

VACUUBRAND®



## The professional connection

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

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



# The professional connection



Our vacuum pumps fit your laboratory device.

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:

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

Example using freeze drying as an application:

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Vacuum connection of the freeze dryer*		VACUUBRAND vacuum pump	Required connection parts from VACUUBRAND + order number		
<b>2</b> <b>KF</b> <b>DN 25</b>	<b>Martin Christ</b> Equipment type: Alpha <b>2</b> Beta Gamma Delta Epsilon	RZ 2.5	1x	PVC vacuum tubing angulated KF 16/25	20686040
		RZ 6	1x	Clamping ring KF DN 20/25, aluminium	20660001
		RC 6	1x	External centring ring KF DN 20/25, PBT/NBR	20660191
	<b>Zirbus</b> Equipment type: VaCo Serie	<b>3</b> <b>RZ 9</b> <b>VACUU-PURE 10C</b>	1x	PVC vacuum tubing angulated KF 25/25 <b>4</b>	20686041
			1x	Clamping ring KF DN 20/25, aluminium	20660001
			1x	External centring ring KF DN 20/25, PBT/NBR	20660191
<b>Büchi</b> Equipment type: Lyovapor	<b>3</b> <b>RZ 9</b> <b>VACUU-PURE 10C</b>	1x	PVC vacuum tubing angulated KF 25/25 <b>4</b>	20686041	
		1x	Clamping ring KF DN 20/25, aluminium	20660001	
		1x	External centring ring KF DN 20/25, PBT/NBR	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  $2 \times 10^{-3}$  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  $10^{-3}$  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.

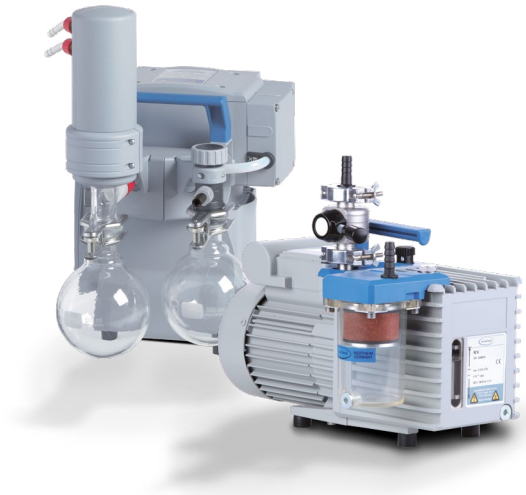


# Find the right vacuum pump

## 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](http://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](http://www.vacuubrand.com/contact)



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

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

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\*\* Connection parts are also available in other materials. See p. 22.

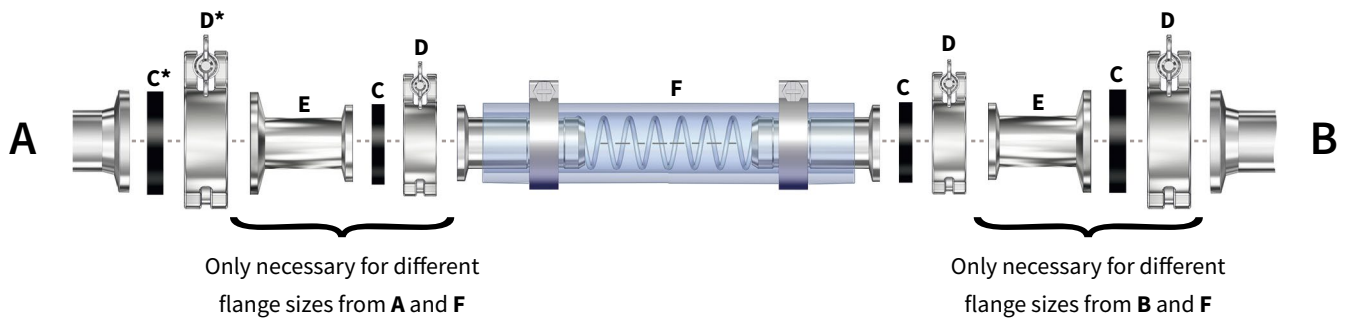
Please contact VACUUBRAND if you need a hose length > 1m.

You can find all abbreviations in our nomenclature on p. 21.



