



GERMANY

LABORATORY TECHNOLOGY®  
**Buddeberg**

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**C A T A L O G U E**

partner of the



Lab Logistics Group

2007/2008



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**Buddeberg GmbH**  
**Mallastr. 49**  
**D - 68219 Mannheim, Germany**

- Diaphragm pumps, Pump systems 714
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### 1 Aluminium diaphragm pumps

Diaphragm pumps made with Aluminium-FPM 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.

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Type	Number of steps	Flow rate (50/60 Hz) m <sup>3</sup> / hr.	Ultimate pressure	Weight	Width	Depth	Height	Cat. No.	PK
			mbar	kg	mm	mm	mm		
ME 2	1	1.9 / 2.2	< 80	6.8	258	164	188	9.880 802	1
ME 4	1	3.6 / 4.0	< 80	10.3	264	235	177	9.880 804	1
ME 4R	1	3.6 / 4.0	< 100 / 4 bar	10.8	290	269	274	9.880 807	1
ME 8	1	7.2 / 7.8	< 80	15.8	315	235	203	9.880 812	1
ME 16	1	12.0 / 12.9	< 80	24.0	470	227	294	9.880 835	1
MZ 2	2	1.9 / 2.2	9	10.4	264	235	179	9.880 806	1
MD 1	3	1.2 / 1.4	1.5	6.7	303	143	215	9.880 080	1
MD 4	3	3.3 / 3.8	2	15.6	315	235	179	9.880 815	1
MD 12	3	9.6 / 10.4	2	24.0	486	227	294	9.880 081	1
MV 2	4	1.9 / 2.2	0.6	15.8	315	235	178	9.882 079	1
MV 10	4	8.1 / 8.8	0.6	24.0	486	227	294	9.882 083	1



### 2 Chemical diaphragm pumps

Gases and vapours only come into contact with chemically-resistant, fluorine-derived plastics in chemical ("C") diaphragm pumps. Do not require a cooling trap.

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The side-mounted, condensate outlet enables recovery of almost 100% of the solvent in use.

Type	Number of steps	Flow rate (50/60 Hz) m <sup>3</sup> / hr.	Ultimate pressure	Weight	Width	Depth	Height	Cat. No.	PK
			mbar	kg	mm	mm	mm		
ME 2C	1	1.9 / 2.0	< 80	7.1	258	164	191	9.880 821	1
ME 4C	1	3.6 / 4.0	< 80	10.5	267	241	177	9.880 823	1
ME 8C	1	2 x 3.6 / 2 x 4.0	< 80	16.2	321	241	178	9.880 831	1
ME 16C	1	10.1 / 11.6	< 80	25.0	515	237	294	9.880 836	1
MZ 2C	2	1.9 / 2.1	9	10.6	267	241	179	9.880 825	1
MD 1C	3	1.3 / 1.5	2	6.7	316	143	223	9.880 083	1
MD 4C	3	3.0 / 3.5	2	16.2	321	241	178	9.880 834	1
MD 12C	3	8.3 / 8.9	2	25.0	505	237	294	9.880 082	1
MV 10C	4	7.0 / 7.5	0.9	25.0	505	237	294	9.882 085	1

Diaphragm pumps ATEX-models available on request.



### 3 4 Pumps, vacuum/pressure, diaphragm, for gel dryers

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

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: 230 V 50/60 Hz



#### MZ 2C + AK + EK:

Simple use (Gel dryer)

Ultimate pressure 9 mbar.

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

#### MD 4C + AK + EK:

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

Ultimate pressure 2 mbar.

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 2 mbar.

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

Type	Flow rate m <sup>3</sup> / hr.	Ultimate pressure mbar	Cat. No.	PK
MZ 2C + AK + EK	1.9 / 2.1	9	9.880 827	1
MD 4C + AK + EK	3.0 / 3.5	2	9.880 837	1
MZ 1C + AK + EK	1.3 / 1.5	2	9.880 828	1

### 1 Chemical Vacuum Systems

Compact design, ready to use on delivery. Constructed in highly chemical resistant materials. Quiet operation.

- 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 510/610:** with AK + EK; 1 electronically controlled vacuum port

**PC 511/611:** with AK + EK; 1 electronically controlled and 1 manually controlled vacuum port

**PC 520/620:** with AK + EK; 2 electronically controlled vacuum ports

Characteristics and applications:

#### Without vacuum control:

**MZ 2C + 2AK:**

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

**MZ 2C + 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 + AK + EK:**

Larger or multi-user applications (e.g. several gel dryers) in a local-area vacuum network (Vacuu-LAN). 2 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. 0.9 mbar ultimate vacuum.

For particularly high demands regarding low ultimate vacuum and pumping speed in chemistry laboratories, pilot plants or small production plants.

#### With vacuum controller:

**PC 510/511:**

Well-proven units for a wide range of processes in chemistry laboratories, e.g. all "classical" low-boiling-point solvents. 9 mbar ultimate vacuum.

The PC 511 has an additional manually controlled vacuum port.

