

9. Vacuum technology

Vacuum pumps/Diaphragm pumps, Pump systems

Aluminium diaphragm pumps



VACUUBRAND

Diaphragm pumps made with Aluminium and FPM as the wetted materials are the optimal selection for non-corrosive applications such as backing pumps for rotary and turbomolecular pumps, for regenerating cryopumps, for evacuating or transferring gases and for analysis equipment. Vacuum filtration is one of the most common applications used for sample preparation in chemistry, microbiology, waste water control and other analytical processes. The new ME 1 and ME 1 C diaphragm pumps offer a compact, high performance and easy to use solution which is perfect for both single and multiple filtrations.

Type	Connector	Number of steps	Flow rate (50/60 Hz)		Ultimate pressure	Weight	Dimensions (W x D x H)		PK	Cat. No.
			m ³ / hr.	mbar			kg	mm		
ME 1	CEE	1	0.7 / 0.85	100	5.0	247 x 121 x 145	1	9.880 930	2	
ME 1	CH	1	0.7 / 0.85	100	5.0	247 x 121 x 145	1	9.880 931		
ME 1	UK	1	0.7 / 0.85	100	5.0	247 x 121 x 145	1	9.880 932		
ME 2	CEE	1	1.9 / 2.2	< 80	6.8	258 x 164 x 188	1	9.880 802		
ME 16	CEE	1	12.0 / 12.9	< 80	24.0	470 x 227 x 294	1	9.880 835		
MD 1	CEE	3	1.2 / 1.4	1,5	6.7	303 x 143 x 215	1	9.880 080	1	
MD 12	CEE	3	9.6 / 10.4	2	24.0	486 x 227 x 294	1	9.880 081		
MV 10	CEE	4	8.1 / 8.8	0,6	24.0	486 x 227 x 294	1	9.882 083		

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9.880 080

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9.880 930

Chemistry diaphragm pumps



VACUUBRAND

Gases and vapours only come into contact with chemically-resistant, fluorine-derived plastics in chemical ("C") diaphragm pumps. Does not require a cooling trap. Optional accessories or direct use of complete pumping units based on these pumps enable almost 100% recovery of the solvents in use and protection of the atmosphere.

Type	Connector	Number of steps	Flow rate (50/60 Hz)		Ultimate pressure	Weight	Dimensions (W x D x H)		PK	Cat. No.
			m ³ / hr.	mbar			kg	mm		
ME 1C	CEE	1	0.7 / 0.85	100	5.0	247 x 121 x 145	1	9.880 934	4	
ME 1C	CH	1	0.7 / 0.85	100	5.0	247 x 121 x 145	1	9.880 935		
ME 1C	UK	1	0.7 / 0.85	100	5.0	247 x 121 x 145	1	9.880 936		
ME 2C	CEE	1	1.9 / 2.0	< 80	7.1	258 x 164 x 191	1	9.880 821		
ME 16C	CEE	1	10.1 / 11.6	< 80	25.0	515 x 237 x 294	1	9.880 836		
MD 1C	CEE	3	1.3 / 1.5	2	6.7	316 x 143 x 223	1	9.880 083	3	
MD 12C	CEE	3	8.3 / 8.9	2	25.0	505 x 237 x 294	1	9.880 082		
MV 10C	CEE	4	7.0 / 7.5	0.9	25.0	505 x 237 x 294	1	9.882 085		

Diaphragm pumps ATEX-models available on request.

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9.880 083

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9.880 934

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5 Accessories for ME 1 and ME 1C



VACUUBRAND

Vacuum regulator valves for ME 1 and ME 1C with manual vacuum control using air bleed. The manometer can be mounted and pivoted in several orientations for optimal visibility. High chemical compatibility (especially with the vacuum regulator valve for ME 1C)

Description	PK	Cat. No.
Vacuum tubing, rubber, DN 6	1	9.881 930
Vacuum tubing, rubber, DN 10	1	9.881 932
Vacuum regulator valves for ME 1*	1	9.880 938
Vacuum regulator valves for ME 1C*	1	9.880 939

*Supplied per metre

1 Diaphragm pumps NT Series, Aluminium

Diaphragm pumps NT Series

VACUUBRAND



- improved performance, increased pumping speed (up to 8m³/h) and better ultimate vacuum extend applications with non-aggressive gases whether used in the laboratory or for industrial processes
- very low leak rate due to enhanced leak-tight tubing connections, resulting in consistent performance characteristics - even after many years operation. Ideal for analytical applications
- long diaphragm and valve lifetimes: made of highly flexible FPM, with fabric-reinforced double diaphragms for improved long term stability
- whisper quiet and ultra low vibration due to compact drive with patented motor drive system. Ideal as a built-in component for sensitive analytical equipment
- easy to clean due to smooth surfaces (ME8NT, MD4NT, MV2NT). A robust solution for numerous applications in industrial environments

Specifications

Vacuum inlet

10 mm tubing nozzle: ME4NT, ME4RNT, ME8NT, MZ2NT

KF DN16: MZ2DNT, MD4NT, MV2NT

Pressure outlet

Silencer: ME4NT, MZ2NT, MZ2DNT, MD4NT, MV2NT

Twin silencers: ME8NT

Tubing nozzle: ME4RNT

Type	Connector	Description	Flow rate (50/60 Hz)		Ultimate vacuum (mbar (abs.))	Dimensions (W x D x H) mm	PK	Cat. No.
			m ³ / hr.	mbar (abs.)				
ME 2 NT	CEE	one-stage	2,0 / 2,2	70	243 x 211 x 198	1	9.880 940	
ME 4 NT	CEE	one-stage	4.0 / 4.4	70	239 x 243 x 198	1	9.880 883	
ME 4R NT	CEE	one-stage	3.8 / 4.2	100/4	239 x 243 x 290	1	9.880 884	
ME 8 NT	CEE	one-stage	7.3 / 8.1	70	239 x 325 x 198	1	9.880 885	
ME 8 NT	CH	one-stage	7.3 / 8.1	70	239 x 325 x 198	1	9.880 886	
MZ 2 NT	CEE	two-stage	2.2 / 2.4	7	239 x 243 x 198	1	9.880 887	
MZ 2 NT	CH	two-stage	2.2 / 2.4	7	239 x 243 x 198	1	9.880 888	
MZ 2D NT	CEE	two-stage	2.3 / 2.5	4	242 x 243 x 198	1	9.880 889	
MD 4 NT	CEE	three-stage	3.8 / 4.3	1	239 x 325 x 198	1	9.880 890	
MD 4 NT	CH	three-stage	3.8 / 4.3	1	239 x 325 x 198	1	9.880 891	
MV 2 NT	CEE	four-stage	2.2 / 2.4	0.5	239 x 325 x 198	1	9.880 892	
MV 2 NT	CH	four-stage	2.2 / 2.4	0.5	239 x 325 x 198	1	9.880 893	

2 Chemistry diaphragm vacuum pumps -NT Series

VACUUBRAND

NEW!



- improved performance, increased pumping speed (up to 8m³/h) and lower ultimate vacuum extend applications both in both the laboratory and industrial applications
- long-life diaphragm with PTFE sandwich construction and unstressed support
- easy service/exchange of diaphragm or valves due to novel integrated valve head assembly. Easy dismantling, cleaning and reassembly without requiring readjustment
- whisper quiet and ultra low vibration due to compact drive with patented motor control system. Ideal as a built-in component for sensitive equipment in both the laboratory and in industry
- superior vapour tolerance due to integral tubing connections. Types MZ2CNT and MD4CNT incorporate a gas ballast valve as standard
- easy to clean due to smooth exterior surfaces

Specifications

Vacuum inlet: 10mm tubing nozzle

Pressure outlet: 10mm tubing nozzle

Type	Connector	Description	Flow rate (50/60 Hz)		Ultimate vacuum (mbar (abs.))	Dimensions (W x D x H) mm	PK	Cat. No.
			m ³ / hr.	mbar (abs.)				
ME 2C NT	CEE	single-stage	2,1 / 2,4	70	243 x 211 x 198	1	9.880 943	
ME 4C NT	CEE	single-stage	3,9 / 4,4	70	243 x 255 x 198	1	9.880 894	
ME 4C NT	CH	single-stage	3,9 / 4,4	70	243 x 255 x 198	1	9.880 895	
ME 8C NT	CEE	single-stage	7,1 / 7,8	70	243 x 325 x 198	1	9.880 896	
ME 8C NT	CH	single-stage	7,1 / 7,8	70	243 x 325 x 198	1	9.880 897	
MZ 2C NT	CEE	double-stage	2,0 / 2,3	7*	243 x 243 x 198	1	9.880 898	
MZ 2C NT	CH	double-stage	2,0 / 2,3	7*	243 x 243 x 198	1	9.880 899	
MD 4C NT	CEE	three-stage	3,4 / 3,8	1,5**	243 x 325 x 198	1	9.880 900	
MD 4C NT	CH	three-stage	3,4 / 3,8	1,5**	243 x 325 x 198	1	9.880 901	
MD 4CRL NT	IEC	three-stage	3,4 / 3,8	1,5***	243 x 325 x 198	1	9.880 926	
MD 4CRL NT	CEE	mains cable				1	6.901 984	
MD 4CRL NT	CH	mains cable				1	9.882 240	

Ultimate vacuum with gas ballast: *12 mbar, **3 mbar,

***diaphragm pump with reduced leakage rate

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1 Sealing kit NT for chemistry diaphragm pumps NT

NEW!

