

**VACUUBRAND®**

## Vacuum controller VACUU·SELECT® and gauges

We offer a comprehensive program of electronic gauges and controllers from atmospheric pressure down to  $10^{-3}$  mbar.



[www.vacuubrand.com](http://www.vacuubrand.com)



Time-saving, precise, versatile

# Vacuum controllers and gauges



## Vacuum? Simply under control!

- Simply efficient
- Designed for the chemistry lab
- Flexibility for your processes

Do you need precise vacuum and reproducible processes in your laboratory? No compromises - with the innovative vacuum controllers and measuring devices you get the quality of VACUUBRAND.

We offer a comprehensive range of electronic gauges and controllers from atmospheric pressure to  $10^{-3}$  mbar. What makes our products special? They are chemically resistant, reliable and long lasting and always provide the right solution for your process.

For integration into automation systems, from network integration to laboratory information and management systems (LIMS), we offer you the appropriate connections as well as modern and proven interfaces. These include Modbus TCP (via Ethernet) and RS-232 (via USB with additional adapter).

You can integrate additional valves and sensors into your process via the VACUU-BUS system. The components are connected very simply via “plug and play”.

# VACUU·SELECT vacuum controller

## Technical highlights

### Simply efficient

The interactive menus are specifically designed for lab applications.

The vacuum controller offers predefined processes for all common laboratory applications. For solvent evaporation, VACUU·SELECT automatically detects the boiling point and controls the vacuum process.

Of course, you can also individually configure and control applications and parameters. With the application editor you can simply create individual vacuum processes via "drag and drop", then save them and run them again and again.

### Designed for the chemistry lab

The VACUU·SELECT controller covers a wide range of applications. Chemically resistant materials and sealed display electronics protect the controller against corrosion. The touch display is designed in a way, that even when wearing thick / double safety gloves, the VACUU·SELECT still responds to your touch. The control panel can be taken off so that the pump can be placed in the base cabinet or in the fume hood, while you operate the controller comfortably from the lab bench.

### Flexibility for your processes

VACUU·SELECT is available in various versions and fits every situation.

Among other things, it can be integrated into our vacuum pumps or used as a compact controller for existing vacuum sources. In the fine vacuum control package, it regulates the vacuum in combination with a fine vacuum sensor down to  $10^{-3}$  mbar. It is also available as a built-in version for laboratory furniture and vacuum networks through to industrial process systems.

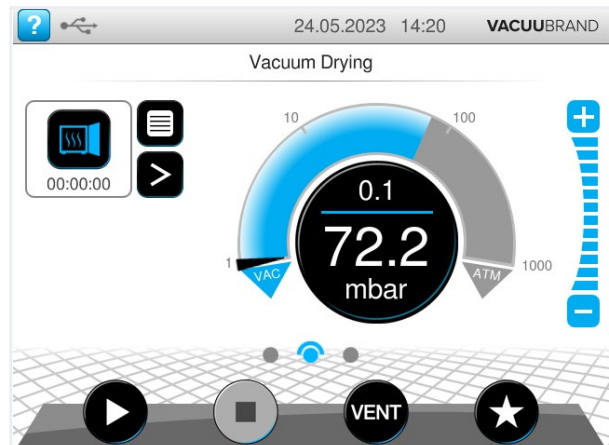


# Simply efficient

## Intuitive user interface

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
- Intuitive operation via touch display in 15 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



