### **VACUU**BRAND®



# The professional connection

With matching connection parts for your vacuum pump clearly arranged according to typical applications and laboratory equipment.

www.vacuubrand.com



# The professional connection



VACUUBRAND products can be easily used for various applications with laboratory equipment from all well-known manufacturers. All you need to connect our pumps are the right connectors. The selection of the connection parts

depends on the type of application and the vacuum connection of your laboratory device. With the help of this brochure you can quickly and easily find out which connection parts you need for your application.

**Note:** Connections should be checked again in the event of technical changes to the laboratory equipment. **Version:** 05/2021

### Trademark-Index

VACUU·LAN® (US-Reg.No 3,704,401), VACUU·BUS®, VACUU·CONTROL®, VACUU·SELECT® (US-Reg.No 5,522,260), VARIO® (US-Reg.No 3,833,788), VACUUBRAND® (US-Reg.No 3,733,388), VACUU-VIEW®, GREEN VAC® (US-Reg.No. 4,924,553), VACUU·PURE® (US-Reg.No. 5,559,614) and also the shown company logos are registered trademarks of VACUUBRAND GMBH + CO KG in Germany and/or other countries.

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### How to find the right connection parts:

- Select your application from the table of contents.
- Look for the VACUUBRAND vacuum pump you are using in the second column.
- Look for the type / size of the vacuum connection or brand and type of your laboratory device in the first column.
- In the third column, read off the corresponding connection parts required.

### Example using freeze drying as an application:

\* Third-party trademarks depicted or reproduced herein are the property of their respective trademark owners.

|         | m connection of<br>eeze dryer*                                    | VACUUBRAND<br>vacuum pump | Required connection parts from<br>VACUUBRAND + order number |                                  |
|---------|---|---------------------------|---|----------------------------------|
| 2<br>KF | Martin Christ Equipment type: Alpha Beta Gamma Delta Epsilon      | RZ 2.5<br>RZ 6<br>RC 6    | 1x Clamping ring KF DN 20/25, aluminium 20                  | 20686040<br>20660001<br>20660191 |
| DN 25   | Zirbus Equipment type: VaCo Serie  Büchi Equipment type: Lyovapor | RZ 9<br>VACUU-PURE 10C    | 1x Clamping ring KF DN 20/25, aluminium 20                  | 20686041<br>20660001<br>20660191 |

# Find the right vacuum pump

### Diaphragm pumps

Most chemical applications take place in the rough vacuum range (down to 1 mbar). For such processes, diaphragm pumps are always the best choice. Diaphragm pumps run oil-free, do not consume any water and therefore do not generate either waste water or waste oil. This pump technology is also available in a chemically resistant version. At VACUUBRAND all wetted parts of chemical diaphragm pumps are made of fluoroplastics with excellent chemical resistance. The reliability, durability and ease of maintenance of the chemistry diaphragm pump make it an ideal choice for the chemical laboratory.



### Rotary vane pumps and chemistry-HYBRID pumps

However, for some applications a vacuum of 1 mbar is not sufficient. Freeze drying or Schlenk lines, for example, require a pressure in the fine vacuum range (down to 10-3 mbar). Due to the technology used, diaphragm pumps reach their limits here. For this reason, rotary vane or chemistry-HYBRID pumps are often used, which can achieve an ultimate vacuum of 2 x 10<sup>-3</sup> mbar. A disadvantage compared to the diaphragm pump is the need to use oil for lubrication and sealing, which can disrupt sensitive processes and has to be changed regularly. In addition, rotary vane pumps are not available in a chemical-resistant version. Many parts are made of metal and can corrode if they come into contact with chemicals. In addition, the oil can degrade. In such cases, for better protection against corrosion, VACUUBRAND offers the chemistry-HYBRID pump. This consists of a rotary vane pump combined with a chemical-resistant diaphragm pump that permanently evacuates the oil chamber during the process and thus frees it from corrosive vapors and condensates.



### Screw pumps

VACUU·PURE® is ideal for clean processes and pure products in the vacuum range down to 10<sup>-3</sup> mbar.

A dry and hydrocarbon-free vacuum is indispensable for many applications such as in ultrahigh vacuum systems. As a dry fore vacuum pump for turbomolecular pumps, VACUU·PURE® offers a deep ultimate vacuum that was previously unreachable with oil-free technologies.

Drying processes, manipulation of oxygen- or moisture-sensitive compounds, distillations, and even coating processes can be run with the dry screw pump without downtime for maintenance. Common applications include freeze drying and Schlenk line. VACUU·PURE® can be operated continuously at higher pressures so that in drying processes, both the primary drying and subsequent residual drying steps can be performed with a single pump.