VACUUBRAND

For Type	PK	Cat. No.
MD 4C NT	1	6.239 489
MZ 2C NT	1	6.241 476
ME 4 NT / MZ 2 NT	1	9.880 902
ME 8 NT	1	9.880 903
MZ 2D NT	1	9.880 904
MV 2 NT / MD 4 NT	1	9.880 905
ME 4C NT	1	9.880 906
ME 8C NT	1	9.880 907



Chemistry Vacuum Systems NT

Compact design, ready to use, no set-up required. Constructed in highly chemical resistant materials. Quiet operation.

VACUUBRAND

- 100% oil-free pumping of gases
- gas ballast as standard for working with condensable vapours
- good ultimate vacuum even with gas ballast
- high vapour tolerance for water and solvents
- long service life, low maintenance

Features:

2AK: Inlet and outlet separator

AK + EK: Inlet separator, exhaust vapour condenser

PC 510 NT(two-stage)/610 NT(three-stage) : with AK + EK; 1 electronically controlled vacuum port

PC 511 NT(two-stage)/611 NT(three-stage) : with AK + EK; 1 electronically controlled and 1 manually controlled vacuum port

PC 520 NT(two-stage) /620 NT(three-stage) : with AK + EK; 2 electronically controlled vacuum ports

Characteristics and applications:

Without vacuum control:

MZ 2C NT +2AK:

e.g. filtration, distillation without condensation at the outlet

MZ 2C NT +AK+EK:

Well-proven unit for a wide range of applications for the single-user, e.g. gel drying, vacuum for gels that were previously dried using water-jet pumps, e.g. sequence gels, SDS-PAGE up to 10%. For low-boiling-point solvents.

MD 1C +AK+EK:

Space-saving single-user configuration with 2 mbar ultimate vacuum. For high-boiling-point solvents.

MD 4C NT + AK+EK:

Larger or multi-user applications (e.g. several gel dryers) in a local-area vacuum network (VACUU-LAN®). 1.5/3 mbar ultimate vacuum. For high-boiling-point solvents and/or gradient gels, SDS-PAGE >10%.

PC8 with MV 10C:

Four-stage diaphragm pump with exhaust vapour condenser. 0.9mbar ultimate vacuum. For particularly high demands regarding low ultimate vacuum and pumping speed in chemistry laboratories, pilot plant or small production units.

With vacuum controller:

PC 510 NT/511 NT:

Well-proven units for a wide range of processes in chemistry laboratories, e.g. all "classical" low-boiling-point solvents. 7/12mbar ultimate vacuum.

The PC 511 NT has an additional, manually controlled, vacuum port.

PC 610 NT /611 NT:

Well-proven units for vacuum generation and control up to 1.5/3mbar ultimate vacuum, including high-boiling-point solvents.

The PC 611NT has an additional, manually controlled, vacuum port.

PC 520 NT/620 NT:

Synchro chemistry pumping units with two, independent, vacuum controllers for running two separate processes. PC 520 with 7/12mbar ultimate vacuum, PC 620 NT with 1.5/3mbar ultimate vacuum.

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9.880.912

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9.880.921

Type	Connector	Flow rate (50/60 Hz)		Ultimate vacuum (mbar (abs.))	Dimensions (W x D x H) mm	PK	Cat. No.
		m ³ / hr.	m ³ / hr.				
MZ 2 C NT +2 AK	CEE	2,0 / 2,3	7 / 12	7 / 12	242 x 319 x 309	1	9.880.832
MZ 2 C NT +2 AK	CH	2,0 / 2,3	7 / 12	7 / 12	242 x 319 x 309	1	9.880.844
MZ 2 C NT +AK+EK	CEE	2,0 / 2,3	7 / 12	7 / 12	242 x 326 x 402	1	6.234.067
MZ 2 C NT +AK+EK	CH	2,0 / 2,3	7 / 12	7 / 12	242 x 326 x 402	1	9.880.923
MZ 2 C NT +AK SYNCHRO + EK	CEE	2,0 / 2,3	7 / 12	7 / 12	242 x 326 x 402	1	9.880.921
MZ 2 C NT +AK SYNCHRO + EK	CH	2,0 / 2,3	7 / 12	7 / 12	242 x 326 x 402	1	9.880.922
MD 4 C NT +AK+EK	CEE	3,4 / 3,8	1,5 / 3	1,5 / 3	242 x 326 x 402	1	9.880.837
MD 4 C NT +AK+EK	CH	3,4 / 3,8	1,5 / 3	1,5 / 3	242 x 326 x 402	1	9.880.924
MD 1 C +AK+EK	CEE	1,3 / 1,5	2*	2*	275 x 270 x 490	1	9.880.828
MD 1 C +AK+EK	CH	1,3 / 1,5	2*	2*	275 x 270 x 490	1	9.880.925
PC 8 mit MV 10 C	CEE	7,0 / 7,5	0,9	0,9	507 x 367 x 429	1	9.881.360
PC 8 mit MV 10 C	CH	7,0 / 7,5	0,9	0,9	507 x 367 x 429	1	9.881.366
PC 510 NT	CEE	2,0 / 2,3	7**	7**	243 x 419 x 444	1	9.880.910
PC 510 NT	CH	2,0 / 2,3	7**	7**	243 x 419 x 444	1	9.880.911
PC 511 NT	CEE	2,0 / 2,3	7**	7**	243 x 435 x 444	1	9.880.912
PC 511 NT	CH	2,0 / 2,3	7**	7**	243 x 435 x 444	1	9.880.913
PC 520 NT	CEE	2,0 / 2,3	7**	7**	361 x 435 x 444	1	9.880.914
PC 520 NT	CH	2,0 / 2,3	7**	7**	361 x 435 x 444	1	9.880.915
PC 610 NT	CEE	3,4 / 3,8	1,5***	1,5***	243 x 419 x 444	1	9.880.916
PC 610 NT	CH	3,4 / 3,8	1,5***	1,5***	243 x 419 x 444	1	9.880.917
PC 611 NT	CEE	3,4 / 3,8	1,5***	1,5***	243 x 435 x 444	1	9.880.918
PC 620 NT	CEE	3,4 / 3,8	1,5***	1,5***	361 x 435 x 444	1	9.880.919
PC 620 NT	CH	3,4 / 3,8	1,5***	1,5***	361 x 435 x 444	1	9.880.920

Ultimate vacuum with gas ballast: *4mbar, **12mbar, ***3mbar

Accessories for Automatic Vacuum Controller

VACUUBRAND

Description	PK	Cat. No.
External sensor VSK 3000	1	9.882 850
Cooling water valve VKW-B	1	9.882 852
Air bleed valve VBM-B	1	9.882 849
Extension cable for Vacuu-BUS, 2m	1	9.882 853
Y-Adapter Vacuu-BUS	1	9.882 854
Liquid level sensor for Vacuubrand 500ml catchpot	1	9.882 848
Peltronic emission condenser	1	9.880 852

1



1 Pumps, vacuum/pressure, diaphragm, for gel dryers

Highly efficient and oil-free. Inlet separator and exhaust condenser supplied

VACUUBRAND

- quiet running
- continuous, totally oil-free pumping of gases
- components in contact with gases are manufactured in chemical-resistant materials
- with gas ballast for reducing condensates
- Optimum service life, easy to exchange diaphragm and valves
- compact design with small footprint
- close to 100% solvent recovery
- easy to maintain
- supply requirements: 230V 50/60Hz

MZ 2C NT +AK+EK:

Simple use (Gel dryer)

Ultimate pressure 7/12mbar.