# Connection examples

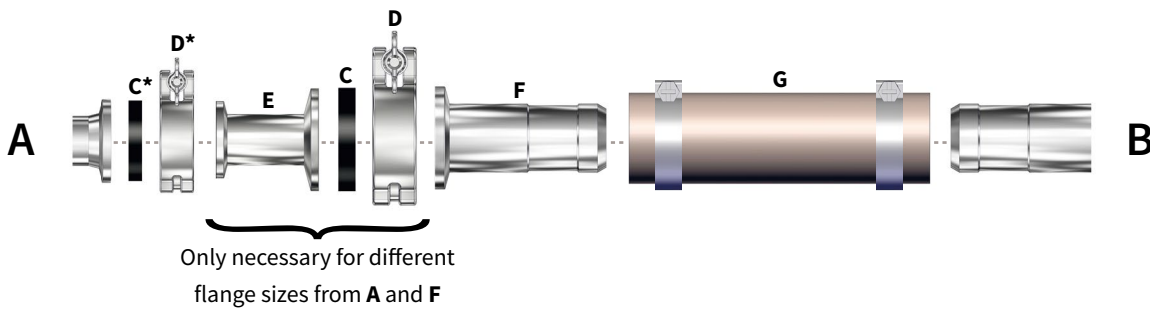
## Freeze dryers with small flange vacuum connection



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  
 \* 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 m<sup>3</sup>/h, 2 x 10<sup>-3</sup> mbar  
 Vacuum connection:  
 Small flange DN 16



**RZ 6**  
 Rotary vane pump  
 5.7 m<sup>3</sup>/h, 2 x 10<sup>-3</sup> mbar  
 Vacuum connection:  
 Small flange DN 16



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



**RZ 9**  
 Rotary vane pump  
 8.9 m<sup>3</sup>/h, 2 x 10<sup>-3</sup> mbar  
 Vacuum connection:  
 Small flange DN 25



**VACUU-PURE 10C**  
 Screw pump  
 9 m<sup>3</sup>/h, 5 x 10<sup>-3</sup> mbar  
 Vacuum connection:  
 Small flange DN 25

# Vacuum drying oven

Vacuum connection of the vacuum drying oven*		VACUUBRAND vacuum pump	Required connection parts** from VACUUBRAND + order number		
KF DN 16	<b>Binder</b> Equipment type: VD-Series VDL-Series	<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b> <b>PC 3003 VARIO select</b>	1x	Vacuum hose DN 8, rubber	20686001
			1x	Clamping ring KF DN 10/16, aluminium	20660000
			1x	External centring ring KF DN 10/16, PBT/NBR	20660190
			1x	KF DN 16 with SW DN 10, PP	20662806
	<b>Memmert</b> Equipment type: VO Serie  <b>MMM Med-Center</b> Equipment type: Vacucell-Series  <b>Salvislab Renggli</b> Equipment type: Vacucenter	<b>MD 12C NT +AK +EK</b> <b>VACUU-PURE 10C</b>	1x	PVC vacuum tubing angulated KF 25/25	20686041
			1x	Clamping ring KF DN 25, aluminium	20660001
			1x	Clamping ring KF DN 10/16, aluminium	20660000
			1x	External centring ring KF DN 10/16, PBT/NBR	20660190
			1x	External centring ring KF DN 20/25, PBT/NBR	20660191
			1x	Reducing piece KF DN 25/16, aluminium	20669041
KF DN 25	<b>Cascade</b> Equipment type: SVO-2 TVO-Series	<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b> <b>PC 3003 VARIO select</b>	1x	Vacuum hose DN 8, rubber	20686001
			1x	Clamping ring KF DN 20/25, aluminium	20660001
			1x	External centring ring KF DN 20/25, PBT/NBR	20660191
			1x	KF DN 25 with SW DN 10, PP	20662807
	<b>Thermo Scientific</b> Gerätetypen: VT 6025 VT 6060 VT 6130	<b>MD 12C NT +AK +EK</b> <b>VACUU-PURE 10C</b>	1x	PVC vacuum tubing angulated KF 25/25	20686041
			1x	Clamping ring KF DN 20/25, aluminium	20660001
			1x	External centring ring KF DN 20/25, PBT/NBR	20660191
Hose connection DN 10	<b>Sheldon Manufacturing</b> Equipment type: SVAC-Series	<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b> <b>PC 3003 VARIO select</b>	1x	Vacuum hose DN 8, rubber	20686001
			<b>MD 12C NT +AK +EK</b> <b>VACUU-PURE 10C</b>	1x	Vacuum hose DN 10, rubber
		1x		KF DN 25 with SW DN 10, PP	20662807
		Is your equipment not included?		<b>Contact us:</b> Tel.: +49 9342 808-5550 E-Mail: <a href="mailto:info@vacuubrand.com">info@vacuubrand.com</a>	