# Simply efficient

## 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.

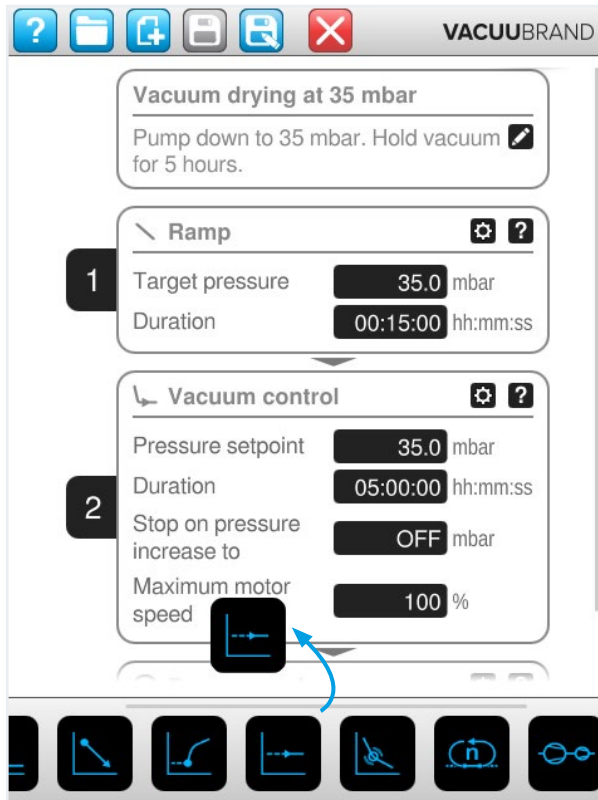


## Easy customization through "drag and drop" editing

Use the new drag and drop editor to adapt the predefined 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

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

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



### Vacuum applications

- Rotary evaporator
- Concentrator
- Filtration
- Drying oven
- Vacuum drying
- Schlenk Line
- Reactors & synthesis

# Designed for the chemistry lab

## Variable set up of the control panel

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

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.

## Touch screen display can be operated even with gloves

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



Chemically resistant vacuum pumps with VACUU-SELECT vacuum controller can be found on our website:

[www.vacuubrand.com/cmp](http://www.vacuubrand.com/cmp)

# Flexibility for your processes

## VACUU-SELECT complete controller - for existing vacuum pumps

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

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

- 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





# Flexibility for your processes

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

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.



## All-in-one chemistry pumping units

### 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

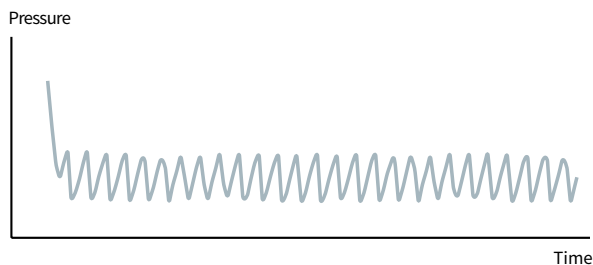
- The ultimate combination of speed controlled pumping and intuitive application-based control
- Minimizes process times and prevents bumping and foaming
- Pump speed adjusts dynamically to process conditions
  - Running whisper-quiet
  - Minimizing power consumption
  - Minimizing service requirements

The VACUU·SELECT vacuum controller supports both control technologies: Classic two-point control and VARIO control. More information on the differences between the two control technologies can be found on p. 10 - 11.

# Control technology

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



- Control by opening and closing a vacuum valve
- Automatic vapor pressure detection
- Pump always runs at full speed
- Vacuum is maintained between the two valve switching points within the defined hysteresis range
- Unavoidable pressure changes in valve controls are minimized

## Pinpoint VARIO® control via motor speed control



- Control via motor speed of the pump
- Pump speed adjusts in realtime
  - Drastically reduced power consumption
  - Whisper quiet operation
  - Decreased service demand
- Pinpoint vacuum
  - Minimizes process times, saving as much as 30% compared to other control methods
  - Reproducible results
- Fully automatic evaporations at the touch of a button thanks to proven and reliable boiling pressure detection and continuous tracking through out the entire process-duration
  - Minimizes foaming and sample loss
  - Makes manual adjustments and programming a thing of the past
  - Reliably maintains control for you - no more babysitting



You can find a large selection of electronic gauges and controllers in our online shop:

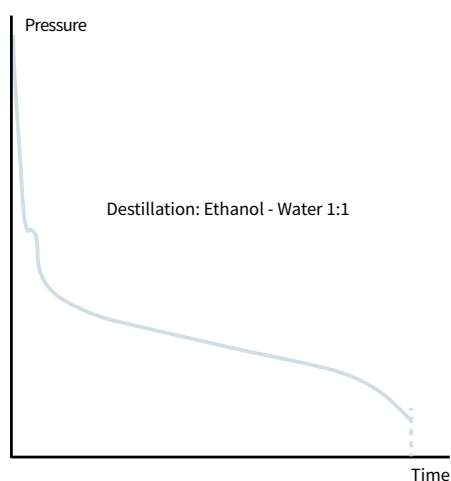
[shop.vacuubrand.com/en/vacuum-gauges-controllers.html](https://shop.vacuubrand.com/en/vacuum-gauges-controllers.html)

# Control technology

VARIO® diaphragm pumps and - chemistry pumps with VACUU-SELECT precisely regulate the vacuum by adjusting the speed of the diaphragm pump. Its fast and adaptive regulation always provides the optimum volume flow rate regardless of the quantity of vapor or size of the apparatus. Because conditions are always optimized, evaporative applications typically are completed significantly more quickly than with two-point or manual control.