Vacuum for gels, which were previously evacuated using water jet pumps, e.g. sequencing gels, SDS-PAGE up to 10%.

MD 4C NT +AK+EK:

Multiple use (several gel dryers) with Vacuulan® local vacuum network

Ultimate pressure 1.5/3mbar.

For high-boiling point solvents at low temperatures and/or gradient gels, SDS-PAGE >10 %.

MD 1C + AK + EK:

Simple use (Gel dryer)

Ultimate pressure 2mbar.

Space-saving and compact solution, for high-boiling point solvents.

Type	Flow rate	Ultimate pressure	PK	Cat. No.
	m ³ / hr.	mbar		
MZ 1C +AK+EK	1.3 / 1.5	2	1	9.880 828
MZ 2 C NT +AK+EK	2.0 / 2.3	9	1	6.234 067
MD 4C NT +AK+EK	3.4 / 3.8	2	1	9.880 837

2



2 VARIO® Chemistry Pumping Units

VARIO® Chemistry Pumping Units offer all the advantages of modern control technology and provide excellent possibilities for solvent recovery. They attain an ultimate vacuum down to 0.6mbar. They are exceptionally quiet in operation and entirely oil-free. Inside the pump, vapours and gases only come into contact with fluoroplastics of optimum chemical resistance.

VACUUBRAND

VARIO® Chemistry Pumping Units provide vacuum control by adaptation of motor speed. This has clear advantages compared to even the best of two-point control systems. The vacuum is continuously adjusted to actual process requirements, irrespective of apparatus size and vapour volume. Process times are typically shortened by 30%. Solvent recovery next to 100% is supported through continuous evaporation.

All VARIO® Chemistry Pumping Units include a chemistry diaphragm vacuum pump and an integrated vacuum controller with display and vacuum sensor.

Type	Connector	Flow rate	Ultimate pressure	Weight	Width	Depth	Height	PK	Cat. No.
		m ³ / hr.	mbar	kg	mm	mm	mm		
PC 3001 VARIO	CH	1.7	2 / 4	7.7	306	300	400	1	9.881 336
PC 3001 VARIO	CEE	1.7	2 / 4	7.7	306	300	400	1	9.881 337
PC 3002 VARIO	CH	2.8	7 / 12	17.9	258	422	516	1	9.881 335
PC 3002 VARIO	CEE	2.8	7 / 12	17.9	258	422	516	1	9.881 338
PC 3003 VARIO	CH	2.8	0.6 / 2	20.5	258	422	516	1	9.881 334
PC 3003 VARIO	CEE	2.8	0.6 / 2	20.5	258	422	516	1	9.881 346
PC 3004 VARIO	CH	4.6	1.5 / 3	20.5	258	422	516	1	9.881 333
PC 3004 VARIO	CEE	4.6	1.5 / 3	20.5	258	422	516	1	9.881 339
PC 3010 VARIO	CH	8.6	0.6 / 9	35.8	645	365	600	1	9.881 331
PC 3010 VARIO	CEE	8.6	0.6 / 9	35.8	645	365	600	1	9.881 340
PC 3012 VARIO	CH	10.0	2 / 9	35.8	645	365	600	1	9.881 332
PC 3012 VARIO	CEE	10.0	2 / 9	35.8	645	365	600	1	9.881 341

1 VARIO® Chemistry Pumping PC 3001 VARIO® with condenser Peltronic™



This VARIO® chemistry pumping unit provides vacuum control by precise and continuous adaptation of the diaphragm pump's motor speed. The compact size and low weight of the pumping unit offer great convenience in the lab. The pump's variable motor speed responds to demand, reducing energy waste and mechanical wear, ensuring unrivalled service life for the diaphragms. The PC 3001 is based on MD 1C chemistry diaphragm pump; The emission condenser Peltronic™ at outlet of the pump is highly efficient with a very compact design. It provides near-100% recovery of solvents without any external coolants.

VACUUBRAND

Items supplied:

VARIO® chemistry pumping unit PC 3001 VARIO completely mounted with condenser Peltronic™, ready for use, with manual. Without mains cable, please order separately.



Description	Connector	Flow rate m ³ / hr.	Ultimate pressure mbar	Weight kg	Width mm	Depth mm	Height mm	PK	Cat. No.
PC 3001 VARIO with condenser Peltronic™		1.7	2	10.0	400	300	400	1	9.881 330
Power cable	CEE							1	6.901 984
Power cable	CH							1	9.882 240

2 Exhaust Vapour Condenser Peltronic

- Solvent recovery without coolants, such as water or dry ice
- Fully automatic electronic control of cooling surface temperature and fan
- Ideal for integrated laboratory vacuum installations: No need for coolant pipes - no installation cost, no risk of water damage

VACUUBRAND

Specifications:

Cooling power at 21°C:	50W
Ambient temperature range:	10 to 40°C
Preset cooling temperature:	10°C
Inlet connection (thread for PTFE tube):	10/8mm
Outlet connection:	Hose nozzle DN 10, or thread for PTFE tube 10/8 mm
Condensate catchpot:	500ml/with KS 35
Materials in contact with media:	PP, PFA, ETFE/ECTFE, borosilicate glass
Mains supply:	100 - 230V 50/60Hz
Power consumption:	7 to 60W (controlled)
Dimensions (WxDxH):	175 x 179 x 392mm
Weight approx.:	4.3kg

Type	PK	Cat. No.
Peltronic	1	9.880 852



3 Diaphragm vacuum pumps LABOPORT®-SD, chemically-resistant

With self-drying system for vacuum drying. Oil-free, positive displacement pumps for neutral, highly aggressive or corrosive gases and vapours. Unadulterated, pumped gas/vapour output. Constant vacuum. More environment-friendly and cost-effective than water jet pumps.

KNF

The new self-drying system enables condensate to be blown out of the pumphead at high speed during the evacuation process. The vacuum in the vessel being pumped remains constant. The drying cycle can be synchronised in three different ways according to individual process requirements. With drying the pump achieves a better vacuum and can evacuate more quickly than pumps without drying systems.

Pump components that come into contact with media

Pump head: PTFE

Diaphragm: PTFE

Valves: FFPM

Supplied as follows: Chemistry laboratory vacuum pumps are complete instruments that are ready for connection with mains switch, mains cable (supply requirements: 230V/50Hz, other voltages and frequencies available on request) and fully automatic self-drying system. Easy connection to vacuum desiccator cabinets.



Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	Width mm	Length mm	Height mm	PK	Cat. No.
N 820.3 FT.40.18	20	10	177	312	220	1	9.880 615
N 840.3 FT.40.18	34	10	189	341	239	1	9.880 616
N 842.3 FT.40.18	34	4	189	341	242	1	9.880 617

Vacuum pumps/Diaphragm pumps, Pump systems



1 Diaphragm vacuum pumps LABOPORT®

PTFE diaphragm pumps for evacuating and pumping corrosive gases and vapours. KNF
 Maintenance and oil free. Pumpheads and valves are made of chemically resistant materials. Freely moving, stress resistance-optimised, structured diaphragm achieves maximum vacuum performance from even the smallest dimensions. A sealed PTFE coating on the diaphragm and a special sealing zone on the outer rim of the diaphragm make these pumps exceptionally gas-tight. High vapour and condensate compatibility is afforded by a new valve system. Compact, space-saving design. Built-in foldaway handle.
 Supply requirements: 230V, 50Hz.

Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	PK	Cat. No.
N 810.3 FT.18	10	8	1	9.880 612
N 820.3 FT.18	20	8	1	9.880 613
N 840.3 FT.18	34	8	1	9.880 614
N 842.3 FT.18	34	2	1	9.880 675
N 840.1.2 FT.18	60	90	1	9.880 660



2 Double diaphragm pumps, oil-free

Oil-free, air-operated, double diaphragm pumps are an ideal solution for handling viscous, corrosive, abrasive and flammable liquids. Lutz Pumpen
 Pump inlet size ¼" (larger pumps on request).
 The pumps are available in Polypropylene (PP), PVDF and Nylon.
 The diaphragms, balls and valve seats are available in Geolast® and PTFE. Solids up to 1.6mm diameter can be pumped.