VACUU·PURE® easily handles high vapor loads through its high condensate compatibility. A gas ballast is therefore not

necessary. The associated disadvantages such as decline of the ultimate vacuum and increased noise levels are thus avoided. The integrated regeneration mode enables rapid drying of the pump after the end of the process and thus the sample throughput can be significantly increased, as compared to other pump technologies.

The chemically resistant version VACUU·PURE® 10C is especially designed for pumping aggressive gases and vapors. The operation of a cold trap is unnecessary in the majority of applications.





# Find the right vacuum pump

### **Mounting parts**

Modern diaphragm pumping units have a so-called "condensate separator" (AK) at the pump inlet, which protects the pump from entrained condensate droplets and solid particles. In addition, an "emission condenser" (EK) on the exhaust side protects from solvent emissions and enables their efficient recovery.

Due to the lower chemical resistance of rotary vane pumps, it may be necessary to install a cold trap in order to catch corrosive chemicals and condensates before they enter the pump inlet. To protect the health of laboratory personnel, oil mist filters are often used at the pipe exhaust, which prevents indoor air pollution with oil vapors.



### Vacuum control

A system with vacuum control is recommended for applications in which it is necessary to maintain certain pressure values or process conditions.

VACUUBRAND uses the VACUU-SELECT® vacuum controller for this. The vacuum control can be achieved in two ways. Switching an electromagnetic valve in the suction line works regardless of the vacuum source. With this classic two-point control method, the vacuum is regulated by opening and closing an electromagnetic valve, thus maintaining the pressure range between the two valve switching points. In contrast, adaptive speed control is very precise. However, this process only works in combination with a VARIO® diaphragm pump. The precise VARIO® control offers the advantage of maximum process efficiency, shorter process times as well as reproducible process control and results. In addition, the pump does not run at full capacity all of the time, but only as fast as necessary. This results in significant energy savings, reduced wear and tear and lower noise emissions.



There is also an "automatic evaporation" option available for evaporation processes. With just one push of a button, the controller automatically finds the boiling pressure and adjusts it continuously throughout the evaporation process. The process is carried out fully automatically and in the shortest possible time, without the need for constant monitoring and manual intervention.



### How to find the right vacuum pump

The choice of the right vacuum pump depends very much on the application and the type and amount of media used. To make your choice easier, VACUUBRAND has developed a Vacuum Pump Selection Guide. With only a few details about your application this online tool helps to focus in on the suitable products, which you can then easily compare at a glance. Test it yourself at:

www.vacuubrand.com/vpsg

Of course, we would also be happy to advise you personally. You can find the right contact person for your region at: www.vacuubrand.com/contact



www.vacuubrand.com/vpsg

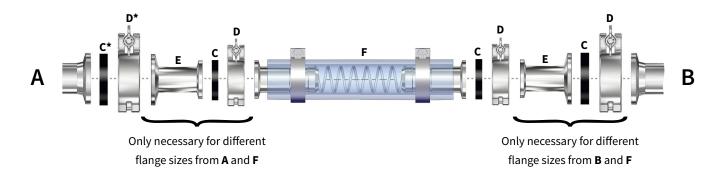
**Note:** In many applications it is necessary to connect the outlet of the vacuum pump to an exhaust system. This prevents, for example, the pumped media and chemicals from getting into the ambient air. A suitable exhaust hose must be selected for this. Make sure that the exhaust hose is of the correct dimensions to ensure that no back pressure can build up. Please also pay careful attention to the corresponding information in the operating instructions for the vacuum pump. If you cannot find a suitable exhaust hose, we will be happy to advise you.

# Freeze-drying

|  | n connection of<br>eze dryer*   | VACUUBRAND<br>vacuum pump                        |  | red connection parts** from<br>JBRAND + order number   |  |
|--|---|--|--|--|--|
| KF<br>DN 16                              | Labogene Equipment type: Coolsafe Serie   | RZ 2.5<br>RZ 6<br>RC 6                           | 1x | PVC vacuum tubing angulated KF DN 16/25 Reducing piece KF DN 25/16, aluminium Clamping ring KF DN 20/25, aluminium External centring ring KF DN 20/25, PBT/NBR Clamping ring KF DN 10/16, aluminium External centring ring KF DN 10/16, PBT/NBR  PVC vacuum tubing angulated KF DN 25/25 Clamping ring KF DN 20/25, aluminium External centring ring KF DN 20/25, pBT/NBR Clamping ring KF DN 20/16, aluminium External centring ring KF DN 10/16, aluminium External centring ring KF DN 10/16, pBT/NBR | 20686040<br>20669041<br>20660001<br>20660191<br>20660190<br>20686041<br>20660001<br>20660191<br>20660000<br>20660190 |
| KF<br>DN 25                              | Martin Christ Equipment type: Alpha Beta Gamma Delta Epsilon  Zirbus Equipment type: VaCo Serie  Büchi Equipment type: Lyovapor | RZ 2.5<br>RZ 6<br>RC 6                           | 1x 1x 1x 1x 1x 1x 1x                   | PVC vacuum tubing angulated KF 16/25 Clamping ring KF DN 20/25, aluminium External centring ring KF DN 20/25, PBT/NBR  PVC vacuum tubing angulated KF DN 25/25 Clamping ring KF DN 20/25, aluminium External centring ring KF DN 20/25, PBT/NBR  | 20669041<br>20686040<br>20660001<br>20660191<br>20660001<br>20660191   |
| Hose<br>connec-<br>tion<br>/ SW<br>DN 19 | Labconco Equipment type: FreeZone  VirTis Equipment type: BenchTop AdVantage  | RZ 2.5<br>RZ 6<br>RC 6<br>RZ 9<br>VACUU·PURE 10C | 1x<br>2x<br>1x<br>1x<br>2x<br>1x       | Vacuum hose DN 20 Hose clip DN 20 Hose nipple KF DN 16 / DN 19  Vacuum hose DN 20 Hose clip DN 20 Hose nipple KF DN 25 / DN 20   | 20638872<br>20686050<br>20662531<br>20638872<br>20686050<br>20662532   |
| ls                                       | your equipment not included?  |  |  | Tel.:+49 9342 808-5550   | Contact us:<br>ubrand.com  |