**PC 610/611:**

Well-proven units for vacuum generation and control up to 2 mbar ultimate vacuum, including high-boiling-point solvents.

The PC 611 has an additional manually controlled vacuum port.

**PC 520/620:**

Synchro chemistry pumping units with two independent vacuum controllers for running two separate processes. PC 520 with 9 mbar ultimate vacuum, PC 620 with 2 mbar ultimate vacuum.

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Type	Pump	Flow rate (50/60 Hz) m <sup>3</sup> / hr.	Ultimate pressure	Weight	Width	Depth	Height	Cat. No.	PK
	Model		mbar	kg	mm	mm	mm		
MZ 2C + 2AK	MZ 2C	1.9 / 2.1	9	11.9	345	241	326	9.880 826	1
MZ 2C + AK + EK	MZ 2C	1.9 / 2.1	9	13.8	350	261	495	9.880 827	1
MD 1C + AK + EK	MD 1C	1.3 / 1.5	2	10.6	275	270	490	9.880 828	1
MD 4C + AK + EK	MD 4C	3.0 / 3.5	2	19.9	350	275	495	9.880 837	1
PC 8 with MV10C	MV 10C	7.0 / 7.5	0.9	31.5	507	367	429	9.881 360	1
PC 510	MZ 2C	1.9 / 2.1	9	19.3	406	270	535	9.881 352	1
PC 511	MZ 2C	1.9 / 2.1	9	19.4	440	280	535	9.881 355	1
PC 610	MD 4C	3.0 / 3.5	2	26.8	406	275	535	9.881 354	1
PC 611	MD 4C	3.0 / 3.5	2	27.0	440	275	535	9.881 358	1
PC 520	MZ 2C	1.9 / 2.1	9	22.0	440	380	535	9.881 353	1
PC 620	MD 4C	3.0 / 3.5	2	29.1	440	380	535	9.881 359	1



1 Pumps, vacuum/pressure, diaphragm, Vacuubrand, accessories

VACUUBRAND

Type	For	Cat. No.	PK
Pump stand	MZ 2C / ME 4C	9.880 847	1
Mounting plate with exhaust condenser, inlet separator, without pump stand	MZ 2C	9.880 848	1
Mounting plate 2 AK with inlet and outlet separator, without pump stand	MZ 2C	9.880 849	1
Controller support with plug board		9.880 851	1
Regulator valve vacuum	ME 2 / MZ 2	9.880 845	1
Regulator valve pressure	ME 2 / MZ 2	9.880 846	1
Spare seal set, 1 diaphragm, 2 valves	ME 2C / 4C (2x), 8C (4x) / 16C (8x)	9.880 875	1
Spare seal set, 2 diaphragms, 4 valves	MZ 2C	9.880 876	1
Spare seal set, 4 diaphragms, 8 valves	MZ 4C / MD 4C	9.880 877	1
Spare seal set, 8 diaphragms, 17 valves	MZ 8C / MD 8C / 12C / MV 10C	9.880 878	1
Spare seal set, 4 diaphragms, 8 valves	MD 1C	9.880 881	1
Spare seal set, 1 diaphragm, 2 valves	ME 2	9.880 871	1
Spare seal set, 2 diaphragms, 4 valves	ME 4 / 4R / MZ 2 / 2D	9.880 872	1
Spare seal set, 4 diaphragms, 8 valves	ME 8 / MZ 4 / MD 4	9.880 873	1
Spare seal set, 8 diaphragms, 17 valves	MZ 8 / MD 8 / ME 16	9.880 874	1
Spare seal set, 4 diaphragms, 8 valves	MV 2	9.880 879	1
Spare seal set, 4 diaphragms, 8 valves	MD 1	9.880 880	1
Safety valve, DN 16 (Stainless steel, PTFE)	-	9.880 971	1



2 VARIO Chemistry Pumping Units

VACUUBRAND

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 0.6 mbar.

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.

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	Flow rate m <sup>3</sup> / hr.	Ultimate pressure mbar	Weight kg	Width mm	Depth mm	Height mm	Cat. No.	PK
PC-VARIO 2001	1.6	2	10.1	316	295	472	9.881 345	1
PC-VARIO 2002	2.5	9	18.5	265	385	530	9.881 338	1
PC-VARIO 2003	2.5	0.6	24.1	265	385	530	9.881 346	1
PC-VARIO 2004	3.8	2	24.2	265	385	530	9.881 339	1
PC-VARIO 2010	8.2	0.6	39.0	650	370	610	9.881 340	1
PC-VARIO 2012	9.4	2	39.0	650	370	610	9.881 341	1



3 Chemical pump stand PC 3001 VARIO

VACUUBRAND

The PC 3001 VARIO sets new standards regarding performance and ease and quietness of operation. It provides 100% oil-free vacuum down to 2 mbar.

The very latest control technology automatically and continuously adjusts the vacuum level to changing process conditions.

The vacuum is controlled by adaptive motor speed control.