Specifications

Flow rate:	16L/min
Suction lift dry:	6m
Operating pressure:	min. 1.4 bar/max. 6.8 bar
Temperature max:	66°C
Suction/ Discharge:	¼" BSP female

Description	Material	Membrane	PK	Cat. No.
For liquids based on water, lubricant, mineral oil	PP	Geolast®	1	9.880 350
For corrosive liquids, inorganic alkalis and acids	PP	PTFE	1	9.880 351
For concentrated alkalis and acids with higher temperature	PVDF	PTFE	1	9.880 352
For solvents, paints, fuel	Nylon	PTFE	1	9.880 353



3 Pumps, vacuum/pressure, diaphragm

These diaphragm pumps are single- and double-head, dry-running devices used in a wide range of laboratory applications. They transfer and pump down without contamination. KNF
 The pumps are offered in various materials.

Standard design. For general vacuum and pumping applications.
 Supply requirements: 230V 50Hz.

Pump head/Material in contact with the pumped media

KN = PP/EPDM

KT = PP/PTFE-coated

AN = Aluminium/CR

FT = PTFE/PTFE-coated

Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	Max. pressure bar	Accessory codes type (see table)	PK	Cat. No.
N 86 KN.18*	6	100	2.4	1+2+6+13	1	9.880 510
N 86 KT.18*	6	160	2.4	1+2+6+13	1	9.880 680
N 811 KN.18*	11	240	2	2	1	9.880 685
N 022 AN.18*	15	100	4	2+4+14+10	1	9.880 530
N 816.3KN.18*	16	15	0.5		1	9.880 543
N 820 FT.18**	20	100	1		1	9.880 670
N 820 AN.18**	22	100	1		1	9.880 687
N 820.3 AN.18**	22	8	1		1	9.880 688
N 026.3 AN.18*	22	20	-	3+9	1	9.880 538
N 816.1.2KN.18*	30	100	0.5		1	9.880 544
N 026.1.2 AN.18*	39	100	2	3+5+8+9	1	9.880 537
N 035 AN.18*	30	100	4		1	9.880 539
N 035.1.2 AN.18*	55	100	4		1	9.880 547
N 035.3 AN.18*	30	13	-		1	9.880 554
N 035 AN.18**	30	100	4	3+12+7+11	1	9.880 540
N 035.1.2 AN.18**	55	100	4	3+12+7+11	1	9.880 541
N 035.3 AN.18**	30	13	-		1	9.880 553

* IP20 protection system.

** IP44 protection system.

Accessories for standard diaphragm pumps

KNF

Type	Description	PK	Cat. No.
1	vacuum filter / silencer	1	9.880 515
2	vacuum filter / silencer	1	9.880 519
3	vacuum filter / silencer	1	9.880 548
4	pressure relief valve, 4 bar	1	9.880 641
5	pressure relief valve, 2 bar	1	9.880 664
6	fine adjustment heads with pressure gauge	1	9.880 532
7	fine adjustment heads with pressure gauge	1	9.880 545
8	fine adjustment heads with pressure gauge	1	9.880 533
9	fine adjustment heads with pressure gauge	1	9.880 534
10	fine adjustment heads with pressure gauge	1	9.880 536
11	fine adjustment heads with pressure gauge	1	9.880 546
12	Overpressure valve ¼", 4 bar	1	9.880 642
13	fine adjustment heads with pressure gauge	1	9.880 531
14	fine adjustment heads with pressure gauge	1	9.880 535

1 Vacuum pump trolley

KGW

Vacuum pump trolley with two condensate traps that can be operated alternately or together. The pump trolley consists of an aluminium frame mounted on lockable castors with a lower PE-shelf for a vacuum pump and a PE-top shelf which accommodates two cold traps. The condensate traps can each hold approx. 150ml. Spherical ground joints are sealed with FEP covered O-rings. Supplied without pump.



Type	PK	Cat. No.
With pressure gauge	1	9.881 380
Without pressure gauge	1	9.881 381

Note: Price does not include vacuum pump.

2 Rotary vane pumps

VACUUBRAND

Vacuubrand rotary vane pumps encompass one and two stage pumps with throughputs from 2 to 16m³/h.

Typical rotary vane pump applications include, use as a backing pump for turbomolecular pumps but also serve in diverse chemical laboratory applications.

Features and important characteristics: high water vapour tolerance, vacuum tight pumping mechanism when switched off, high performance gas ballast mechanisms. These increase the overall performance potential of these pumps, the service life of mechanical parts, increase oil-change intervals and reduce maintenance overheads.



Type	Flow rate	Ultimate pressure	Weight	Width	Depth	Height	PK	Cat. No.
	m ³ / hr.	mbar	kg	mm	mm	mm		
RE 2.5	2.3 / 2.8	3 x 10 ⁻¹	10.2	316	125	190	1	9.880 120
RE 6	5.7 / 6.8	1 x 10 ⁻¹	15.3	370	142	207	1	9.880 121
RE 9	8.9 / 10.2	1 x 10 ⁻¹	21.4	460	152	232	1	9.880 101
RE 16	16.6 / 19.1	1 x 10 ⁻¹	25.2	505	152	232	1	9.880 102
RZ 2.5	2.3 / 2.8	2 x 10 ⁻³	11.4	316	125	190	1	9.880 123
RZ 6	5.7 / 6.8	2 x 10 ⁻³	16.4	370	142	207	1	9.880 124
RZ 9	8.9 / 10.2	2 x 10 ⁻³	24.2	460	152	232	1	9.880 125
RZ 16	16.6 / 19.1	2 x 10 ⁻³	29.0	545	152	232	1	9.880 104



Vacuum pumps/Rotary vane pumps, Pump systems

1


1 Chemistry pumping units

Vacuubrand chemistry vacuum systems and chemistry pumping units for fine to high vacuum ranges. Complete chemical vacuum systems and chemical pump stands offer the advantages of practical, connection-ready units.

VACUUBRAND

- compact structure, little space requirement and a high degree of mobility
- the great convenience of proven pump stand configuration
- good ultimate vacuum even with gas ballast and smooth running
- high tolerance to water and solvent vapours due to efficient gas ballast

Type	Pump	Flow rate (50/60 Hz)	Ultimate pressure	Width	Depth	Height	PK	Cat. No.
	Model	m ³ / hr.	mbar	mm	mm	mm		
PC 3 with RZ 2.5	RZ 2.5	2.3 / 2.8	4 x 10 ⁻⁴	342	448	608	1	9.881 368
PC 3 with RZ 6	RZ 6	5.7 / 6.8	4 x 10 ⁻⁴	370	448	608	1	9.881 369
PC 3 with RZ 9	RZ 9	8.9 / 10.2	4 x 10 ⁻⁴	460	486	608	1	9.881 370
PC 3 with RZ 16	RZ 16	16.6 / 19.1	4 x 10 ⁻⁴	545	486	608	1	9.881 371

2


2 Chemistry Hybrid Pump RC 6

The Chemistry Hybrid Pump RC 6 has been designed to minimise the adverse effects of condensable and corrosive vapours. Its main components are a two-stage rotary-vane pump and a two-stage chemistry diaphragm for optimized corrosion resistance. The diaphragm pump continuously evacuates the oil reservoir of the rotary-vane pump in order to keep the partial pressures of solvent vapours, oxygen and corrosive gases at a low level and/or below their condensation point. The RC 6 is a low-maintenance pump for freeze-drying and other applications requiring an ultimate vacuum in the 10⁻³ mbar range.

VACUUBRAND

Items supplied: Pump with on/off switch, overload circuit breaker and 2m cable with plug, centering and clamping ring for inlet, particulate filter and operating instructions. Oil supplied in separate bottle.