# Connection examples

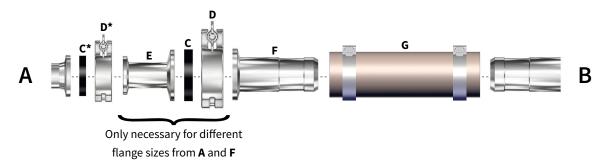
### Freeze dryers with small flange vacuum connection



- A = Pump inlet with small flange connection
- B = Small flange connection of the freeze dryer
- C = External centring ring
- D = Clamping ring

- E = Reducing piece
- F = Vacuum tubing made of PVC with internal reinforcement
- $^{\star}$  Connection parts are included in the delivery of the pump

### Freeze dryers with hose nipple vacuum connection



- A = Pump inlet with small flange connection
- B = Hose nipple connection of the freeze dryer
- C = External centring ring
- D = Clamping ring

- E = Reducing piece
- F = Hose nipple
- G = Vacuum hose
- \* Connection parts are included in the delivery of the pump

### Vacuum pumps



RZ 2.5 Rotary vane pump 2.3  $\mathrm{m}^3/\mathrm{h}$ , 2 x  $\mathrm{10}^3$  mbar Vacuum connection: Small flange DN 16



RZ 6 Rotary vane pump  $5.7~\text{m}^3/\text{h}, 2 \times 10^{-3}~\text{mbar}$  Vacuum connection: Small flange DN 16



RC 6 Chemistry-HYBRID pump 5.9 m³/h, 2 x 10<sup>-3</sup> mbar Vacuum connection: Small flange DN 16



RZ 9 Rotary vane pump  $8.9 \, \text{m}^3/\text{h}, 2 \, \text{x} \, 10^3 \, \text{mbar}$ Vacuum connection: Small flange DN 25



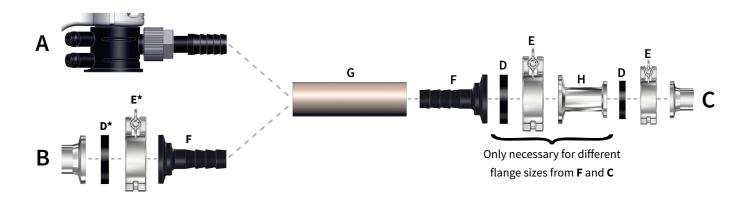
VACUU-PURE 10C Screw pump 9 m³/h, 5 x 10³ mbar Vacuum connection: Small flange DN 25