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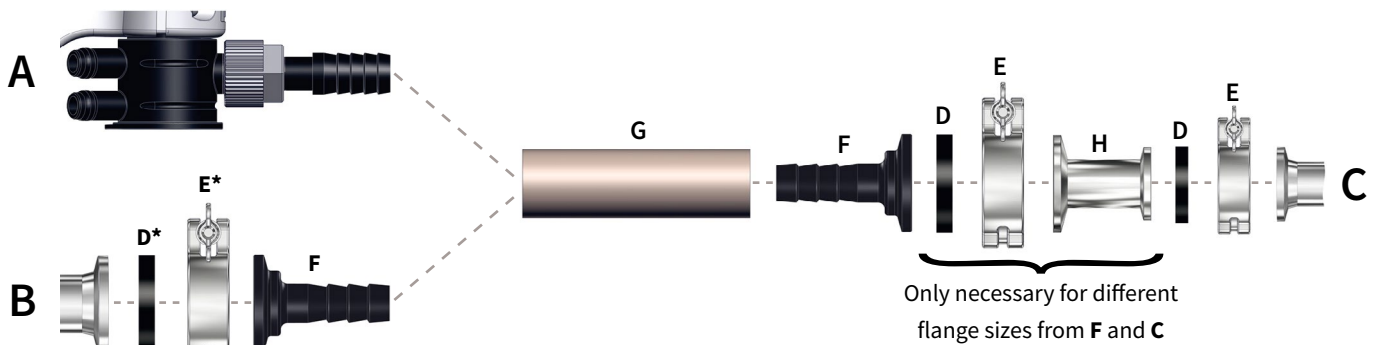
\*\* Connection parts are also available in other materials. See p. 22.

Please contact VACUUBRAND if you need a hose length > 1m.

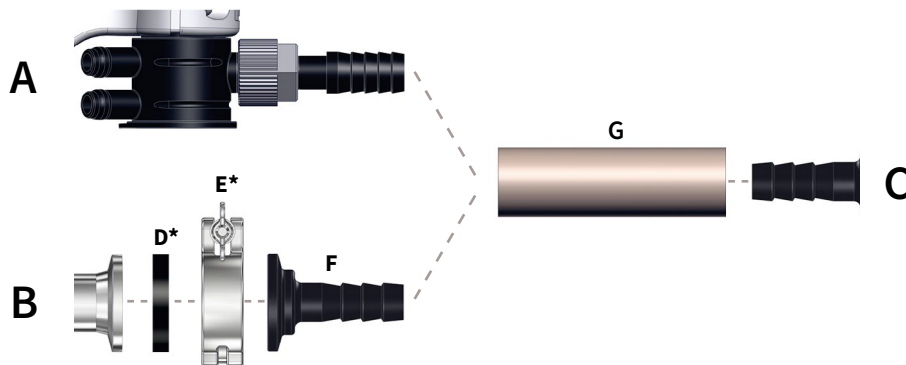
You can find all abbreviations in our nomenclature on p. 21.

# 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 m<sup>3</sup>/h, 7 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**MD 4C NT +AK +EK**  
Chemistry diaphragm pump  
3.4 m<sup>3</sup>/h, 1.5 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**PC 3003 VARIO select**  
Chemistry diaphragm pump  
2.8 m<sup>3</sup>/h, 0.6 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**MD 12C NT +AK +EK**  
Chemistry diaphragm pump  
12.0 m<sup>3</sup>/h, 2 mbar  
Vacuum connection:  
Small flange DN 25 /  
Hose nozzle DN 15