- Up to 30% shorter process times
  - Intuitive menu-guided control
  - Automatic boiling-point tracing for evaporations: No more data searching or data setting
  - Presets for many common vacuum processes
  - Minimal operating and maintenance cost
  - Virtually silent operation; compact footprint
- Supply requirements: 100 to 230 V~ 50 to 60 Hz

Dimensions (W x D x H): 328 x 294 x 480 mm

Weight: 7.7 kg

Type	Pump Model	Flow rate m <sup>3</sup> / hr.	Ultimate pressure mbar	Supply requirements	Cat. No.	PK
PC 3001 Vario	MD 1C Vario	1,6	2	CH	9.881 336	1
PC 3001 Vario	MD 1C Vario	1,6	2	CEE	9.881 337	1

**1 Local vacuum network Vacuu-Lan®**

The Vacuu-Lan® local vacuum network allows multiple work stations to be connected to a single vacuum pump.

This is useful for almost any conventional vacuum application in a chemical laboratory. Vacuu-Lan® can be directly incorporated into new laboratory installations or retro-fitted. All assemblies have integral check (1-way) valves.

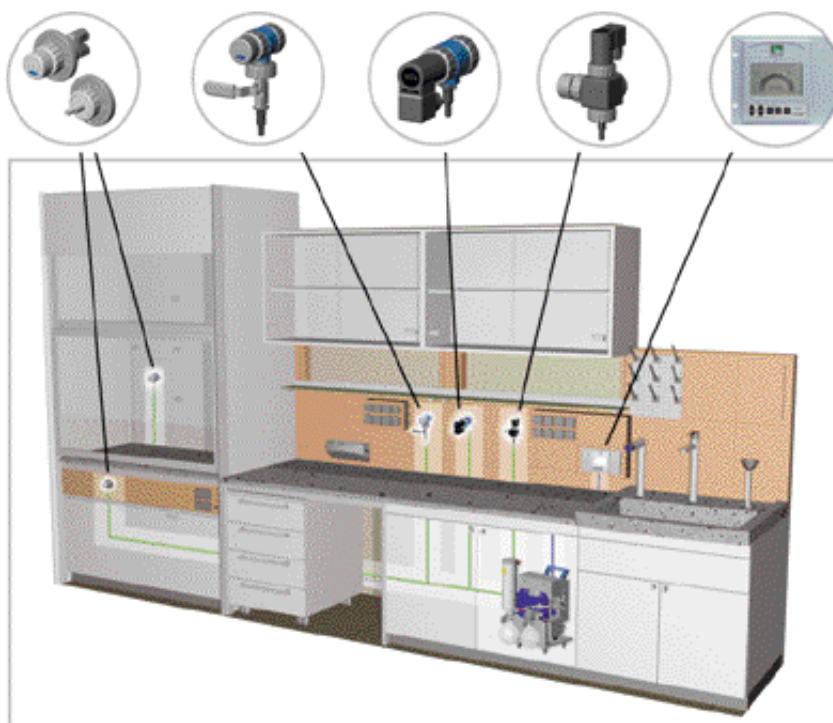
A practical and economical solution for multiple vacuum users in a single laboratory.

VACUUBRAND



Type	Connection	Cat. No.	PK
Manual control module VCL 01	A1	9.882 830	1
Shut-off/control module VCL 02	A1	9.882 832	1
Auto-regulating module VCL 10	A1	9.882 831	1
Auto-regulating module VCL 11	A1	9.882 833	1
Manual control module VCL 01	A2	9.882 826	1
Shut-off/control module VCL 02	A2	9.882 827	1
Auto-regulating module VCL 10	A2	9.882 828	1
Auto-regulating module VCL 11	A2	9.882 829	1
Manual control module VCL 01	A5	9.882 822	1
Shut-off/control module VCL 02	A5	9.882 823	1
Auto-regulating module VCL 10	A5	9.882 824	1
Auto-regulating module VCL 11	A5	9.882 825	1

Detailed brochures are available on request!



**2 Pumps, vacuum/pressure, diaphragm, Laboport SD**

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.

**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: 230 V 50 Hz, other voltages and frequencies available on request) and fully automatic self-drying system.

Easy connection to vacuum desiccator cabinets.

KNF



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



### 1 Pumps, vacuum/pressure, diaphragm, Laboport

PTFE diaphragm pumps for evacuating and pumping corrosive gases and vapours. 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: 230 V 50 Hz.

KNF

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



### 2 Pumps, vacuum/pressure, diaphragm

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

KNF

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

\* IP 20 protection system.

\*\* IP 44 protection system.

### Pumps, vacuum/pressure, diaphragm, accessories

Accessories for standard diaphragm pumps.

KNF

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



### 3 Pumps, vacuum/pressure, diaphragm

Sturdy, economical diaphragm pumps with high pressure output. Variable adjustment.

Behr

Model	MP 300	MP 500
Max. flow rate approx.:	300 L/h	500 L/h
Max. output approx.:	3.1 mWs	3.3 mWs
Voltage:	220-240 V	220-240 V
Frequency:	50 Hz	50 Hz
Power consumption:	4 W	8 W

Type	Cat. No.	PK
MP 300	9.920 518	1
MP 500	9.920 533	1

### 1 Labobase® multi-user vacuum systems, chemical-resistant, KNF Lab

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.