# Vacuum drying oven

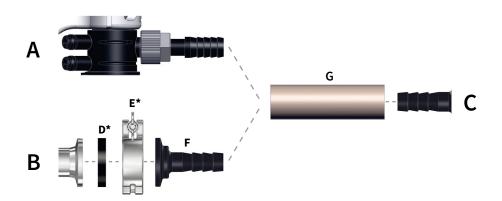
|   | m connection of<br>cuum drying oven*       | VACUUBRAND<br>vacuum pump                                    | Required connection parts** from<br>VACUUBRAND + order number   |   |  |
|---|--|--|---|---|--|
| Binder Equipment type: VD-Series VDL-Series  Memmert Equipment type: VO Serie  MMM Med-Center Equipment type: Vacucell-Series  Salvislab Renggli Equipment type: Vacucenter | Equipment type:<br>VD-Series<br>VDL-Series | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK<br>PC 3003 VARIO select | 1x<br>1x<br>1x<br>1x  | Vacuum hose DN 8, rubber<br>Clamping ring KF DN 10/16, aluminium<br>External centring ring KF DN 10/16, PBT/NBR<br>KF DN 16 with SW DN 10, PP | 20686001<br>20660000<br>20660190<br>20662806 |
|   | MD 12C NT +AK +EK<br>VACUU·PURE 10C        | 1x 1x 1x 1x 1x 1x 1x 1x                                      | PVC vacuum tubing angulated KF 25/25 Clamping ring KF DN 25, aluminium Clamping ring KF DN 10/16, aluminium External centring ring KF DN 10/16, PBT/NBR External centring ring KF DN 20/25, PBT/NBR Reducing piece KF DN 25/16, aluminium | 20686041<br>20660001<br>20660000<br>20660190<br>20660191<br>20669041  |  |
| KF<br>DN 25   |  | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK<br>PC 3003 VARIO select | 1x<br>1x<br>1x<br>1x  | Vacuum hose DN 8, rubber  Clamping ring KF DN 20/25, aluminium  External centring ring KF DN 20/25, PBT/NBR  KF DN 25 with SW DN 10, PP       | 20686001<br>20660001<br>20660191<br>20662807 |
| VT 6025<br>VT 6060<br>VT 6130   | VT 6060                                    | MD 12C NT +AK +EK<br>VACUU-PURE 10C                          | 1x<br>1x<br>1x  | PVC vacuum tubing angulated KF 25/25  Clamping ring KF DN 20/25, aluminium  External centring ring KF DN 20/25, PBT/NBR                       | 20686041<br>20660001<br>20660191             |
| Hose<br>connec-<br>tion   | onnec- Sheldon                             | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK<br>PC 3003 VARIO select | 1x  | Vacuum hose DN 8, rubber  | 20686001                                     |
| DN 10   |  | MD 12C NT +AK +EK<br>VACUU·PURE 10C                          | 1x<br>1x  | Vacuum hose DN 10, rubber<br>KF DN 25 with SW DN 10, PP   | 20686002<br>20662807                         |
| -   | our equipment<br>not included?             |  |   | Tel.:+49 9342 808-5550 E-Mail: info@vac   | Contact us:<br>cuubrand.com                  |

# Connection examples

### Vacuum drying ovens with small flange vacuum connection



### Vacuum drying ovens with hose nozzle vacuum connection



- A = Pump inlet with hose nozzle connection
- B = Pump inlet with small flange connection
- C = Small flange connection of the vacuum drying oven
- D = External centring ring
- E = Clamping ring
- F = Small flange with hose nozzle
- G = Vacuum hose
- H = Reducing piece
- \* Connection parts are included in the delivery of the pump

### Vacuum pumps



MZ 2C NT +AK +EK Chemistry diaphragm pump

2.0 m3/h, 7 mbar Vacuum connection: Hose nozzle DN 8-10



MD 4C NT +AK +EK Chemistry diaphragm

pump 3.4 m3/h, 1.5 mbar Vacuum connection: Hose nozzle DN 8-10



PC 3003 VARIO select

Chemistry diaphragm pump

2.8 m3/h, 0.6 mbar Vacuum connection: Hose nozzle DN 8-10



### MD 12C NT +AK +EK

Chemistry diaphragm pump 12.0 m3/h, 2 mbar

12.0 m3/h, 2 mbar Vacuum connection: Small flange DN 25 / Hose nozzle DN 15



VACUU-PURE 10C

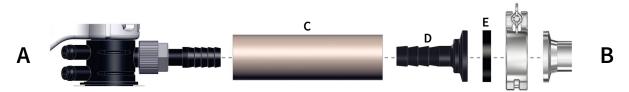
Screw pump 9 m3/h, 5 x 10-3 mbar Vacuum connection: Small flange DN 25

### Vacuum concentrator

|               | n connection of<br>cuum concentrator*   | VACUUBRAND<br>vacuum pump   |                           | ed connection parts** from<br>BRAND + order number                              |                         |
|---------------|---|---|---------------------------|---|-------------------------|
| KF            | Martin Christ Equipment type: RVC 2-Series  Labogene                                    | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK                              | 1x<br>1x                  | Clamping ring KF DN 10/16, aluminium External centring ring KF DN 10/16, PBT/NI | 20660000<br>BR 20660190 |
| DN 16         | N 16 Equipment type: MiniVac Alpha MiniVac Beta MaxiVac Alpha MaxiVac Beta MaxiVac Beta | MiniVac Alpha MiniVac Beta MaxiVac Alpha PC 3001 VARIO select  1x |                           | KF DN 16 with SW DN 10, PP<br>Vacuum hose DN 8, rubber                          | 20662806<br>20686001    |
| SW            | Eppendorf<br>Equipment type:  | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK                              |                           | Vacuum hose DN 8, rubber  | 20686001                |
|               | Concentrator plus   | PC 3001 VARIO select  | ^                         |   | 2000002                 |
| SW<br>DN 12   | <b>Labconco</b><br>Equipment type:  | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK                              |                           | Vacuum hose DN 10, rubber   | 20686002                |
| DN 12         | CentriVap-Serie   | PC 3001 VARIO select  |                           |   |                         |
| Hose          | SP Scientific /<br>Genevac<br>Equipment type:   | MZ 2C NT +AK +EK<br>MD 4C NT +AK +EK                              |                           |   |                         |
| tion<br>DN 13 | ion EZ-2  | 1x  | Vacuum hose DN 10, rubber | 20686002  |                         |
| ls            | your equipment<br>not included?   |   |                           | Tel.:+49 9342 808-5550 E-Mail: info@va  | Contact us:             |