**VACUU-PURE 10C**  
Screw pump  
9 m<sup>3</sup>/h, 5 x 10-3 mbar  
Vacuum connection:  
Small flange DN 25

# Vacuum concentrator

Vacuum connection of the vacuum concentrator*		VACUUBRAND vacuum pump	Required connection parts** from VACUUBRAND + order number		
KF DN 16	<b>Martin Christ</b> Equipment type: RVC 2-Series  <b>Labogene</b> Equipment type: MiniVac Alpha MiniVac Beta MaxiVac Alpha MaxiVac Beta	<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b>	1x	Clamping ring KF DN 10/16, aluminium	20660000
		<b>PC 3001 VARIO select</b>	1x	External centring ring KF DN 10/16, PBT/NBR	20660190
SW DN 10	<b>Eppendorf</b> Equipment type: Concentrator plus		<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b>	1x	Vacuum hose DN 8, rubber
		<b>PC 3001 VARIO select</b>			
SW DN 12	<b>Labconco</b> Equipment type: CentriVap-Serie	<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b>	1x	Vacuum hose DN 10, rubber	20686002
		<b>PC 3001 VARIO select</b>			
Hose connec- tion DN 13	<b>SP Scientific / Genevac</b> Equipment type: HT EZ-2 Rocket MiVac DNA MiVac Sample Concentrators	<b>MZ 2C NT +AK +EK</b> <b>MD 4C NT +AK +EK</b>	1x	Vacuum hose DN 10, rubber	20686002
		<b>PC 3001 VARIO select</b>			
Is your equipment not included?		<b>Contact us:</b> Tel.: +49 9342 808-5550 E-Mail: <a href="mailto:info@vacuubrand.com">info@vacuubrand.com</a>			

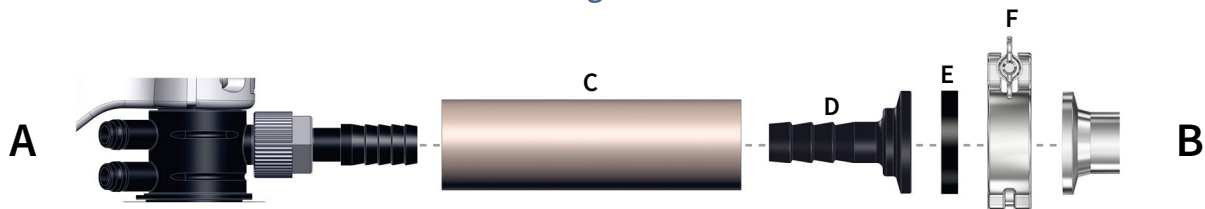
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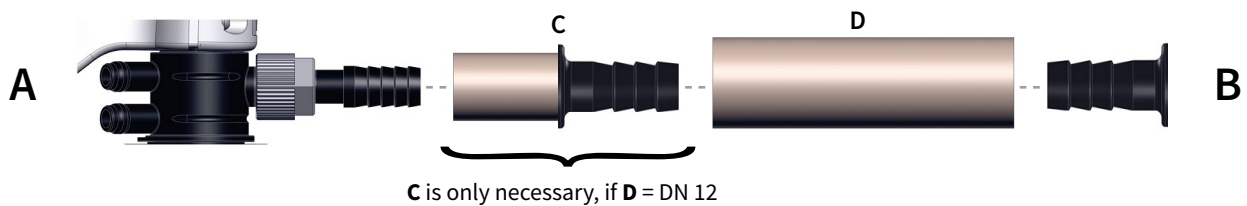
# Connection examples

## 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 m<sup>3</sup>/h, 7 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**MD 4C NT +AK +EK**  
Chemistry diaphragm pump  
3.4 m<sup>3</sup>/h, 1.5 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**PC 3001 VARIO select**  
Chemistry diaphragm pump  
2.0 m<sup>3</sup>/h, 2.0 mbar  
Vacuum connection:  
Hose nozzle DN 6-10