## 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.



### Benefits from electronic vacuum control

- Significantly shorter process duration
- Time savings through automation of your processes
- Reproducible results
- Avoidance of foaming and boiling delay

# Function extension

## SYNCHRO



With the SYNCHRO function extension for the VACUU-SELECT, it is possible to control two processes in parallel with one vacuum controller. The processes can run independently of each other and simultaneously. This means, for example, that two rotary evaporators can be handled with one VACUU-SELECT. Another option is to operate two extraction points in one fume cupboard. These can be extraction points for rough vacuum and for fine vacuum. The SYNCHRO function is designed exclusively for two-point control. To use the SYNCHRO function extension, additional accessory components such as suction line valves, sensors, Y-adapters and non-return valves are required. We will be happy to advise you on this.

- Parallel control of two processes possible with one VACUU-SELECT controller
- Simultaneous and independent operation of the processes
- Restriction to two-point control
- Additional accessories required
- SYNCHRO license valid for a single VACUU-SELECT controller



Further information on our fee-based functional enhancements and how to activate them can be found on our website:

[www.vacuubrand.com/gauges-controllers/accessories-software](http://www.vacuubrand.com/gauges-controllers/accessories-software)

# Function extension

## User Management



The User Management is a new extension for our VACUU-SELECT vacuum controller. For the first time, you can individually define access to different applications, functions and authorizations based on user groups.

### Ensure consistent process parameters

Is running processes with exactly the same parameters every time important for your tasks? The VACUU-SELECT user management offers you the possibility to prevent unintentional changes.

In the application editor, you can set which parameters can be modified and which cannot. Via the user management you then define who has access to the application editor. This way, you can make sure that the application parameters and process steps are always correct.

With those features the VACUU-SELECT controller meets different requirements in various fields of application: For example, for the reproducibility of processes as well as the transparent documentation of process data.

### Flexible permissions for individual requirements

Multiple users and different applications at one workstation? In such cases, VACUU-SELECT user management is ideal for operating a vacuum controller by consecutive users. This allows you to assign or block specific authorizations, applications and functions.

You can create and save applications individually and select your own favorites. Via user groups, you can then define exactly which applications are available to which users. This makes the operation of the vacuum controller and the shared use of a workstation easier.

The clearly defined functionality of the controller for each individual user minimizes the risk of operating errors.

If you want to use the same user settings on several VACUU-SELECT controllers, you can simply transfer the settings to other devices. To do this, user management must be enabled on all controllers.



# Vacuum gauges



## Vacuum gauges

- Chemically resistant
- Reliable
- Always a perfect fit

Rely on our modern vacuum gauges for precise vacuum measurement. You have the choice: Do you want a dedicated fine or rough vacuum gauge or both in one? Mains-operated or battery-operated? For all vacuum gauges from VACUUBRAND applies: They are chemically resistant, robust and reliable. In our portfolio, you will always find the right solution.

In the development of our gauges, we want to make sure that you can easily integrate them into your workflows: Thanks to the compact design with integrated sensors, you can easily position the measuring devices. Clear displays and intuitive operating concepts also ensure pleasant and efficient work. The illuminated pressure display makes it easy to read the measured values.

For integration into modern automation systems, we offer suitable connections and interfaces on request.

# Vacuum gauges

## Chemically resistant - even against corrosive media

Do your processes generate aggressive gases or vapors?  
No problem, because we only choose chemically resistant and robust sensors for our vacuum gauges: For the typical application range from atmospheric pressure down to 1 mbar we use ceramic diaphragm sensors, and in the range below 1 mbar down to  $10^{-3}$  mbar, we use ceramic-jacketed Pirani sensors.



## Reliable - for measurement results and long-term stability

You can rely on our vacuum gauges: Sensors from VACUUBRAND offer high measuring accuracy for precise measurements. Their excellent long-term stability ensures consistently reliable measurement results.