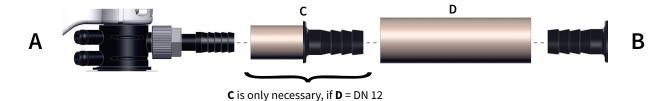
# Connection examples

### Vacuum concentrators with small flange vacuum connection



- A = Pump inlet with hose nozzle connection
- B = Small flange connection of the vacuum concentrator
- C = Vacuum hose
- D = Small flange with hose nozzle
- E = External centring ring
- F = Clamping ring

### Vacuum concentrators with hose nozzle vacuum connection



- A = Pump inlet with hose nozzle connection
- B = Hose nozzle connection of the vacuum concentrator
- C = Adapter SW DN 10 to SW DN 12
- D = Vacuum hose

### Vacuum pumps



MZ 2C NT +AK +EK
Chemistry diaphragm pump
2.0 m³/h, 7 mbar
Vacuum connection:
Hose nozzle DN 8-10



MD 4C NT +AK +EK
Chemistry diaphragm pump
3.4 m³/h, 1.5 mbar
Vacuum connection:
Hose nozzle DN 8-10



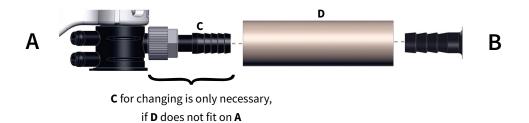
PC 3001 VARIO select Chemistry diaphragm pump 2.0 m³/h, 2.0 mbar Vacuum connection: Hose nozzle DN 6-10

# Rotary evaporator

|            | m connection of<br>tary evaporator*   |   |          |   |                      |
|------------|---|---|----------|---|----------------------|
| SW         | <b>Eyela</b><br>Equipment type:   | MZ 2C NT +AK +EK  MD 1C +AK +EK  PC 510/520 select  PC 3003/3004 VARIO select | 1x<br>1x | Vacuum hose DN 6, rubber<br>SW DN 6/10 with tube 10/8mm | 20686000<br>20636635 |
| DN 6       | DN 6 Equipment type:<br>N-1200  | PC 3001 VARIO select<br>VACUU·LAN components                                  | 1x       | Vacuum hose DN 6, rubber                                | 20686000             |
|            | Büchi Equipment type: R-100 R-300  Heidolph Equipment type:   | MZ 2C NT +AK +EK  MD 1C +AK +EK  PC 510/520 select  PC 3003/3004 VARIO select |          |   |                      |
| SW<br>DN 8 | Hei-VAP Value Hei-VAP Value digital Hei-VAP Advantage  IKA Equipment type: RV 8 RV 10 digital  KNF Equipment type: RC 600 RC 900  Phoenix Instruments Equipment type: RE-100D | PC 3001 VARIO select<br>VACUU·LAN components                                  | 1x       | Vacuum hose DN 8, rubber                                | 20686001             |
| Is         | Dragon Lab<br>Equipment type:<br>RE 100-Pro   |   |          |   | Contact us:          |
|            | not included?   |   | Te       | el.:+49 9342 808-5550 E-Mail: info@va                   | cuubrand.com         |

# Connection example

### Rotary evaporator with hose nozzle vacuum connection



- A = Pump inlet with hose nozzle connection
- B = Hose nozzle connection of the rotary evaporator
- C = Hose nozzle for changing
- D = Vacuum hose

### Vacuum pumps



MZ 2C NT +AK +EK Chemistry diaphragm pump 2.0 m³/h, 7 mbar

Vacuum connection: Hose nozzle DN 8-10



MD 1C +AK +EK

Chemistry diaphragm pump 1.3 m³/h, 2 mbar Vacuum connection: Hose nozzle DN 8-10



PC 3001 VARIO select

Chemistry diaphragm pump 2.0 m³/h, 2.0 mbar Vacuum connection: Hose nozzle DN 6-10



PC 510 select

Chemistry diaphragm pump 2.0 m³/h, 7 mbar Vacuum connection: Hose nozzle DN 8-10



PC 3003 VARIO select

Chemistry diaphragm pump 2.8 m³/h, 0.6 mbar Vacuum connection: Hose nozzle DN 8-10