# Rotary evaporator

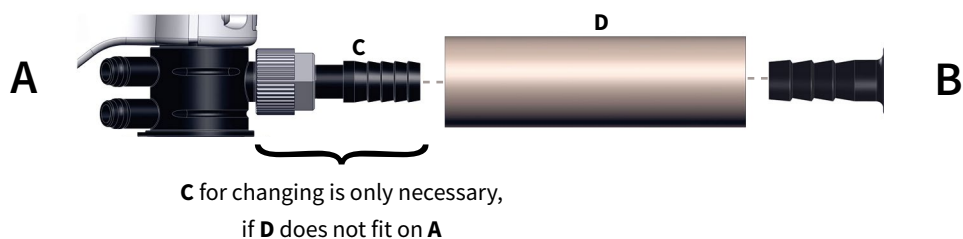
Vacuum connection of the rotary evaporator*		VACUUBRAND vacuum pump	Required connection parts** from VACUUBRAND + order number		
SW DN 6	Eyela Equipment type: N-1200	MZ 2C NT +AK +EK MD 1C +AK +EK PC 510/520 select PC 3003/3004 VARIO select	1x	Vacuum hose DN 6, rubber	20686000
			1x	SW DN 6/10 with tube 10/8mm	20636635
		PC 3001 VARIO select VACUU-LAN components	1x	Vacuum hose DN 6, rubber	20686000
SW DN 8	<b>Büchi</b> Equipment type: R-100 R-300  <b>Heidolph</b> Equipment type: Hei-VAP Value Hei-VAP Value digital Hei-VAP Advantage  <b>IKA</b> Equipment type: RV 8 RV 10 digital  <b>KNF</b> Equipment type: RC 600 RC 900  <b>Phoenix Instruments</b> Equipment type: RE-100D  <b>Dragon Lab</b> Equipment type: RE 100-Pro	MZ 2C NT +AK +EK MD 1C +AK +EK PC 510/520 select PC 3003/3004 VARIO select			
		PC 3001 VARIO select VACUU-LAN components	1x	Vacuum hose DN 8, rubber	20686001
Is your equipment not included?		<b>Contact us:</b> Tel.: +49 9342 808-5550    E-Mail: <a href="mailto:info@vacuubrand.com">info@vacuubrand.com</a>			

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\*\* Connection parts are also available in other materials. See p. 22.  
You can find all abbreviations in our nomenclature on p. 21.

# 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 m<sup>3</sup>/h, 7 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**MD 1C +AK +EK**  
Chemistry diaphragm pump  
1.3 m<sup>3</sup>/h, 2 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**PC 3001 VARIO select**  
Chemistry diaphragm pump  
2.0 m<sup>3</sup>/h, 2.0 mbar  
Vacuum connection:  
Hose nozzle DN 6-10



**PC 510 select**  
Chemistry diaphragm pump  
2.0 m<sup>3</sup>/h, 7 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



**PC 3003 VARIO select**  
Chemistry diaphragm pump  
2.8 m<sup>3</sup>/h, 0.6 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



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

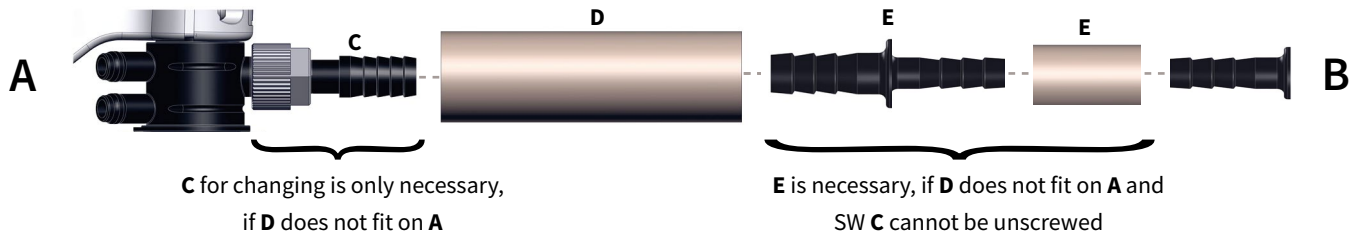
# Filtration / solid phase extraction (SPE) / nucleic acid purification

Vacuum connection of the application*		VACUUBRAND vacuum pump	Required connection parts** from VACUUBRAND + order number		
SW DN 6	Vacuum connection Hose nozzle DN 6	ME 1	1x	Vacuum hose DN 6, rubber	20686000
		ME 4C NT + 2AK ME 1C ME 2C NT			
SW DN 8	Vacuum connection Hose nozzle DN 8	ME 1	1x	Vacuum hose DN 8, rubber	20686001
		ME 4C NT + 2AK ME 1C ME 2C NT			
SW DN 10	Vacuum connection Hose nozzle DN 10	ME 1	1x	Vacuum hose DN 8, rubber	20686001
		ME 4C NT + 2AK ME 1C ME 2C NT			
Is your equipment not included?		<b>Contact us:</b> Tel.: +49 9342 808-5550 E-Mail: <a href="mailto:info@vacuubrand.com">info@vacuubrand.com</a>			



# 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 m<sup>3</sup>/h, 100 mbar  
 Vacuum connection:  
 Hose nozzle DN 6-10