Specifications

Pumping speed 50/60 Hz:	5.9/6.9 m ³ /h // 4.1cfm
Ultimate vacuum (partial) without gas ballast:	4 x 10 ⁻⁴ mbar // 3 x 10 ⁻⁴ Torr
Ultimate vacuum (total) without gas ballast:	2 x 10 ⁻³ mbar // 1.5 x 10 ⁻³ Torr
Ultimate vacuum (total) with gas ballast:	1 x 10 ⁻² mbar // 0.75 x 10 ⁻² Torr
Oil capacity (B-Oil):	min. 0.34 l max. 0.53 l
Inlet connection:	Small flange NW 16
Outlet connection:	Hose nozzle NW 10
Motor rating:	0.37kW
Nominal speed 50/60Hz:	1500/1800rpm
Dimensions (L x W x H):	510 x 305 x 230mm
Weight:	24.2kg
Protection class:	IP 40

Type	PK	Cat. No.
RC 6 with plug CEE	1	9.882 235
RC 6 with plug CH	1	9.882 236



Chemistry Vacuum Pumping Unit PC 8/RC 6

The Chemistry Vacuum Pumping Unit PC 8/RC 6 incorporates the Chemistry Hybrid Pump RC 6 (Cat. No. 9.882 235). It achieves an ultimate vacuum in the 10^{-4} mbar range and is used for demanding vacuum applications such as freeze drying, drying chambers, concentrators, etc. The RC 6 combines the vacuum performance of an oil-sealed rotary-vane pump and, to a large extent, the good corrosion resistance of a chemistry diaphragm pump.

VACUUBRAND

Items supplied:

Pumping unit completely mounted, with Chemistry Hybrid Pump RC6, insulated exhaust vapour condenser, condensate catchpot on pumping unit console, on/off switch, cable with plug and instructions for use.

Specifications

Pumping speed 50/60 Hz:	5.9/6.9 m ³ /h // 4.1cfm
Ultimate vacuum (partial) without gas ballast:	4×10^{-4} mbar // 3×10^{-4} Torr
Ultimate vacuum (total) without gas ballast:	2×10^{-3} mbar // 1.5×10^{-3} Torr
Ultimate vacuum (total) with gas ballast:	1×10^{-2} mbar // 0.75×10^{-2} Torr
Oil capacity (B-Oil):	min. 0.34 l max. 0.53 l
Inlet connection:	Small flange NW 16
Outlet connection:	Hose nozzle NW 10
Cooling water connection:	2 x hose nozzle NW 6/8
Motor rating:	0.37kW
Nominal speed 50/60Hz:	1500/1800rpm
Dimensions (L x W x H):	507 x 377 x 430mm
Weight:	31.4kg
Protection class:	IP 40

Type	PK	Cat. No.
PC 8 / RC 6 with plug CEE	1	9.882 239 1
Plug CH	1	9.882 240



9.882 239



9.812 385



9.812 477



6.231 964



9.812 478



Vacuum Pumps

NEW!

Heidolph

Rotavac Valve Control

- Two-stage diaphragm pump made from chemically resistant materials
- High suction capacity of 1.7m³/h for fastest evacuation
- Suction capacity for up to 3 rotary evaporators at the same time
- The Rotavac Valve Control achieves an ultimate vacuum of 9mbar
- The Rotavac Valve Control can be combined with a condenser
- Power input: 180W; Weight: 10.5kg
- Dimensions (L x W x H): 245 x 185 x 195mm

Rotavac Vario Control

- Adjustable speed of the pump produces the most precise vacuum control
- Three-stage diaphragm pump is made from chemically resistant materials
 - High suction capacity of 1.7m³/h for fastest evacuation
 - The Rotavac Vario Control achieves an ultimate vacuum of 2mbar
 - The Rotavac Vario Control can be combined with a condenser
 - Power input: 160W; Weight: 5.4kg
 - Dimensions (L x W x H): 236 x 167 x 196mm

Rotavac Valve Tec

- Two-stage diaphragm pump made from chemically resistant materials
- Suction capacity of 0.75m³/h
- The Rotavac Valve Tec achieves an ultimate vacuum of 12mbar
- The Rotavac Valve Tec can be combined with a condenser
- Power input: 80W; Weight: 6kg
- Dimensions (L x W x H): 315 x 145 x 169mm

Rotavac Vario Tec

- Two-stage diaphragm pump is made from chemically resistant materials
- Suction capacity of 1.0m³/h
- The Rotavac Vario Tec achieves an ultimate vacuum of 12mbar
- The Rotavac Vario Tec can be combined with a condenser
- Power input: 160W; Weight: 4.3kg
- Dimensions (L x W x H): 236 x 156 x 196mm

Vacuum Valve

- Required to control vacuum for Hei-VAP models with valve regulated pumps

Woulff Bottle

- Additional recovery of solvent to protect vacuum valve and vacuum pump
- Direct connection to the vacuum valve
- Features connection to vacuum controller
- Volume of 250ml

Type	PK	Cat. No.
Rotavac Valve Control	1	9.812 385 1
Cooler for Rotavac Valve Control Hei-VAP	1	6.401 205
Rotavac Vario Control for Hei-VAP	1	9.812 477 2
Cooler for Rotavac Vario Control	1	9.812 377
Rotavac Valve Tec for Hei-VAP	1	6.231 964 3
Cooler for Rotavac Valve Tec for Hei-VAP	1	9.812 378
Rotavac Vario Tec for Hei-VAP	1	9.812 478 4
Vacuum Valve	1	9.812 405
Woulff Bottle	1	9.812 406
Switchbox	1	6.223 990
Manual Vacuum Controller	1	9.812 388

5 Rotavac Vario Pumping unit

NEW!

Heidolph

Fully controllable stand-alone pumping unit includes vacuum controller - all purpose

- Three-stage diaphragm pump is made from chemically resistant materials
- High suction capacity of 1.7 m³/h for fastest evacuation
- The Rotavac Vario Pumping unit achieves an ultimate vacuum of 5mbar
- The Rotavac Vario Pumping unit can be combined with a condenser (order nr. 9.812 377)
- Power input: 160W, Weight: 6kg
- Dimensions (L x W x H): 193 x 263 x 299mm

Type	Description	PK	Cat. No.
Rotavac Vario	Pumping unit	1	9.812 365

1 LABOBASE® multi-user vacuum systems, chemical-resistant



Comprises a central base station with vacuum controller which provides a vacuum to multiple laboratory work stations or outlets. Outlets may either be controlled with a separate vacuum controller plus solenoid valve (even as a mobile unit) or with a manual valve as an unregulated outlet. LABOBASE® can be retrofitted into existing laboratories or integrated into new constructions. This multi-user, vacuum system saves precious lab bench space.

KNF

Pump units or base stations are connection ready; complete with chemical-resistant, diaphragm vacuum pump and appropriate fittings (see table) on a single base stand, power cable (mains connection 230V 50Hz, other voltages and frequencies on request).

Integral components

diaphragm vacuum pump with base stand, separator, condenser and vacuum controller



Description	Flow rate l / min.	Ultimate vacuum mbar (abs).	PK	Cat. No.
Base unit LABOBASE® SBC 840	34	8	1	9.050 715
Base unit LABOBASE® SBC 844	40	2	1	9.050 716
Base unit LABOBASE® SBC 860	60	2	1	9.050 717
Mobile control unit for regulated outlet			1	9.050 721
Vacuum supply point manually controlled for fume hoods/chemical resistant			1	9.050 722
Vacuum supply point manually controlled, chemical resistant			1	9.050 723

2 Vacuum system LABOACT®, chemical-resistant

Rotary evaporation processes can be reliably monitored using the LABOACT® vacuum system. A closed system arrangement enables gentle distillation and high recovery rates, even with low-boiling solvents.

KNF

Advantages:

- gentle distillation, due to closed system
- stepless, fine-adjustment valve for precise vacuum regulation
- careful control of evaporation
- very economical
- environmentally friendly

Items supplied:

LABOACT® vacuum systems are ready-to-use. With chemically resistant membrane vacuum pump, separator, condenser, fine-adjustment valve, digital vacuum meter, safety vent valve, switch and cable. Supply requirements: 230V 50Hz (other voltages and frequencies are available on request).



Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	PK	Cat. No.
SEM 810	10	8	1	9.880 549
SEM 820	20	8	1	9.880 550
SEM 840	34	8	1	9.880 551
SEM 842	34	2	1	9.880 552

We can supply this manufacturer's whole product range !