VCL-connection

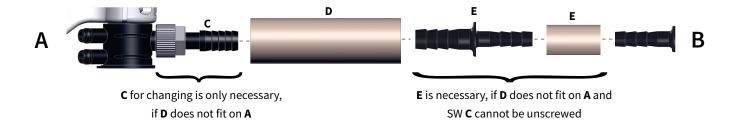
VACUU·LAN components Vacuum connection: Hose nozzle DN 6-10 \*Example

# Filtration / solid phase extraction (SPE) / nucleic acid purification

|                         | m connection<br>application*        | VACUUBRAND<br>vacuum pump                         | Required connection parts** from<br>VACUUBRAND + order number     |
|-------------------------|-------------------------------------|---|---|
| sw                      | Vacuum connection                   | ME 1  | 1 Variable PNC with an  |
| DN 6                    | DN 6 Hose nozzle DN 6               | Hose nozzle DN 6  ME 4C NT + 2AK  ME 1C  ME 2C NT | - 1x Vacuum hose DN 6, rubber 20686000                            |
| SW                      | Vacuum connection                   | ME 1  | <ul><li>1x Vacuum hose DN 8, rubber 20686001</li></ul>            |
| в и в                   | DN 8 Hose nozzle DN 8               | ME 4C NT + 2AK<br>ME 1C<br>ME 2C NT               | 1X Vacadii ilose siro, rasseri                                    |
| SW                      | Vacuum connection                   | ME 1  | – 1x Vacuum hose DN 8, rubber 20686001                            |
| DN 10 Hose nozzle DN 10 | ME 4C NT + 2AK<br>ME 1C<br>ME 2C NT | 20000001  |   |
| ls                      | your equipment<br>not included?     |   | Contact us:<br>Tel.:+49 9342 808-5550 E-Mail: info@vacuubrand.com |

# Connection example

### Applications with hose nozzle vacuum connection



A = Pump inlet with hose nozzle connection
B = Hose nozzle connection of the
application equipment

C = Hose nozzle for changing D = Vacuum hose

E = Reducing piece + hose DN 6

### Vacuum pumps



### ME 1 Diaphragm pump 0.7 m³/h, 100 mbar Vacuum connection: Hose nozzle DN 6-10



ME 1C
Chemistry diaphragm pump
0.7 m³/h, 100 mbar
Vacuum connection:
Hose nozzle DN 8-10
(cannot be unscrewed)



Chemistry diaphragm pump 2.1 m³/h, 70 mbar Vacuum connection: Hose nozzle DN 8-10 (cannot be unscrewed)



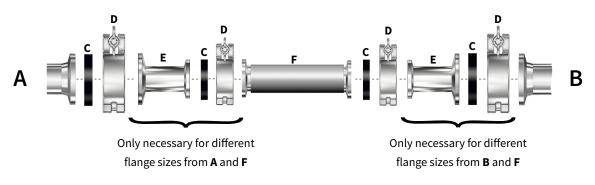
ME 4C NT + 2AK
Chemistry diaphragm pump
3.9 m³/h, 70 mbar
Vacuum connection:
Hose nozzle DN 8-10

# Fore vacuum generation for turbomolecular pumps

|             | m connection of<br>rbomolecular pump*  | VACUUBRAND<br>vacuum pump | Required connection parts** from<br>VACUUBRAND + order number  |   |  |
|-------------|--|---------------------------|--|---|--|
|             | Pfeiffer Equipment type: HiPace 30/60/80/300/350/450  KF Edwards Equipment type: nEXT85  Agilent Equipment type: TwisTorr300-serie + 70/80 | MD 4                      | MD 4 NT  | 1x Stainless steel tubing KF DN 16, length 250mm***  2x Clamping ring KF DN 10/16, aluminium  2x External centring ring KF DN 10/16, PBT/NBR                  | 20673306<br>20660000<br>20660190             |
| KF<br>DN 16 |  | VACUU-PURE 10             | 1x Clamping ring KF DN 10/16, aluminium 1x External centring ring KF DN 10/16, PBT/NBR 1x Reducing piece KF DN 25/16, aluminium 2x Clamping ring KF DN 25, aluminium 2x External centring ring KF DN 20/25, PBT/NBR 1x Stainless steel tubing KF DN 25, length 250mm***      | 20660000<br>20660190<br>20669041<br>20660001<br>20660191<br>20673307  |  |
|             |  | MD 1                      | MD 1   | 1x KF DN 16 hose nozzle DN 6, aluminium  1x Vacuum hose DN 6, rubber  1x Clamping ring KF DN 10/16, aluminium  1x External centring ring KF DN 10/16, PBT/NBR | 20662510<br>20686000<br>20660000<br>20660190 |
| KF          | Pfeiffer<br>Equipment type:<br>HiPace 10<br>Edwards  | MD 4 NT                   | 1x Stainless steel tubing KF DN 16, length 250mm***  1x Reducing piece KF DN 25/16, aluminium  2x Clamping ring KF DN 10/16, aluminium  2x External centring ring KF DN 10/16, PBT/NBR  1x Clamping ring KF DN 25, aluminium  1x External centring ring KF DN 20/25, PBT/NBR | 20673306<br>20669041<br>20660000<br>20660190<br>20660001<br>20660191  |  |
| DN 25       | Fauinment type:  | VACUU-PURE 10             | 1x Stainless steel tubing KF DN 25, length 250mm*** 2x Clamping ring KF DN 25, aluminium 2x External centring ring KF DN 20/25, PBT/NBR  | 20673307<br>20660001<br>20660191  |  |
|             |  | MD 1                      | 1x KF DN 25 with hose nozzle DN 8, aluminium 1x Vacuum hose DN 6, rubber   | 20662516<br>20686000  |  |
| ls          | s your equipment<br>not included?  |                           | Cc<br>Tel.:+49 9342 808-5550 E-Mail: info@vacuubi  | ontact us:<br>rand.com  |  |