**ME 1C**  
 Chemistry diaphragm pump  
 0.7 m<sup>3</sup>/h, 100 mbar  
 Vacuum connection:  
 Hose nozzle DN 8-10  
 (cannot be unscrewed)



**ME 2C NT**  
 Chemistry diaphragm pump  
 2.1 m<sup>3</sup>/h, 70 mbar  
 Vacuum connection:  
 Hose nozzle DN 8-10  
 (cannot be unscrewed)



**ME 4C NT + 2AK**  
 Chemistry diaphragm pump  
 3.9 m<sup>3</sup>/h, 70 mbar  
 Vacuum connection:  
 Hose nozzle DN 8-10

# Fore vacuum generation for turbomolecular pumps

Vacuum connection of the turbomolecular pump*		VACUUBRAND vacuum pump	Required connection parts** from VACUUBRAND + order number		
KF DN 16	<b>Pfeiffer</b> Equipment type: HiPace 30/60/80/300/350/450  <b>Edwards</b> Equipment type: nEXT85  <b>Agilent</b> Equipment type: TwisTorr300-serie + 70/80	MD 4 NT	1x	Stainless steel tubing KF DN 16, length 250mm***	20673306
			2x	Clamping ring KF DN 10/16, aluminium	20660000
			2x	External centring ring KF DN 10/16, PBT/NBR	20660190
		VACUU·PURE 10	1x	Clamping ring KF DN 10/16, aluminium	20660000
			1x	External centring ring KF DN 10/16, PBT/NBR	20660190
			1x	Reducing piece KF DN 25/16, aluminium	20669041
			2x	Clamping ring KF DN 25, aluminium	20660001
			2x	External centring ring KF DN 20/25, PBT/NBR	20660191
			1x	Stainless steel tubing KF DN 25, length 250mm***	20673307
		MD 1	1x	KF DN 16 hose nozzle DN 6, aluminium	20662510
			1x	Vacuum hose DN 6, rubber	20686000
			1x	Clamping ring KF DN 10/16, aluminium	20660000
1x	External centring ring KF DN 10/16, PBT/NBR		20660190		
KF DN 25	<b>Pfeiffer</b> Equipment type: HiPace 10  <b>Edwards</b> Equipment type: nEXT240/300/400  <b>Agilent</b> Equipment type: TwisTorr400/700/800	MD 4 NT	1x	Stainless steel tubing KF DN 16, length 250mm***	20673306
			1x	Reducing piece KF DN 25/16, aluminium	20669041
			2x	Clamping ring KF DN 10/16, aluminium	20660000
			2x	External centring ring KF DN 10/16, PBT/NBR	20660190
			1x	Clamping ring KF DN 25, aluminium	20660001
			1x	External centring ring KF DN 20/25, PBT/NBR	20660191
		VACUU·PURE 10	1x	Stainless steel tubing KF DN 25, length 250mm***	20673307
			2x	Clamping ring KF DN 25, aluminium	20660001
			2x	External centring ring KF DN 20/25, PBT/NBR	20660191
		MD 1	1x	KF DN 25 with hose nozzle DN 8, aluminium	20662516
			1x	Vacuum hose DN 6, rubber	20686000
		Is your equipment not included?		<b>Contact us:</b> Tel.: +49 9342 808-5550 E-Mail: <a href="mailto:info@vacuubrand.com">info@vacuubrand.com</a>	

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

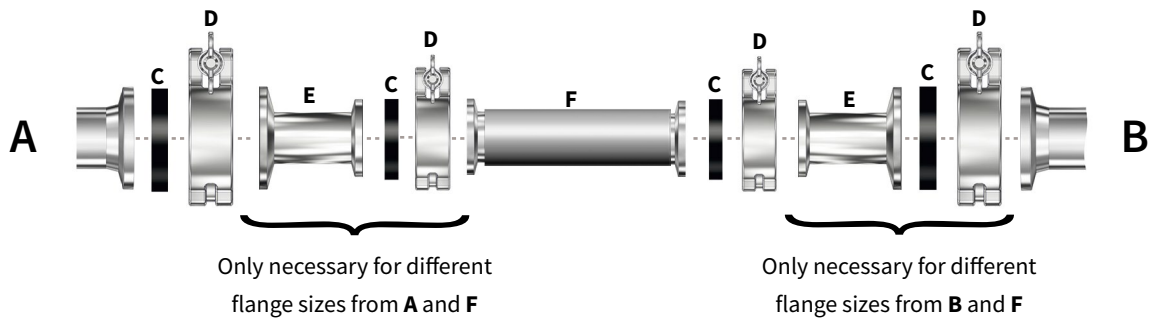
\*\* Connection parts are also available in other materials. See p. 22.

