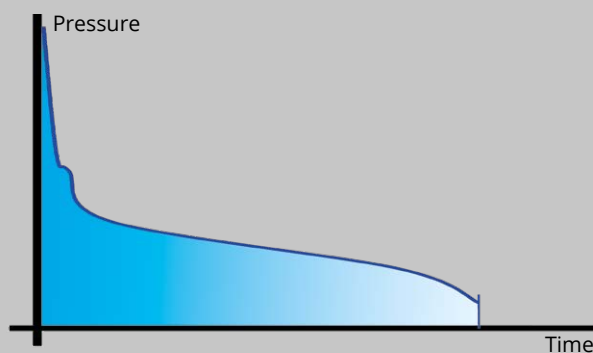
# VARIO®

at a glance

## Automated evaporation

In Automated Evaporation mode, the new VACUU·SELECT controller automatically detects solvent vapor pressures. With continuous optimization of the vacuum level based on real-time process conditions, there is no need to actively monitor your process - no more babysitting is required. Just press start and walk away.

- minimizes process time
- reliably maintains control for you - no more babysitting
- makes manual adjustments and programming a thing of the past
- minimizes foaming and sample loss



## Pump speed on demand

- whisper quiet operation
- drastically reduced power consumption
- decreased service demand

## Precisely optimized vacuum

- minimizes process times, saving as much as 30% compared to other control methods
- reproducible processes means reproducible results



## PRODUCTS WITH VALVE CONTROL

### VACUU-SELECT Complete Controller

The VACUU-SELECT Complete Controller is ready for use with existing vacuum sources like pumps or vacuum networks.

The intuitive touchscreen display offers predefined tools for all common vacuum processes. In evaporative processes, the first vapor pressure is detected then the controller uses 2-point control to maintain a stable vacuum. With several other applications included, and the ability to adjust or customize processes to your needs, VACUU-SELECT has you covered for a wide range of lab vacuum applications.

Available in a variety of configurations, VACUU-SELECT integrates seamlessly into virtually any lab. The VACUU-SELECT Complete Controller includes an integrated ceramic vacuum sensor, a vent valve, vacuum control valve, and check valve. This compact unit is easy to connect to your vacuum source.



| control range   | measuring principle                             | vacuum connector          | Ord. No.              |          |
|-----------------|-------------------------------------------------|---------------------------|-----------------------|----------|
| atm. - 0.1 mbar | capacitive measurement<br>via ceramic diaphragm | hose nozzle<br>DN 6/10 mm | table top:            | 20700070 |
|                 |                                                 |                           | scaffold<br>mounting: | 20700080 |
|                 |                                                 |                           | built in:             | 20700060 |

### VACUU-SELECT configurations for control in fine vacuum range

VACUU-SELECT fine vacuum control packages provide an easy-to-use vacuum control option for work between 1 mbar and  $10^{-3}$  mbar, such as freeze drying, Schlenk lines, and molecular distillation. Predefined applications can be adjusted easily, and new applications can be created in a matter of seconds, to meet your precise needs.

Each fine vacuum control package includes the VACUU-SELECT controller, fine vacuum sensor, solenoid control valve, and connections. Choose between a Pirani-Sensor or - with extended measuring range - the VACUU-VIEW extended. All valves and sensors use VACUU-BUS communication. For use with smaller fine vacuum pumps like the RE/RZ 2.5 and RE/RZ 6 rotary vane pumps, or RC 6 chemistry-HYBRID pump, choose a KF DN 16 fine vacuum control package. For larger fine vacuum pumps like the RE/RZ 9 rotary vane pump, use a KF DN 25 fine vacuum control package.