# Connection example

### Turbomolecular pumps with small flange vacuum connection



- A = Pump inlet with small flange connection
- B = Small flange connection of the turbomolecular pump
- C = External centring ring

- D = Clamping ring
- E = Reducing piece
- F = Stainless steel tubing

### Turbomolecular pumps with hose nozzle vacuum connection



- A = Pump inlet with hose nozzle connection
- B = Small flange connection of the turbomolecular pump
- C = Vacuum hose

- D = Small flange with hose nozzle
- E = External centring ring
- F = Clamping ring

### Vacuum pumps



### MD 4 NT

Diaphragm pump 3.8 m³/h, 1 mbar Vacuum connection: Small flange DN 16



### MD 1

Diaphragm pump 1.2 m³/h, 1.5 mbar Vacuum connection: Hose nozzle DN 6



### VACUU-PURE 10

Screw pump 10 m³/h, 5 x 10<sup>-3</sup> mbar Vacuum connection: Small flange DN 25

# Oil-free vacuum for reactors and synthesis applications



### PC 3003 VARIO select

Chemistry diaphragm pump 2.8 m³/h, 0.6 mbar Vacuum connection: Hose nozzle DN 8-10



#### PC 3010 VARIO select

Chemistry diaphragm pump 13.0 m³/h, 0.6 mbar Vacuum connection: Small flange DN 25



### VACUU-PURE 10C

Screw pump 9 m³/h, 5 x 10<sup>-3</sup> mbar Vacuum connection: Small flange DN 25

### Fine vacuum distillation



### RC 6

Chemistry-HYBRID pump  $5.9 \, \text{m}^3/\text{h}, 2 \, \text{x} \, 10^3 \, \text{mbar}$  Vacuum connection: Small flange DN 16



### VACUU-PURE 10C

Screw pump 9 m³/h, 5 x 10<sup>-3</sup> mbar Vacuum connection: Small flange DN 25



Connections are individual and not standardized. Please contact VACUUBRAND: Tel.: +49 9342 808-5550 | E-Mail: info@vacuubrand.com

www.vacuubrand.com/contact

### Nomenclature

### **VACUUBRAND** pumps

The names of the VACUUBRAND pumps are intended to provide a first support to the technical design. More detailed information can be found in the technical specifications of the pumps.

M Diaphragm (membrane) pump

The letters E, Z, D, V complete the name of a diaphragm pump and indicate the internal configuration and the ultimate vacuum that can be achieved with it:

**E** = single stage (attainable ultimate vacuum typical 70 mbar)

**Z** = two stages (attainable ultimate vacuum typical 7 mbar)

**D** = three stages (attainable ultimate vacuum typical 1.5 mbar)

**V** = four stages (attainable ultimate vacuum typical 0.6 mbar) R Rotary vane pump

The letters E, Z complete the name of a rotary vane pump and indicate the internal configuration and the ultimate vacuum that can be achieved with it:

**E** = single stage (attainable ultimate vacuum typical 10<sup>-1</sup> mbar)

**Z** = two stages (attainable ultimate vacuum typical 10<sup>-3</sup> mbar)

**C** Chemistry design, with fluoropolymer flowpath

PC "Pumping Unit, Chemistry" –
a chemistry pump with vacuum control
and solvent recovery

AK Separator catchpot for inlet or outlet condensates, collects particles and droplets, keeps condensate in vacuum line from flowing into the pump, protecting pump performance and providing additional noise reduction on the pressure side

EX Exhaust vapor (emission) condenser for nearly 100 % solvent recovery in compact design, protecting environment and lab air