Vacuum pumps/Rotary vane pumps, Pump systems



1 Modular vacuum system KNF LABOPORT®

All LABOPORT® pumps can be fitted with separators, high-performance condensers and vacuum controllers to create customised systems. If a larger diaphragm pump is used for two different processes simultaneously for economic reasons, then a second vacuum controller is required. The control unit always switches the pump off when the desired vacuum has been achieved, even if two receivers are used. This reduces the noise level and increases operational life. Supply requirements: 230V /50Hz. KNF

Module/configuration:

1. Baseplate.

The separator and all other modules are mounted together with the pump on the baseplate to form the LABOPORT® vacuum system

2. Separator.

Additional, implosion-proof NR 800 module can be integrated on the inlet or outlet side. Solvent droplets contained in the vapour at the outlet are separated to prevent them from being released into the surrounding air. On the inlet side the separator traps any particles contained in the system.

3. High-performance condenser.

For efficient condensation of solvents contained in the vapour. Connected to the pump at the outlet enabling controlled solvent recovery, saving valuable resources and protecting the environment.

4./5. Vacuum controller.

For precise and accurate attainment of the required vacuum after the set point has been entered. A highly accurate, piezo-ceramic measuring cell monitors the process and is resistant to all aggressive media.

Simple assembly.

Components can be quickly and easily assembled to create a system using plug-in connectors.

Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	Pump Model	Module no.	PK	Cat. No.
LABOPORT® SR 810	10	8	N 810.3 FT.18	1A 2 2	1	9.880 621
LABOPORT® SH 810	10	8	N 810.3 FT.18	1A 2 3	1	9.880 622
LABOPORT® SC 810	10	8	N 810.3 FT.18	1A 2 3 4	1	9.880 623
LABOPORT® SCC 810	10	8	N 810.3 FT.18	1A 2 3 4 5	1	9.880 624
LABOPORT® SR 820	20	8	N 820.3 FT.18	1A 2 2	1	9.880 625
LABOPORT® SH 820	20	8	N 820.3 FT.18	1A 2 3	1	9.880 626
LABOPORT® SC 820	20	8	N 820.3 FT.18	1A 2 3 4	1	9.880 627
LABOPORT® SCC 820	20	8	N 820.3 FT.18	1A 2 3 4 5	1	9.880 628
LABOPORT® SR 840	34	8	N 840.3 FT.18	1 2 2	1	9.880 629
LABOPORT® SH 840	34	8	N 840.3 FT.18	1 2 3	1	9.880 631
LABOPORT® SC 840	34	8	N 840.3 FT.18	1 2 3 4	1	9.880 632
LABOPORT® SC 842	34	2	N 842.3 FT.18	1 2 3 4	1	9.880 639
LABOPORT® SCC 840	34	8	N 840.3 FT.18	1 2 3 4 5	1	9.880 633
LABOPORT® SCC 842	34	2	N 842.3 FT.18	1 2 3 4 5	1	9.880 640

Accessory modules for vacuum pump systems LABOPORT®

Modules for LABOPORT® system vacuum pumps.
See details outlined below for the relevant descriptions. KNF

Module no.	Type	PK	Cat. No.
1A	Baseplate NP 810/820	1	9.880 643
1	Baseplate NP 840	1	9.880 634
3	High-performance condenser	1	9.880 636
4	Vacuum controller (First controller)	1	9.880 637
5	Vacuum controller (Second controller)	1	9.880 638

1 2 Variable speed vacuum system SC 920 with remote control

Freeing up space in the lab: this vacuum pump system can be placed above or below the lab bench and controlled remotely with the hand terminal. The new vacuum pump system SC 920 now supports remote control from a portable handset, thus ensuring maximum flexibility in the laboratory. Short process times and high accuracy, and automatic boiling point detection are the outstanding features of this new product. The intuitive user guidance on the handset ensures ease of operation; the process parameters can be entered over a touch screen and a rotary knob.

KNF



- Simply touch the various menus to enter:
- parameters, such as the setpoint
 - pressure or suction capacity of the system
 - units of measurement
 - operating language
 - operating modes

Specifications

Control:	over hand terminal and Windows®-based software
Mains connection:	100-240V 50/60Hz
Power consumption:	max. 135W
Hose connections, pneumatic:	10mm i.d.
Hose connections for coolants:	8mm i.d.
Current consumption:	max. 1.7A
Weight:	15kg
Dimensions (H x W x D):	423 x 366 x 294mm



Type	Description	Flow rate L / min.	Vacuum mbar	PK	Cat. No.
SC 920	Vacuum pump system	20	2	1	9.880 645

With overload protection and mains fuse

3 Oil for rotary vane pumps

Oil for rotary vane pumps B: Standard pump oil. High viscosity, low vapour pressure, good chemical resistance. VACUUBRAND

Oil for rotary vane pumps K 8: For acid vapours. Strongly hygroscopic, with limited capacity for water vapour. Pump must be factory-adjusted to accept this oil.

Perfluoropolyether oil: Synthetic Oil. Certified for pumping pure oxygen.



Type	Capacity L	PK	Cat. No.
Oil for rotary vane pumps B	1.00	1	9.881 921
Oil for rotary vane pumps B	5.00	1	9.881 922
Oil for rotary vane pumps K 8	1.00	1	9.881 911
Oil for rotary vane pumps K 8	5.00	1	9.881 915
Perfluoropolyether oil	0.50	1	9.882 924

4 Small flange fittings

Small flanges. Stainless steel. With male or female conical ground joints and DN flange as outlined below. VACUUBRAND



Type	NS	PK	Cat. No.
Male ground joint - DN 10	14 / 23	1	9.882 504
Male ground joint - DN 10	19 / 38	1	9.882 501
Male ground joint, DN 25	19 / 38	1	9.882 502
Male ground joint - DN 25	29 / 32	1	9.882 503
Male ground joint - DN 40	29 / 32	1	9.882 505
Male ground joint - DN 40	45 / 40	1	9.882 507
Female ground joint - DN 10	14 / 35	1	9.882 510
Female ground joint DN 10	19 / 38	1	9.882 511
Female ground joint - DN 25	19 / 38	1	9.882 512
Female ground joint - DN 25	29 / 32	1	9.882 513
Female ground joint - DN 40	29 / 32	1	9.882 514
Female ground joint - DN 40	45 / 40	1	9.882 515

5 Vacuum fittings, clamping rings for type KF small flange

VACUUBRAND



Type	Size	PK	Cat. No.
Aluminium	DN 10/16	1	9.882 401
Aluminium	DN 20/25	1	9.882 402
Aluminium	DN 32/40	1	9.882 403
Aluminium	DN 50	1	9.882 404
Stainless steel	DN 10/16	1	9.882 411
Stainless steel	DN 20/25	1	9.882 412
Stainless steel	DN 32/40	1	9.882 413
Stainless steel	DN 50	1	9.882 414

1


1 Vacuum fittings, centring rings

Stainless steel/FPM (e.g. Viton®). For Type KF small flange.

VACUUBRAND

Size	PK	Cat. No.
DN 10	1	9.882 415
DN 16	1	9.882 419
DN 20	1	9.882 416
DN 25	1	9.882 420
DN 32	1	9.882 417
DN 40	1	9.882 421
DN 50	1	9.882 418

2


2 Vacuum fittings, external centering rings

Plastic 'PBT'. For Type KF small flange.

VACUUBRAND

Type	Size	PK	Cat. No.
NBR	DN 10/16	1	9.882 441
NBR	DN 20/25	1	9.882 442
NBR	DN 32/40	1	9.882 443
NBR	DN 50	1	9.882 444
FPM	DN 10/16	1	9.882 451
FPM	DN 20/25	1	9.882 452
FPM	DN 32/40	1	9.882 453
FPM	DN 50	1	9.882 454

3


3 Vacuum fittings, nozzles

Flanged tubing nozzles, aluminium. For Type KF small flange.

VACUUBRAND

Size	For tubing Ø mm	PK	Cat. No.
DN 10	6	1	9.882 492
DN 16	6	1	9.882 497
DN 16	10	1	9.882 498
DN 25	8	1	9.882 494
DN 25	10	1	9.882 493
DN 25	12	1	9.882 491
DN 25	15	1	9.882 495
DN 40	8	1	9.882 499
DN 40	10	1	9.882 490
DN 40	15	1	9.882 496

4


4 Vacuum fittings, PVC tubing with KF flanged, support spiral insert

Flanged at both ends. For Type KF small flange. Resistant to most chemicals.

VACUUBRAND

Size	Length mm	PK	Cat. No.
DN 16	500	1	9.882 611
DN 16	1000	1	9.882 612
DN 25	500	1	9.882 613
DN 25	1000	1	9.882 614
DN 40	500	1	9.882 615
DN 40	1000	1	9.882 616

5


5 Vacuum fittings, flexible metal tubing, concertina

Flanged at both ends. For Type KF small flange.