| pressure sensor        | control range         | measuring principle                                     | vacuum connector + Ord. No. |          |
|------------------------|-----------------------|---------------------------------------------------------|-----------------------------|----------|
| VSP 3000               | 5 - $10^{-3}$ mbar    | ceramic coated<br>Pirani-Sensor                         | KF DN 16 / HN DN 10:        | 20700101 |
|                        |                       |                                                         | KF DN 25 / HN DN 15:        | 20700111 |
| VACUU-VIEW<br>extended | atm. - $10^{-3}$ mbar | ceramic coated<br>Pirani-Sensor +<br>capacitance sensor | KF DN 16 / HN DN 10:        | 20700100 |
|                        |                       |                                                         | KF DN 25 / HN DN 15:        | 20700110 |

KF = small flange HN = hose nozzle

## VACUU-SELECT chemistry pumping units

These chemistry pumping units use chemical resistant solenoid valves to maintain process control. Once the first boiling point is detected by the controller, it maintains the pressure at this level. Pumping units can be configured to run one or two independent processes at the same time.



### Pumping units with one electronically controlled port



| product       | ultimate vacuum | max. flowrate         | Ord. No.      |              |              |
|---------------|-----------------|-----------------------|---------------|--------------|--------------|
| PC 510 select | 7 mbar          | 2 m <sup>3</sup> /h   | CEE: 20733150 | CH: 20733151 | UK: 20733152 |
|               |                 |                       | US: 20733153  | CN: 20733156 | IN: 20733157 |
| PC 610 select | 1.5 mbar        | 3.4 m <sup>3</sup> /h | CEE: 20737150 | CH: 20737151 | UK: 20737152 |
|               |                 |                       | US: 20737153  | CN: 20737156 | IN: 20737157 |

### Pumping units with two vacuum ports (One electronically controlled port and one manual flow control)



| product       | ultimate vacuum | max. flowrate         | Ord. No.      |              |              |
|---------------|-----------------|-----------------------|---------------|--------------|--------------|
| PC 511 select | 7 mbar          | 2 m <sup>3</sup> /h   | CEE: 20733250 | CH: 20733251 | UK: 20733252 |
|               |                 |                       | US: 20733253  | CN: 20733256 | IN: 20733257 |
| PC 611 select | 1.5 mbar        | 3.4 m <sup>3</sup> /h | CEE: 20737250 | CH: 20737251 | UK: 20737252 |
|               |                 |                       | US: 20737253  | CN: 20737256 | IN: 20737257 |

### Pumping units with two electronically controlled ports



| product       | ultimate vacuum | max. flowrate         | Ord. No.      |              |              |
|---------------|-----------------|-----------------------|---------------|--------------|--------------|
| PC 520 select | 7 mbar          | 2 m <sup>3</sup> /h   | CEE: 20733350 | CH: 20733351 | UK: 20733352 |
|               |                 |                       | US: 20733353  | CN: 20733356 | IN: 20733357 |
| PC 620 select | 1.5 mbar        | 3.4 m <sup>3</sup> /h | CEE: 20737350 | CH: 20737351 | UK: 20737352 |
|               |                 |                       | US: 20737353  | CN: 20737356 | IN: 20737357 |



## VARIO® CONTROLLED PUMP MODELS

### VARIO select chemistry diaphragm pumps

VACUU·SELECT simplifies your work and allows VARIO select chemistry diaphragm pumps to deliver unparalleled precision. The pumps run whisper quiet and respond to demand in real time by matching pumping speed to process conditions. This minimizes power consumption and maintenance. For solvent evaporation, vapor pressures are automatically detected and continuously adapted throughout the process.