Please contact VACUUBRAND if you need a hose length > 1m.

You can find all abbreviations in our nomenclature on p. 21.

# Connection example

## Turbomolecular pumps with small flange vacuum connection



A = Pump inlet with small flange connection

B = Small flange connection of the turbomolecular pump

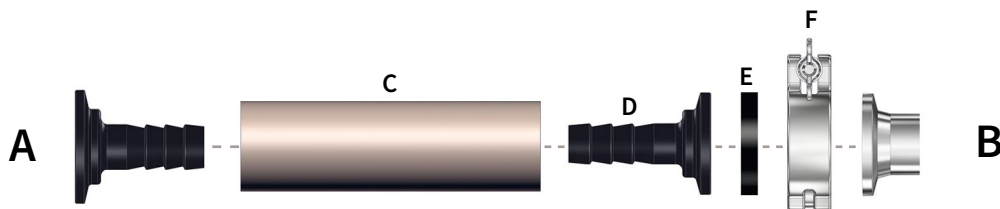
C = External centring ring

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 m<sup>3</sup>/h, 1 mbar

Vacuum connection:

Small flange DN 16



### MD 1

Diaphragm pump

1.2 m<sup>3</sup>/h, 1.5 mbar

Vacuum connection:

Hose nozzle DN 6



### VACUU-PURE 10

Screw pump

10 m<sup>3</sup>/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 m<sup>3</sup>/h, 0.6 mbar  
Vacuum connection:  
Hose nozzle DN 8-10



## PC 3010 VARIO select

Chemistry diaphragm pump  
13.0 m<sup>3</sup>/h, 0.6 mbar  
Vacuum connection:  
Small flange DN 25



## VACUU-PURE 10C

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

# Fine vacuum distillation



## RC 6

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



## VACUU-PURE 10C

Screw pump  
9 m<sup>3</sup>/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](mailto:info@vacuubrand.com)

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

<b>M</b>	Diaphragm (membrane) pump	<b>R</b>	Rotary vane 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:		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:
	<b>E</b> = single stage (attainable ultimate vacuum typical 70 mbar)		<b>E</b> = single stage (attainable ultimate vacuum typical $10^{-1}$ mbar)
	<b>Z</b> = two stages (attainable ultimate vacuum typical 7 mbar)		<b>Z</b> = two stages (attainable ultimate vacuum typical $10^{-3}$ mbar)
	<b>D</b> = three stages (attainable ultimate vacuum typical 1.5 mbar)		
	<b>V</b> = four stages (attainable ultimate vacuum typical 0.6 mbar)		
<b>C</b>	Chemistry design, with fluoropolymer flowpath	<b>EK</b>	Exhaust vapor (emission) condenser for nearly 100 % solvent recovery in compact design, protecting environment and lab air
<b>PC</b>	„Pumping Unit, Chemistry“ – a chemistry pump with vacuum control and solvent recovery	<b>NT</b>	Labels the series of pumps comprising the New Technology
<b>AK</b>	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		

## Connection parts

<b>DN</b>	Nominal diameter
<b>KF</b>	Small flange
<b>SW</b>	Hose nozzle

### Example:

MD 12C +AK +EK is a diaphragm (membrane) pump, with three stages (ultimate vacuum in the range down to 1.5 mbar), with about 12 m<sup>3</sup>/h, chemistry design, which has a condensate separator and an exhaust vapor (emission) condenser.

# 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

VACUUBRAND GMBH + CO KG  
P.O. Box 1664  
97877 Wertheim  
T +49 9342 808 5550  
F +49 9342 808 5555

info@vacuubrand.com  
www.vacuubrand.com

**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.

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BRAND (Shanghai) Trading Co., Ltd.  
Shanghai, China

T +86 21 6422 2318  
info@brand.com.cn  
china.brand.com.cn

BRAND Scientific Equipment Pvt. Ltd.  
Mumbai, India

T +91 22 42957790  
customersupport@brand.co.in  
www.brand.co.in

BrandTech® Scientific, Inc.  
Essex, CT. United States of America

T +1 860 767 2562  
info@brandtech.com  
www.brandtech.com