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 230 V 50 Hz, 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).	Cat. No.	PK
Base unit SBC 840	34	8	9.050 715	1
Base unit SBC 844	40	2	9.050 716	1
Base unit SBC 860	60	2	9.050 717	1
Vacuum outlet for fume hoods, unregulated	-	-	9.050 718	1
Flush-mount vacuum outlet, unregulated	-	-	9.050 719	1
Wall-mount vacuum outlet, unregulated	-	-	9.050 720	1
Mobile control unit for regulated outlet	-	-	9.050 721	1

KNF



### 2 Pump systems, vacuum, 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: 230 V 50 Hz.

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.	Cat. No.	PK
SR 810	10	8	N 810.3 FT.18	1A 2 3	9.880 621	1
SH 810	10	8	N 810.3 FT.18	1A 2 3	9.880 622	1
SC 810	10	8	N 810.3 FT.18	1A 2 3 4	9.880 623	1
SCC 810	10	8	N 810.3 FT.18	1A 2 3 4 5	9.880 624	1
SR 820	20	8	N 820.3 FT.18	1A 2 2	9.880 625	1
SH 820	20	8	N 820.3 FT.18	1A 2 3	9.880 626	1
SC 820	20	8	N 820.3 FT.18	1A 2 3 4	9.880 627	1
SCC 820	20	8	N 820.3 FT.18	1A 2 3 4 5	9.880 628	1
SR 840	34	8	N 840.3 FT.18	1 2 2	9.880 629	1
SH 840	34	8	N 840.3 FT.18	1 2 3	9.880 631	1
SC 840	34	8	N 840.3 FT.18	1 2 3 4	9.880 632	1
SC 842	34	2	N 842.3 FT.18	1 2 3 4	9.880 639	1
SCC 840	34	8	N 840.3 FT.18	1 2 3 4 5	9.880 633	1
SCC 842	34	2	N 842.3 FT.18	1 2 3 4 5	9.880 640	1

KNF



### Pump systems, vacuum, Laboport, accessory modules

Modules for Laboport system vacuum pumps.  
See above for descriptions.

KNF

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



### 1 Vacuum pump trolley

Vacuum pump trolley with two condensate traps that can be operated alternately or together. Pump trolley consists of an aluminium frame mounted on lockable castors with a plastic lower shelf for the vacuum pump and a V2A steel top shelf which accommodates two condensate traps. The condensate traps can each hold approx. 150 ml. Spherical ground joints are sealed with FEP covered O-rings. Supplied without pump.

KGW

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

Note: Price does not include vacuum pump!



### 2 Rotary vane pumps

Vacuubrand rotary vane pumps encompass one and two stage pumps with throughputs from 2 to 16 m<sup>3</sup>/h.

VACUUBRAND

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 m <sup>3</sup> / hr.	Ultimate pressure mbar	Weight kg	Width mm	Depth mm	Height mm	Cat. No.	PK
RE 2.5	2.3 / 2.8	3 x 10 <sup>-1</sup>	10.2	308	125	190	9.880 120	1
RE 6	5.7 / 6.8	1 x 10 <sup>-1</sup>	15.3	370	142	207	9.880 121	1
RE 9	8.9 / 10.2	1 x 10 <sup>-1</sup>	21.4	460	152	232	9.880 101	1
RE 16	16.6 / 19.1	1 x 10 <sup>-1</sup>	25.2	505	152	232	9.880 102	1
RZ 2.5	2.3 / 2.8	2 x 10 <sup>-3</sup>	11.4	308	125	190	9.880 123	1
RZ 6	5.7 / 6.8	2 x 10 <sup>-3</sup>	16.4	370	142	207	9.880 124	1
RZ 9	8.9 / 10.2	2 x 10 <sup>-3</sup>	24.2	460	152	232	9.880 125	1
RZ 16	16.6 / 19.1	2 x 10 <sup>-3</sup>	29.0	545	152	232	9.880 104	1

\* 50/60 Hz per DIN 28 432



### 3 Chemical pump stands

Vacuubrand chemical vacuum systems and chemical pump stands 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 pressure even with gas ballast and smooth running
- high tolerance to water and solvent vapours

#### Components:

PC 8: with EK

PC 3: with GKF 1000 inlet cold trap

Type	Pump Model	Flow rate (50/60 Hz) m <sup>3</sup> / hr.	Ultimate pressure mbar	Width mm	Depth mm	Height mm	Cat. No.	PK
PC 3 with RZ 2.5	RZ 2.5	2.3 / 2.8	4 x 10 <sup>-4</sup>	342	448	608	9.881 368	1
PC 3 with RZ 6	RZ 6	5.7 / 6.8	4 x 10 <sup>-4</sup>	370	448	608	9.881 369	1
PC 3 with RZ 8	RZ 9	8.9 / 10.2	4 x 10 <sup>-4</sup>	505	486	608	9.881 370	1
PC 3 with RZ 16	RZ 16	16.6 / 19.1	4 x 10 <sup>-4</sup>	545	486	608	9.881 371	1