The intuitive VACUU·SELECT controller includes predefined applications for all common vacuum processes. Application parameters can be adjusted quickly, and new applications can be created in seconds to suit your needs. VACUUBRAND VARIO® technology - frees you up for other tasks.



| product            | ultimate vacuum | max. flowrate | Ord. No.      |              |              |
|--------------------|-----------------|---------------|---------------|--------------|--------------|
| MZ 2C VARIO select | 7 mbar          | 2.8 m³/h      | CEE: 20732450 | CH: 20732451 | US: 20732453 |
| MD 4C VARIO select | 1.5 mbar        | 4.6 m³/h      | CEE: 20736550 | CH: 20736551 | US: 20736553 |
|                    |                 |               | CN: 20736556  | IN: 20736557 |              |



| product             | ultimate vacuum | max. flowrate | Ord. No.      |              |              |
|---------------------|-----------------|---------------|---------------|--------------|--------------|
| ME 16C VARIO select | 70 mbar         | 20 m³/h       | CEE: 20741750 | US: 20741753 |              |
| MD 12C VARIO select | 1.5 mbar        | 15 m³/h       | CEE: 20743750 | UK: 20743752 | US: 20743753 |
|                     |                 |               | CN: 20743756  | IN: 20743757 |              |
| MV 10C VARIO select | 0.6 mbar        | 13 m³/h       | CEE: 20744750 | UK: 20744752 | US: 20744753 |
|                     |                 |               | CN: 20744756  | IN: 20744757 |              |



## VARIO select chemistry pumping units

VARIO pumping units offer same benefits as VARIO diaphragm pumps. Additionally, all pumping units include an inlet catchpot (separator), an outlet catchpot, and a solvent condensor. The inlet catchpot collects particulate and fluid matter from the vacuum line. The outlet catchpot and solvent condensor combine to prevent solvent vapor emissions into the lab, allowing for nearly full recovery of solvents.



| product              | ultimate vacuum | max. flowrate       | Ord. No.      |              |              |
|----------------------|-----------------|---------------------|---------------|--------------|--------------|
| PC 3001 VARIO select | 2 mbar          | 2 m <sup>3</sup> /h | CEE: 20700200 | CH: 20700201 | UK: 20700202 |
|                      |                 |                     | US: 20700203  | CN: 20700206 | IN: 20700207 |



| product              | ultimate vacuum | max. flowrate         | Ord. No.      |              |              |
|----------------------|-----------------|-----------------------|---------------|--------------|--------------|
| PC 3002 VARIO select | 7 mbar          | 2.8 m <sup>3</sup> /h | CEE: 20733550 | CH: 20733551 | UK: 20733552 |
|                      |                 |                       | US: 20733553  | CN: 20733556 | IN: 20733557 |
| PC 3004 VARIO select | 1.5 mbar        | 4.6 m <sup>3</sup> /h | CEE: 20737550 | CH: 20737551 | UK: 20737552 |
|                      |                 |                       | US: 20737553  | CN: 20737556 | IN: 20737557 |
| PC 3003 VARIO select | 0.6 mbar        | 2.8 m <sup>3</sup> /h | CEE: 20738450 | CH: 20738451 | UK: 20738452 |
|                      |                 |                       | US: 20738453  | CN: 20738456 | IN: 20738457 |



| product              | ultimate vacuum | max. flowrate        | Ord. No.      |              |              |
|----------------------|-----------------|----------------------|---------------|--------------|--------------|
| PC 3016 VARIO select | 70 mbar         | 20 m <sup>3</sup> /h | CEE: 20741850 | US: 20741853 |              |
| PC 3012 VARIO select | 1.5 mbar        | 15 m <sup>3</sup> /h | CEE: 20743850 | CH: 20743851 | UK: 20743852 |
|                      |                 |                      | US: 20743853  | CN: 20743856 | IN: 20743857 |
| PC 3010 VARIO select | 0.6 mbar        | 13 m <sup>3</sup> /h | CEE: 20744850 | CH: 20744851 | UK: 20744852 |
|                      |                 |                      | US: 20744853  | CN: 20744856 | IN: 20744857 |

VACUUBRAND GMBH + CO KG  
Alfred-Zippe-Straße 4  
97877 Wertheim, Germany

T +49 9342 808-5550  
F +49 9342 808-5555

[info@vacuubrand.com](mailto:info@vacuubrand.com)  
[www.vacuubrand.com](http://www.vacuubrand.com)

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