## Always a perfect fit - the vacuum gauge for your needs

VACUUBRAND vacuum gauges provide ideal solutions for almost any application: Depending on the desired pressure range, we offer fine or rough vacuum gauges. A highlight is our combined gauge VACUU·VIEW extended - it covers the extended measuring range 1100 -  $10^{-3}$  mbar.

Choose between mains- and battery-powered vacuum gauges depending on your requirements. For use in potentially explosive atmospheres, the DVR 3pro gauge comes with ATEX approval.



# Vacuum controllers and gauges

## VACUU-SELECT complete controller

| Control range   | Measurement principle    | Vacum connection       | Order number                                                                               |
|-----------------|--------------------------|------------------------|--------------------------------------------------------------------------------------------|
| Atm. - 0.1 mbar | Ceramic diaphragm sensor | Hose nozzle DN 6/10 mm | Benchtop device: 20700070<br>For scaffold mounting: 20700080<br>Built-in version: 20700060 |



## VACUU-SELECT packages for fine vacuum control

| Vacuum sensor       | Control range                | Measurement principle                                     | Vacum connection + Order number                          |
|---------------------|------------------------------|-----------------------------------------------------------|----------------------------------------------------------|
| VSP 3000            | 5 – 10 <sup>-3</sup> mbar    | Ceramic-jacketed Pirani sensors                           | KF DN 16 / SW 10: 20700101<br>KF DN 25 / SW 15: 20700111 |
| VACUU-VIEW extended | Atm. – 10 <sup>-3</sup> mbar | Ceramic-jacketed Pirani sensor + Ceramic diaphragm sensor | KF DN 16 / SW 10: 20700100<br>KF DN 25 / SW 15: 20700110 |



KF = Small flange SW = Hose nozzle

## VACUU-VIEW, mains-operated, for rough- and fine vacuum range

| Product             | Technical data                                      | Order number |
|---------------------|-----------------------------------------------------|--------------|
| VACUU-VIEW extended | Measuring range<br>1100 – 1 x 10 <sup>-3</sup> mbar | 20683210     |
| VACUU-VIEW          | Measuring range<br>1100 – 0.1 mbar                  | 20683220     |



## DVR, battery-operated, for rough vacuum range

| Product  | Technical data                   | Order number |
|----------|----------------------------------|--------------|
| DVR 2pro | Measuring range<br>1060 – 1 mbar | 20682906     |
| DVR 3pro | Measuring range<br>1060 – 1 mbar | 20682907     |



## DCP 3000, mains-operated, for rough and fine vacuum range

| Product                 | Technical data                                      | Order number |
|-------------------------|-----------------------------------------------------|--------------|
| Set DCP 3000 + VSK 3000 | Measuring range<br>1080 – 0.1 mbar                  | 20683170     |
| Set DCP 3000 + VSP 3000 | Measuring range<br>1000 – 1 x 10 <sup>-3</sup> mbar | 20683190     |



# Variants with two-point vacuum control

## Pumping units with one electronically controlled port

| Product       | Technical data      | Order number                  |                              |                              |
|---------------|---------------------|-------------------------------|------------------------------|------------------------------|
| PC 510 select | 7 mbar   2 m³/h     | CEE: 20733150<br>US: 20733153 | CH: 20733151<br>CN: 20733156 | UK: 20733152<br>IN: 20733157 |
| PC 610 select | 1.5 mbar   3.4 m³/h | CEE: 20737150<br>US: 20737153 | CH: 20737151<br>CN: 20737156 | UK: 20737152<br>IN: 20737157 |



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

| Product       | Technical data      | Order number                  |                              |                              |
|---------------|---------------------|-------------------------------|------------------------------|------------------------------|
| PC 511 select | 7 mbar   2 m³/h     | CEE: 20733250<br>US: 20733253 | CH: 20733251<br>CN: 20733256 | UK: 20733252<br>IN: 20733257 |
| PC 611 select | 1.5 mbar   3.4 m³/h | CEE: 20737250<br>US: 20737253 | CH: 20737251<br>CN: 20737256 | UK: 20737252<br>IN: 20737257 |



## Pumping units with two electronically controlled ports

| Product       | Technical data      | Order number                  |                              |                              |
|---------------|---------------------|-------------------------------|------------------------------|------------------------------|
| PC 520 select | 7 mbar   2 m³/h     | CEE: 20733350<br>US: 20733353 | CH: 20733351<br>CN: 20733356 | UK: 20733352<br>IN: 20733357 |
| PC 620 select | 1.5 mbar   3.4 m³/h | CEE: 20737350<br>US: 20737353 | CH: 20737351<br>CN: 20737356 | UK: 20737352<br>IN: 20737357 |