### 1 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 pump built in corrosion-resistant materials. 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. Items supplied:

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

#### Technical Specifications

Pumping speed 50/60 Hz:	5.9/6.9 m <sup>3</sup> /h // 4.1 cfm
Ultimate vacuum (partial) without gas ballast:	$4 \times 10^{-4}$ mbar // $3 \times 10^{-1}$ Torr
Ultimate vacuum (total) without gas ballast:	$2 \times 10^{-3}$ mbar // $1.5 \times 10^{-3}$ Torr
Ultimate vacuum (total) with gas ballast:	$1 \times 10^{-2}$ mbar // $0.75 \times 10^{-2}$ 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:	0.37 kW
Nominal speed 50/60 Hz:	1500/1800 rpm
Dimensions (L x W x H):	510 x 305 x 230 mm
Weight:	24.2 kg
Protection class:	IP 40

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

VACUUBRAND



### 2 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. Items supplied:

Pumping unit completely mounted, with Chemistry Hybrid Pump RC 6, insulated exhaust vapour condenser, condensate catchpot on pumping unit console, on/off switch, cable with plug and instructions for use.

#### Technical Specifications

Pumping speed 50/60 Hz:	5.9/6.9 m <sup>3</sup> /h // 4.1 cfm
Ultimate vacuum (partial) without gas ballast:	$4 \times 10^{-4}$ mbar // $3 \times 10^{-1}$ Torr
Ultimate vacuum (total) without gas ballast:	$2 \times 10^{-3}$ mbar // $1.5 \times 10^{-3}$ Torr
Ultimate vacuum (total) with gas ballast:	$1 \times 10^{-2}$ mbar // $0.75 \times 10^{-2}$ 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
Motor rating:	0.37 kW
Nominal speed 50/60 Hz:	1500/1800 rpm
Dimensions (L x W x H):	507 x 377 x 430 mm
Weight:	31.4 kg
Protection class:	IP 40

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

VACUUBRAND



### 3 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  $1 \times 10^{-6}$  mbar x l/s. Excellent throughput.

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

VACUUBRAND





### 1 Small flange fittings

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

VACUUBRAND

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



### 2 Oil for rotary vane pumps

Oil for rotary vane pumps B: Standard pump oil. High viscosity, low vapour pressure, good chemical resistance.  
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.  
Silicone oil SI 2: Highly stable throughout its operating life, resistant to chlorine, HCl and solvent vapours as well as many acids.  
Perfluoropolyether oil: Synthetic Oil. Certified for pumping pure oxygen.

VACUUBRAND

Type	Capacity L	Cat. No.	PK
Oil for rotary vane pumps B	1.00	9.881 921	1
Oil for rotary vane pumps B	5.00	9.881 922	1
Oil for rotary vane pumps K 8	1.00	9.881 911	1
Oil for rotary vane pumps K 8	5.00	9.881 915	1
Silicone oil SI 2	1.00	9.881 926	1
Silicone oil SI 2	5.00	9.881 927	1
Perfluoropolyether oil	0.50	9.882 924	1



### 3 Vacuum fittings, clamping rings for type KF small flange

VACUUBRAND

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



### 4 Vacuum fittings, centring rings

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

VACUUBRAND

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



### 5 Vacuum fittings, external centring rings

Plastic 'PBT'. For Type KF small flange.

VACUUBRAND

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

**Vacuum fittings, nozzles**

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

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

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



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

**1 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 1 mbar (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 (W x D x H):	115 x 115 x 66 mm
Weight:	0.40 kg



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



## 1 Vacuum measuring instrument DVR 5

VACUUBRAND

The DVR 5 is a fully electronic vacuum measurement instrument for the range 1100 to 0.1 mbar (over 4 ranges) with an external capacitive pressure transducer made of aluminium oxide ceramic. The external pressure transducer makes it possible to perform local measurements directly on the given system. The DVR 5 is a mechanically insensitive instrument completely devoid of mercury and cadmium.

Its particular characteristics are:

- high measurement accuracy
- outstanding corrosion resistance
- analogue and digital display, even easily legible from a distance
- metal enclosure affords a high level of safety and electromagnetic interference immunity
- with pressure transducer

### Technical Data

Measurement range:	1100 to 0.1 mbar (hPa), 825 to 0.1 Torr
Measuring principle:	Capacitive; gas type independent, absolute pressure measurement
Measurement accuracy:	< ±1 mbar (Torr) ±1 digit
Power supply:	230 V ±10% 50/60 Hz or 100-120 V 50/60 Hz
Dimensions (L x W x H):	197 x 132 x 87 mm
Weight:	1.4 kg

Type	Cat. No.	PK
DVR 5	9.882 205	1
DKD initial delivery calibration	9.882 221	1



## 2 Fine vacuum measuring instrument VAP 5

VACUUBRAND

The Pirani VAP 5 meter is a fully electronic vacuum gauge that operates on the principle of thermal conductivity. The VAP 5 has no moving parts and is completely free of mercury or cadmium. The measurement range of this fine vacuum instrument extends from 1000 to 10<sup>-3</sup> mbar. The VAP 5 can simply be placed on a tabletop but it is also easy to mount on a stand.