NT Labels the series of pumps comprising the New Technology

### **Connection parts**

**DN** Nominal diameter

**KF** Small flange

**SW** Hose nozzle

### Example:

# Overview

| Clamping rings and centering rings  | Ord. no. |
|---|----------|
| Clamping ring for KF DN 10/16, aluminium                                      | 20660000 |
| Clamping ring for KF DN 20/25, aluminium                                      | 20660001 |
| Clamping ring for KF DN 10/16, stainless steel                                | 20660010 |
| Clamping ring for KF DN 20/25, stainless steel                                | 20660011 |
| External centring ring for KF DN 10/16 PBT (non-wetted) with sealing ring NBR | 20660190 |
| External centring ring for KF DN 20/25 PBT (non-wetted) with sealing ring NBR | 20660191 |
| External centring ring for KF DN 10/16 PBT (non-wetted) with sealing ring FPM | 20660195 |
| External centring ring for KF DN 20/25 PBT (non-wetted) with sealing ring FPM | 20660196 |
| Centring ring aluminium, sealing ring FEP KF DN 10/16                         | 20635065 |
| Centring ring aluminium, sealing ring FEP KF DN 20/25                         | 20635722 |

| Small flanges   | Ord. no. |
|---|----------|
| Small flange DN 10 with hose nozzle DN 6, aluminium     | 20662500 |
| Small flange DN 16 with hose nozzle DN 6, aluminium     | 20662510 |
| Small flange DN 16 with hose nozzle DN 10, aluminium    | 20662511 |
| Small flange DN 25 with hose nozzle DN 8, aluminium     | 20662516 |
| Small flange DN 25 with hose nozzle DN 10, aluminium    | 20662517 |
| Small flange DN 25 with hose nozzle DN 12, aluminium    | 20662518 |
| Small flange DN 25 with hose nozzle DN 15, aluminium    | 20662519 |
| Small flange DN 16 with hose nozzle DN 10, plastic PP   | 20662806 |
| Small flange DN 25 with hose nozzle DN 10, plastic PP   | 20662807 |
| Small flange DN 25 with hose nozzle DN 15, plastic PP   | 20662808 |
| Small flange DN 10 with hose nipple DN 12, aluminium    | 20662530 |
| Small flange DN 16 with hose nipple DN 19, aluminium    | 20662531 |
| Small flange DN 25 with hose nipple DN 19-20, aluminium | 20662532 |
| Small flange DN 25 with hose nipple DN 25, aluminium    | 20662533 |

# Overview

| Reducing pieces                                  | Ord. no. |
|--|----------|
| Reducing piece with KF DN 25/10, aluminium       | 20669040 |
| Reducing piece with KF DN 25/16, aluminium       | 20669041 |
| Reducing piece with KF DN 25/10, stainless steel | 20672910 |
| Reducing piece with KF DN 25/16, stainless steel | 20672911 |

| Tubing  | Ord. no. |
|---|----------|
| Vacuum tubing made of stainless steel KF DN 16, length 250 mm           | 20673306 |
| Vacuum tubing made of stainless steel KF DN 16, length 500 mm           | 20673316 |
| Vacuum tubing made of stainless steel KF DN 16, length 750 mm           | 20673326 |
| Vacuum tubing made of stainless steel KF DN 16, length 1000 mm          | 20673336 |
| Vacuum tubing made of stainless steel KF DN 25, length 250 mm           | 20673307 |
| Vacuum tubing made of stainless steel KF DN 25, length 500 mm           | 20673317 |
| Vacuum tubing made of stainless steel KF DN 25, length 750 mm           | 20673327 |
| Vacuum tubing made of stainless steel KF DN 25, length 1000 mm          | 20673337 |
| Vacuum tubing made of PVC with internal spiral KF DN 16, length 1000 mm | 20686020 |
| Vacuum tubing made of PVC with internal spiral KF DN 25, length 1000 mm | 20686021 |
| Vacuum tubing made of PTFE with KF DN 16, length 1000 mm                | 20686031 |
| Vacuum tubing made of PTFE with KF DN 25, length 1000 mm                | 20686033 |
| Vacuum tubing made of rubber DN 6 mm, available per meter               | 20686000 |
| Vacuum tubing made of rubber DN 8 mm, available per meter               | 20686001 |
| Vacuum tubing made of rubber DN 10 mm, available per meter              | 20686002 |
| Vacuum tubing made of rubber DN 15 mm, available per meter              | 20686003 |
| Vacuum tubing made of rubber DN 20 mm, available per meter              | 20686005 |
| Vacuum tubing made of PVC with internal spiral KF DN 16/25, 1m          | 20686040 |
| Vacuum tubing made of PVC with internal spiral KF DN 25/25, 1m          | 20686041 |
| Adapter hose nozzle DN 10 mm to hose nozzle 1/2" (DN 12 mm)             | 20636002 |

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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.

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