# Variants with VARIO® control

## Chemistry diaphragm pumps VARIO select

| Product            | Technical data      | Order number                  |                              |                              |
|--------------------|---------------------|-------------------------------|------------------------------|------------------------------|
| MZ 2C VARIO select | 7 mbar   2.8 m³/h   | CEE: 20732450<br>CN: 20732456 | CH: 20732451<br>IN: 20732457 | US: 20732453                 |
| MD 4C VARIO select | 1.5 mbar   4.6 m³/h | CEE: 20736550<br>CN: 20736556 | CH: 20736551<br>IN: 20736557 | US: 20736553<br>UK: 20736552 |



| Product                | Technical data       | Order number                  |                              |              |
|------------------------|----------------------|-------------------------------|------------------------------|--------------|
| ME 16C NT VARIO select | 70 mbar   19.3 m³/h  | CEE: 25741750                 | US: 25741753                 |              |
| MD 12C NT VARIO select | 1.5 mbar   14.3 m³/h | CEE: 25743750<br>CN: 25743756 | UK: 25743752<br>IN: 25743757 | US: 25743753 |
| MV 10C NT VARIO select | 0.6 mbar   12.8 m³/h | CEE: 25744750<br>CN: 25744756 | UK: 25744752<br>IN: 25744757 | US: 25744753 |



## Chemistry pumping unit VARIO select

| Product              | Technical data  | Order number                  |                              |                              |
|----------------------|-----------------|-------------------------------|------------------------------|------------------------------|
| PC 3001 VARIO select | 2 mbar   2 m³/h | CEE: 20700200<br>US: 20700203 | CH: 20700201<br>CN: 20700206 | UK: 20700202<br>IN: 20700207 |



| Product              | Technical data      | Order number                  |                              |                              |
|----------------------|---------------------|-------------------------------|------------------------------|------------------------------|
| PC 3002 VARIO select | 7 mbar   2.8 m³/h   | CEE: 20733550<br>US: 20733553 | CH: 20733551<br>CN: 20733556 | UK: 20733552<br>IN: 20733557 |
| PC 3004 VARIO select | 1.5 mbar   4.6 m³/h | CEE: 20737550<br>US: 20737553 | CH: 20737551<br>CN: 20737556 | UK: 20737552<br>IN: 20737557 |
| PC 3003 VARIO select | 0.6 mbar   2.8 m³/h | CEE: 20738450<br>US: 20738453 | CH: 20738451<br>CN: 20738456 | UK: 20738452<br>IN: 20738457 |



| Product                 | Technical data       | Order number                  |                              |                              |
|-------------------------|----------------------|-------------------------------|------------------------------|------------------------------|
| PC 3016 NT VARIO select | 70 mbar   19.3 m³/h  | CEE: 25741850                 | US: 25741853                 |                              |
| PC 3012 NT VARIO select | 1.5 mbar   14.3 m³/h | CEE: 25743850<br>US: 25743853 | CH: 25743851<br>CN: 25743856 | UK: 25743852<br>IN: 25743857 |
| PC 3010 NT VARIO select | 0.6 mbar   12.8 m³/h | CEE: 25744850<br>US: 25744853 | CH: 25744851<br>CN: 25744856 | UK: 25744852<br>IN: 25744857 |







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**VACUUBRAND®**

VACUUBRAND is part of the Brand group, a manufacturer of high-quality and innovative laboratory equipment and vacuum technology with a global team of approx. 1,000 employees.

With highly motivated and qualified employees, we manufacture the world's most comprehensive product family for vacuum generation, measurement and control for the rough and fine vacuum range in the laboratory.

**All with one goal:**

Enabling our customers to run reliable, safe and efficient processes. This is why we commit ourselves to continuous innovation, first-class performance, and outstanding quality.

Engineering excellence is central to our ability to deliver products and solutions renowned for their quality, durability, and reliability. Innovative technology, high quality materials and extensive testing deliver unmatched performance - engineered and manufactured in Germany.

Together with you, our experts will find the best solution for your application and provide you with first-class service along the way.

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