Also available in a set, supplied complete with: VAP 5 measuring tube, gauge head and 2 metre long measuring cable.

### Technical Data

Measurement range:	1000 to 10 <sup>-3</sup> mbar (hPa), 760 to 10 <sup>-3</sup> Torr
Measuring principle:	Pirani thermal conductivity principle
Measurement accuracy:	±10% of displayed value within the range of 100 to 10 <sup>-2</sup> mbar (after temperature compensation)
Power supply:	230 V ±10% 50/60 Hz or 100-120 V 50/60 Hz
Dimensions (L x W x H):	197 x 87 x 132 mm
Weight:	2.0 kg

Type	Cat. No.	PK
Vap 5	9.882 241	1
Vap 5 Set	9.882 242	1
DKD initial delivery calibration	9.882 221	1

## Accessories vacuum gauge, Pirani, VAP 5

VACUUBRAND

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



**1 Vacuum Controller CVC 2<sup>II</sup>**

The CVC 2<sup>II</sup> vacuum controller is a fully-electronic, versatile vacuum measurement and control device. This controller has a built-in, piezo-resistive, absolute pressure transducer which is highly corrosion resistant, an integral vent valve, switching outputs for a vacuum line valve as well as a cooling water valve.

VACUUBRAND



Using such a vacuum controller:

- relieves workload
- reduces foaming and vaporisation delay
- is less damaging to samples
- allows solvent recovery

Vacuubrand CVC 2<sup>II</sup> offers exceptional advantages:

- rapid detection of optimal vacuum adjustment
- analogue and digital displays for quick status monitoring - even from a distance
- metal enclosure affords a high level of safety and electromagnetic interference immunity

**Specifications**

Measurement range: 1300 to 1 mbar (hPa), 975 to 1 Torr  
 Measuring principle: Piezo-resistive; gas type independent, absolute pressure measurement  
 Measurement accuracy: < 0.5% of measurement range (after compensation)  
 Power supply: 230 V ±15% 50/60 Hz or 110 V ±15% 50/60 Hz  
 Dimensions (W x D x H): 132 x 241 x 91 mm  
 Weight: 1.9 kg

Type	Cat. No.	PK
CVC 2 P	9.882 862	1
DKD initial delivery calibration	9.882 221	1
VV6CEM 24 electromagnetic solenoid valve (PVDF/PTFE) with KF DN6/10 and DN 16/10 tubing, nozzle	9.882 044	1

**2 Automatic Vacuum Controller CVC 3000**

Extremely versatile vacuum controller for the laboratory. No configuration required. Just connect and the CVC 3000 will identify all apparatus with Vacuu-BUS:

VACUUBRAND



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 0.1 mbar (810 to 0.1 Torr)  
 Vacuum control range: 1060 to <0.1 mbar (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  
 Voltage (included mains adapter): 100 - 240 V 50/60 Hz a.c. 1ph.  
 Dimensions (desktop unit, L x W x H): 138 x 124 x 115 mm  
 Weight (without mains adapter): 0.44 kg

Description	Cat. No.	PK
CVC 3000	9.882 861	1
DKD calibration at initial delivery	9.882 221	1

\* in conjunction with Vacuubrand Vario NT pumps

**Accessories for Automatic Vacuum Controller CVC 3000**

VACUUBRAND

Description	Cat. No.	PK
External sensor VSK 3000	9.882 850	1
Solenoid inline valve VV-B 6C	9.882 851	1
Cooling water valve VKW-B	9.882 852	1
Extension cable for Vacuu-BUS, 2 m	9.882 853	1
Y-adapter for Vacuu-BUS	9.882 854	1





### 1 Exhaust Vapour Condenser Peltronic

VACUUBRAND

- 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

#### Specifications

Cooling power at 21°C:	50 W
Ambient temperature range:	10 to 40°C
Preset cooling temperature:	10°C
Inlet connection (thread for PTFE tube):	10/8 mm
Outlet connection:	Hose nozzle DN 10, or thread for PTFE tube 10/8 mm
Condensate catchpot:	500 ml/with KS 35
Materials in contact with media:	PP, PFA, ETFE/ECTFE, borosilicate glass
Mains supply:	100 - 230 V 50/60 Hz
Power consumption:	20 to 130 W (controlled)
Dimensions (W x D x H):	175 x 179 x 392 mm
Weight approx.:	4.3 kg

Type	Cat. No.	PK
Peltronic	9.880 852	1



### 2 Water jet pumps

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 10 to 12 mm.  
Vacuum connection: Detachable nozzle with external diameter from 6 to 9 mm and GL 14 screw cap.