VACUUBRAND

B1 = Minimum radius for one-off bending.

B2 = Minimum radius for repeated bending.

Size	Length mm	B1	B2	PK	Cat. No.
DN 10	250	18	50	1	9.882 591
DN 10	500	18	50	1	9.882 592
DN 10	750	18	50	1	9.882 594
DN 10	1000	18	50	1	9.882 593
DN 16	250	25	75	1	9.882 596
DN 16	500	25	75	1	9.882 597
DN 16	750	25	75	1	9.882 599
DN 16	1000	25	75	1	9.882 598
DN 25	250	35	100	1	9.882 601
DN 25	500	35	100	1	9.882 602
DN 25	750	35	100	1	9.882 604
DN 25	1000	35	100	1	9.882 603
DN 40	250	60	150	1	9.882 606
DN 40	500	60	150	1	9.882 607
DN 40	750	60	150	1	9.882 609
DN 40	1000	60	150	1	9.882 608

1 In-line valves

Butterfly design. Housing made of stainless steel with fluoroelastomer seal. Two Buna-N rings act as rotary shaft seals. Helium leak-tested. Leak rate 1×10^{-6} mbar x l/s. Excellent throughput.

VACUUBRAND

Type	Valve bore mm	PK	Cat. No.
VS 16C	16	1	9.882 007
VS 25C	25	1	9.882 008
VS 40C	40	1	9.882 009



2 Vacuum measuring instrument DVR 2

The DVR 2 is a versatile vacuum gauge for vacuum measurement between atmospheric pressure and 1 mbar.

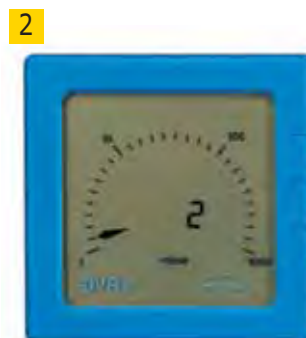
VACUUBRAND

The DVR2 has an integral, alumina ceramic, pressure transducer providing excellent corrosion resistance and long-term stability.

Specifications

Measuring range:	1080 to 1mbar (hPa), 810 to 1 Torr
Measurement principle:	Capacitive; gas type-independent absolute pressure measurement
Measuring accuracy:	< 1mbar (0.75 Torr) ± 1 digital
Power supply/battery:	9V Lithium battery/1.2 Ah Ultralife U9VL
Dimensions (WxDxH):	115 x 115 x 66mm
Weight:	0.40kg

Type	PK	Cat. No.
Vacuum measuring instrument DVR 2	1	9.882 200
DKD initial delivery calibration	1	9.882 221



3 Vacuum measuring instrument DCP 3000

The DCP 3000 is an outstanding vacuum gauge for rough and fine vacuum (1080 to 0.1mbar). A large illuminated display shows the measuring values of all sensors by a simple turn of a button.

VACUUBRAND

The VSK 3000 capacitive vacuum gauge head measures independent of gas type, is very corrosion resistant and has an outstanding measuring accuracy and long term stability. Simultaneous connection of up to four of these pressure transducers allows flexible measuring on the spot. The communication of the DCP 3000 and the external components proceeds via the VACUU-BUS™ digital bus system. This system is characterized by fully automatic configuration, unified plug connections and cable lengths of up to 30m. Supply requirements: 100-230V 50/60Hz CEE/CH/UK/US/AUS.

Items supplied: Vacuum gauge, ready to use with 1 vacuum gauge head VSK 3000 with measuring cable, wall-mounted power supply and manual

- external sensor on-the-spot measuring, flexible and upgradeable up to four sensors
- external capacitive alumina-ceramic vacuum gauge head with excellent chemical resistance
- outstanding measuring accuracy and long term stability
- splash-proof pressure transducer for tough operation conditions
- datalogger with 32000 measurement reading recording capacity

Specifications

Measurement range:	1080 to 0.1mbar (hPa), 810 to 0.1 Torr
Measuring principle:	Capacitive; gas type independent, absolute pressure measurement
Measurement accuracy:	< ± 1 mbar (Torr) ± 1 digit
Vacuum connection:	Small flange KF DN 16, PTFE-tubing conn. 10/8mm, hose nozzle DN 6/10mm
Power supply:	100-230V/50-60Hz
Dimensions (L x W x H):	138 x 124 x 115mm
Weight of display unit:	0.44kg

Type	PK	Cat. No.
DCP 3000	1	9.882 206
DKD initial delivery calibration	1	9.882 221



1


1 DCP 3000 with VSP 3000

The Pirani-type vacuum sensor VSP 3000 offers an outstanding corrosion resistance and mechanical robustness for fine vacuum measurements. It is primarily designed for applications in chemistry and process engineering.

VACUUBRAND

The vacuum gauge DCP 3000 is now also available with this new Pirani sensor VSP 3000 for an increased measuring range down to the 10^{-3} mbar range. Up to eight external gauge heads (four of ceramic diaphragm-type VSK 3000 and four VSP 3000) can be connected simultaneously to the DCP 3000 vacuum gauge for easy measurements at multiple points. Communication between the DCP 3000 and the external components is provided by the especially developed bus control system VACUU-BUS™. It is self-configuring, easy to use due to standardized plug connectors and allows cable extensions up to 30m. The large illuminated display, controlled by a simple jog wheel, displays the readings from each gauge head.

Performance features

- brand new rugged vacuum sensor VSP 3000 made of plastics and ceramics with high chemical resistance
- wide measurement range from atmospheric pressure to fine vacuum (10^{-3} mbar) due to Pirani measurement system (thermal conductivity)
- upto 8 gauge heads VSP 3000 (Atm. to 10^{-3} mbar), VSK 3000 (Atm. to 0.1mbar) can be connected (4 of each)
- rugged, splash-water proof vacuum sensor, also for rough operating conditions
- with vacuum controller CVC 3000, VSP 3000 and vacuum solenoid valves of type VV-B vacuum control from atm. to 10^{-3} mbar is achieved

Specifications:

Upper measuring limit mbar/hPa/torr:	$1 \times 10^3/7.5 \times 10^2$
Lower measuring limit mbar/hPa/torr:	$1 \times 10^{-3}/1 \times 10^{-3}$
Measurement principle	Thermal conductivity acc. to Pirani
Measurement uncertainty	$\pm 15\%$ of indicated value in the range 0.01-100mbar/hPa/torr
Vacuum connection	Small flange KF DN 16 and hose nozzle DN 6/10mm
Control connections:	1 socket for supply/Vario pump 2 expandable sockets for external sensors/valves
Rated mains voltage	100-240V 50/60 Hz a.c. 1ph.
Dimensions (desktop unit, L x W x H):	138 x 124 x 115mm
Weight (without mains adapter):	0.44kg

Description	PK	Cat. No.
Vacuum gauge Set DCP 3000 + VSP 3000	1	9.882 207

Accessories vacuum gauge, Pirani, VAP 5

VACUUBRAND

Type	PK	Cat. No.
Vacuum gauge head VSP 5 with KF/DN 10 DN8 fittings for VAP 5	1	9.882 232
Cable leads for VAP 5	1	9.882 233

2


2 Automatic Vacuum Controller CVC 3000

Extremely versatile vacuum controller for the laboratory.

VACUUBRAND

No configuration required. Just connect and the CVC 3000 will identify all apparatus with VACUU-BUS™ VACUUBRAND pumps, vacuum valves, cooling water valves, external sensors, etc. Intuitive menu guidance via graphics display with analogue and digital vacuum readout. Demand-related control of process vacuum, cooling water and venting. Integral sensor made of highly resistant, alumina ceramic provides reliable absolute-pressure measurement. Boiling-point monitoring facility for evaporations*. No more searching for data or data input. Preset for many common vacuum applications, e.g. vacuum ovens, filtration.