Performance characteristics at 4.5 bar water supply pressure at 12°C	
Water consumption:	190 l/hr.
Ultimate vacuum:	16 mbar
Flow rate at atmospheric pressure:	400 l/hr. free air

Type	Cat. No.	PK
Water jet pump	9.303 125	1



### 3 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 3 mm and 10 x 3 mm O-rings).  
Output data at 4.5 bar (absolute) water flow pressure and 12°C water temperature:  
Water consumption: approx. 340 L/hr.  
Ultimate pressure: 16 mbar  
Flow rate at atmospheric pressure: 950 L/hr. free air

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



### 4 Water jet pump

Kartell

PP.  
This pump will work on pressures up to 10 Kg/cm². With built-in, non-return valve to eliminate back flow. Useful for vacuum removal of spilt chemicals, as well as for filter work. Easily dismantled for cleaning.

Description	Cat. No.	PK
Water jet vacuum pump	9.303 031	1
Tubing connectors (Pack of 5 pieces)	9.303 032	1

**1 QuikSip™ BT-aspirator**

BRAND

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.

**Features:**

- Safe removal of supernatants
- Works without a vacuum pump
- Fingertip vacuum control using using cell-culture TM unit
- Suitable for use with disposable pipette tips, micropipettes and Pasteur pipettes
- Adapter and suction tube for the cell-culture TM 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	Cat. No.	PK
QuikSip™ BT-Aspirator	9.777 015	1
8-channel aspiration manifold	9.777 016	1

**2 EcoVac safety suction systems**

Schütt

For safe and convenient aspiration of supernatant liquids. Autoclavable. With safety break-resistant, PP collection bottle, aspiration cap, safety filter and 4 metres of silicone tubing. The screw cap has two quick-release couplings. When the tubing is removed and the connection is broken, they automatically seal themselves and the bottle is then hermetically sealed ready for transport.



Type	Capacity litres	Cat. No.	PK
EcoVac 2 System	2	9.777 000	1
EcoVac 4 System	4	9.777 001	1

**EcoVac safety aspiration systems, accessories**

Schütt

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

Type	Cat. No.	PK
Vacuum pump	9.777 005	1
Foot switch	9.777 008	1
Safety filter	9.777 009	2
Spare 2 L bottle	9.777 007	1
Spare 4 L bottle	9.777 010	1



### 1 BioChem-VacuuCenter BVC 21 NT/BVC 21 NT Vario/BVC 01

- Powerful or gentle aspiration of fluid supernatants down to microlitre volumes using thumb-wheel fine tuning
- Automatic vacuum control without need for a hand or foot switch
- Vario models with variable vacuum level for gentle or powerful aspiration. Quiet, smooth operation due to speed-controlled pump.
- Handset removable without spilling or loss of vacuum due to self-closing quick-release coupling.
- Double connector allowing a second user reduces investment cost.

VACUUBRAND

BVC 21 NT and BVC 21 NT Vario supplied with chemistry diaphragm pump.  
BVC 01 (without pump) to connect to a vacuum network.

Dimensions (W x D x H): 275 x 450 x 520 mm  
Supply requirements: 230 V 50/60 Hz

Type	Weight kg	Supply requirements	Cat. No.	PK
BVC 01	4.0	CEE	9.882 972	1
BVC 01	4.0	CH	9.882 973	1
BVC 21 NT	11.8	CEE	9.881 375	1
BVC 21 NT	11.8	CH	9.881 376	1
BVC 21 NT Vario	14.0	CEE	9.881 377	1
BVC 21 NT Vario	14.0	CH	9.881 378	1



### 2 Accessories for BioChem-VacuuCenter BVC 21 NT/BVC 21 NT Vario/BVC 01

VACUUBRAND

Type	Cat. No.	PK
VacuuHandControl VHC handset with tubing	9.882 974	1
VacuuTransContainer VTC	9.882 976	1
Quick coupling to connect VHC-VTC	9.882 978	1
Protection filter 0.2 µm, hydrophobic, with tubing	9.882 979	1

To connect a second handset please order 9.882 974 and 9.882 978!



### 3 Aspiration system LabTower 828

Aspiration, Filtering, Pipetting. Simple operation, easy to use.

KNF

- Mobile, fits under hoods and laboratory benches
- Designed for right- or left-handed user operation
- Extremely quiet
- Accurately adjustable pipetting rates
- Accepts various types of pipettes and tips
- Extremely lightweight
- Pump protected against liquid ingress by a sterile filter
- Autoclaveable glass bottle secured from tipping over
- Chemically resistant



Type	Cat. No.	PK
Labtower 828	9.880 500	1

### 4 Desiccators, glass, knob lid

Duran®. Clear glass. With ground flange and knob lid. Without disc or plate.

SCHOTT Duran

DN	Height mm	Cat. No.	PK
100	187	9.042 019	1
150	252	9.042 031	1
200	309	9.042 038	1
250	357	9.042 043	1
300	433	9.042 047	1

**1 Desiccators, glass, vacuum** SCHOTT Duran

Duran®. To DIN 12491. Clear glass.  
With ground flange and  
Novus stopcock assembly in lid.  
Without disc or plate.