Specifications:

Measuring range:	1080 to 0.1mbar (810 to 0.1 Torr)
Vacuum control range:	1060 to <0.1mbar (795 to 1 Torr) (depending on vacuum pump)
Uncertainty of measurement:	< ± 1 mbar (0.75 Torr) (after calibration)
Temperature coefficient:	< ± 0.07 mbar/K (< ± 0.05 Torr/K)
Control interface:	Digital VACUU-BUS™
Control connections:	1 socket for supply/Vario pump 2 expandable sockets for external sensors/valves
Supply requirements (mains adapter):	100-240V 50/60Hz a.c. 1ph.
Dimensions (desktop unit, L x W x H):	138 x 124 x 115mm
Weight (without mains adapter):	0.44kg

Description	PK	Cat. No.
CVC 3000	1	9.882 861
DKD calibration at initial delivery	1	9.882 221
Package CVC 3000 + vacuuBUS VV-B 6C valve	1	9.882 860

* in conjunction with VACUUBRAND Vario NT pumps

1 2 Automatic Vacuum Controller CVC 3000 Package with integrated chemistry valve **NEW!**

Extremely versatile vacuum controller for the laboratory.

VACUUBRAND

No configuration required. Just connect and the CVC 3000 will identify all apparatus with VACUU-BUS™ Vacuubrand pumps, vacuum valves, cooling water valves, external sensors, etc. Intuitive menu guidance via graphics display with analogue and digital vacuum readout. Load-sensitive control of process vacuum, cooling water and venting. Integral sensor in highly resistant, alumina ceramic provides reliable absolute-pressure measurement. Two-step control for rotary evaporators. Preset for many common vacuum applications, e.g. vacuum ovens, filtration.

Specifications:

Measuring range:	1080 to 0.1mbar (810 to 0.1 Torr)
Vacuum control range:	1060 to <0.1 mbar (795 to 1 Torr) (depending on vacuum pump)
Uncertainty of measurement:	< ±1mbar (0.75 Torr) (after calibration)
Temperature coefficient:	< ±0.07mbar/K (< ±0.05 Torr/K)
Control interface:	Digital VACUU-BUS™
Control connections:	1 socket for supply/Vario pump 2 expandable sockets for external sensors/valves
Supply requirements (mains adapter):	100-240V 50/60Hz a.c. 1ph. CEE/CH/UK/US/AUS
Dimensions (desktop unit, L x W x H):	162 x 138 x 114mm
Weight (without mains adapter):	1kg
Vacuum connection:	2 x hose nozzle SW DN 6/10 Connections for integrated venting valve DN 4 to 5mm
Interface:	RS232C



Description	PK	Cat. No.
Package CVC 3000 + valve VV-B 6C + mounting bracket + 2 x tubing nozzle connectors + venting valve	1	9.882 859

3 Accessories for Automatic Vacuum Controller CVC 3000

VACUUBRAND

Description	PK	Cat. No.
Solenoid inline valve VV-B 6C	1	9.882 851
External sensor VSK 3000	1	9.882 850
Cooling water valve VKW-B	1	9.882 852
Air admittance valve VBM-B	1	9.882 849
Extension cable for VACUU-BUS, 2m	1	9.882 853
Y-adapter for VACUU-BUS™	1	9.882 854
Liquid level sensor for VACUUBRAND 500ml catchpot	1	9.882 848



Accessories for DCP 3000 **NEW!**

VACUUBRAND

Type	PK	Cat. No.
External sensor VSK 3000	1	9.882 850
Air admittance valve VBM-B	1	9.882 849
Extension cable for Vacuu-BUS, 2m	1	9.882 853
Y-adapter for VACUU-BUS™	1	9.882 854
Vacuu-Control software	1	9.882 866
cable RS 232 C, 9-pole, Sub-D	1	9.882 867
External sensor VSP 3000	1	6.238 192
External sensor MPT 100	1	9.882 869
Cable for MPT 100	1	9.882 870

**We can supply this
 manufacturer's
 whole
 product range !**





1

1 Water jet pumps

NEW!

BRAND

Plastibrand®. PP.

With constant ultimate vacuum, high suction flow rate and very low water consumption.

Can be connected to mains water system in a number of different ways using the adapter supplied and reducing adapters that are available as accessories. For continuous use at temperatures up to 80°C max. High chemical resistance as the media being pumped only comes into contact with PP, FKM and PTFE. Integral non-return valve increases safety.

Comprises:

Water jet pump, including:

Mains water connections: R 3/4" sleeve nut, R 1/2" reducing adapter and flexible tubing connection (nozzle) with external diameter from 10mm to 12mm.

Vacuum connection: Detachable nozzle with external diameter from 6mm to 9mm and GL 14 screw cap.

Performance characteristics at 4.5 bar water supply pressure at 12°C

Water consumption:

190L/hr.

Ultimate vacuum:

16 mbar

Flow rate at atmospheric pressure:

400L/hr. free air

Type	PK	Cat. No.
Reducing adapter R 3/8" for water jet filter pump	1	7.020 037
Reducing adapter M 22x1 for water jet filter pump (thread for screen tap)	1	7.020 038
Water jet pump	1	9.303 125



2

2 Water jet pump

BRAND

Bistabil. DURAN®. Robust glass design. Connection to the mains water supply is via GL 18 external thread, vacuum connection via an 11mm diameter nozzle.

Accessory mains water connector with GL 18 thread adapter with R 3/4" PP sleeve nut and nitrile rubber (NBR) seals (15 x 3mm and 10 x 3mm O-rings).

Output data at 4.5 bar (absolute) water flow pressure and 12°C water temperature.

Water consumption:

approx. 340L/hr.

Ultimate pressure:

16mbar

Flow rate at atmospheric pressure:

950L/hr. free air

Type	PK	Cat. No.
Water jet pump	1	9.303 033
Thread adapter	1	9.303 035

Water jet pump

Nickel-plated brass, non-return valve, adapter for rapid action hose.

Description	PK	Cat. No.
Water jet pump	1	9.303 000
Rapid action hose for water jet pump	1	9.303 001

We can supply this
manufacturer's
 whole
product range !



1 QuikSip™ BT-aspirator

This handy, manual bottle-top suction device is ideal for removing supernatant liquids e.g. culture media, from dishes, tissue culture flasks and multiwell plates or from residues after precipitation and centrifugation of proteins and nucleic acids.

BRAND

Features:

- Safe removal of supernatants
- Works without a vacuum pump
- Fingertip vacuum control using cell-culture™ unit
- Suitable for use with disposable pipette tips, micropipettes and Pasteur pipettes
- Adapter and suction tube for the cell-culture™ unit are autoclavable (dispensing cartridge and pump unit are not autoclavable)

QuikSip™ is supplied with single channel pipetting unit for the removal of liquids from reaction vessels, test tubes, etc. An accessory 8-channel manifold is available for removing liquids from microtitre plates.

Items supplied: 1 QuikSip™ BT aspirator, 1 cell-culture™, 1 operating manual, 1 spare dispensing cartridge, 2 PP bottle-top adapters (GL 45/32 and GL 45/S40)

8 channel PP manifold. Autoclavable (121°C).



Type	PK	Cat. No.
QuikSip™ BT-Aspirator	1	9.777 015
8-channel aspiration manifold	1	9.777 016

2 EcoVac safety suction systems

For safe and comfortable removal of liquid excess. EcoVac increases the safety standard, when working with infectious material. Completely autoclavable. Screw-cap of safety bottle incl. 2 self-locking fittings. When tubing is removed, they close automatically and the bottle will be sealed hermetically. Safety bottle made of impact and chemical-resistant polypropylene, with screw-cap incl. 2 self-locking fittings, ventilation system, safety filter and 5m of silicone tubing.

schuett-biotec

EcoVac vacuum pump (optional):

Quiet with low vibration. Throughput 4L/min., 300mbar ult. vacuum, with illuminated on/off switch and 1m connecting cable. Overall dimensions: 80mm x 60mm x 160mm (W x H x D). 230V 50/60Hz.

Foot-switch (optional):

For short-time repeated use of EcoVac.

Supplied with: Safety bottle (breakproof and chemically stable) with screw cap and 2 self-locking fittings, silicone tubing 3.5m (autoclavable), safety filter, 2 angled fittings for tubing connection, 1 aeration insert.



Type	Capacity L	PK	Cat. No.
EcoVac 2 System	2	1	9.777 000
EcoVac 4 System	4	1	9.777 001
Vacuum pump, incl. 1m cable		1	9.777 005
Foot switch		1	9.777 008
Safety filter		2	9.777 009
Spare 2L bottle incl. Screw-cap with 2 self-locking fittings		1	9.777 007
Spare 4L bottle incl. Screw-cap with 2 self-locking fittings		1	9.777 010