DN	Height mm	Tube socket NS	Cat. No.	PK
100	174	24 / 29	9.042 119	1
150	239	24 / 29	9.042 131	1
200	296	24 / 29	9.042 138	1
250	344	24 / 29	9.042 143	1
300	420	24 / 29	9.042 147	1



**2 Desiccator lids** SCHOTT Duran

Duran®. Clear glass. Knob lid.  
Fits all desiccator bases with the corresponding flat flange.

DN	Height mm	Cat. No.	PK
100	75	9.042 319	1
150	98	9.042 331	1
200	107	9.042 338	1
250	122	9.042 343	1
300	150	9.042 347	1



**3 Desiccator lids** SCHOTT Duran

Duran®. DIN 12491. Clear glass. Tube top, for Novus stopcock assembly.  
Without stopcock.

DN	Height mm	NS	Cat. No.	PK
100	62	24 / 29	9.042 419	1
150	85	24 / 29	9.042 431	1
200	94	24 / 29	9.042 438	1
250	109	24 / 29	9.042 443	1
300	137	24 / 29	9.042 447	1



**4 Desiccator stopcock** Lenz

Duran®.  
With PTFE spindle.  
To fit side outlet.  
For Novus-type desiccators.

Length mm	NS	Cat. No.	PK
108	24 / 29	9.042 500	1



**5 Desiccator stopcock** Lenz

Duran®.  
With PTFE spindle.  
To fit tube top lid.  
For Novus-type desiccators.

Length mm	NS	Cat. No.	PK
124	24 / 29	9.042 505	1





### 1 Desiccators, vacuum, O-ring seals

Soft rubber.  
These O-ring seals make glass lubrication unnecessary.  
Suitable for desiccators, Witt jars etc.

Int. dia. mm	Cat. No.	PK
100	9.042 710	1
150	9.042 715	1
200	9.042 720	1
250	9.042 725	1
300	9.042 730	1



### 2 Desiccators, plastic, vacuum

Crystal clear, PC dome lid.  
PP. Lower section and desiccant tray  
Venting stopper with non-return valve in lid.  
Polychlorbutadiene rubber (CK) O-ring seal between lid and base which is compressed when vacuum is applied.  
Lightweight and easy to use.

*Kartell*

Nominal dia. mm	Dia. mm	Height mm	Cat. No.	PK
150	170	195	9.042 615	1
200	235	240	9.042 620	1
250	285	300	9.042 625	1



### 3 Spare "O" Rings

Neoprene rubber.

*Kartell*

Dia. mm	Cat. No.	PK
150	9.042 681	1
200	9.042 682	1
250	9.042 683	1



### 4 Desiccator plates

PP. For use at room temperature.  
Not suitable for use with hot crucibles.

*Kartell*

Dia. mm	Cat. No.	PK
141	9.042 674	1
189	9.042 675	1
238	9.042 676	1



### 5 Accessory venting stopper for desiccators

PC.  
With non-return valve.

*Kartell*

Type	Cat. No.	PK
Desiccators	9.042 684	1



### 6 Desiccators, plastic, vacuum, Nalgene®

Type 5311. PC. Transparent, lightweight, unbreakable, for vacuum or non-vacuum use.  
With stopcock. Large, stable base. No danger of implosion.  
Capable of maintaining 0.95 bar negative pressure over a 24 hour period.  
With silicone O-ring, no lubrication required.  
Suitable for 230 mm diameter desiccator discs or plates.  
Max. height over plate 195 mm. Plate not included.

*Nalgene*

External diameter:	280 mm	
Internal diameter:	251 mm	
Type	Cat. No.	PK
5311 desiccator	9.042 690	1

**1** Desiccator disc, Nalgene®

Type 5312. Light-green, ceramic-metal composite. With numbered quadrants. Autoclavable.

Nalgene

Ext. dia. mm	Cat. No.	PK
230	9.042 573	1



**2** Desiccators, plastic, vacuum

With clear PC lid. White PP base, reinforced to reduce danger of implosion under vacuum. Can maintain a vacuum of 740 mm Hg for 24 hours. With Teflon stopcock for connection to flexible tubing with internal diameter of 6.4 mm. With neoprene sealing ring and perforated PP plate.

Ext. dia. mm	Int. dia. mm	Pan dia. mm	Height mm	Height* mm	Cat. No.	PK
171	149	140	206	122	9.042 671	1
230	197	190	260	157	9.042 672	1
273	240	230	311	199	9.042 673	1

\* above plate

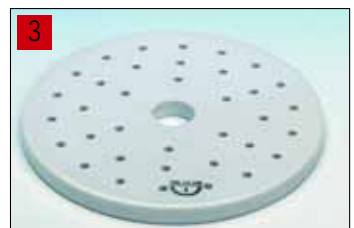


**3** Desiccator plates

To DIN 12911. Porcelain. Perforated. Without feet. 20 mm diameter central hole and 5 mm diameter outer holes.

Haldenwanger

Dia. mm	Cat. No.	PK
90	9.042 509	1
140	9.042 514	1
190	9.042 519	1
231	9.042 523	1
280	9.042 528	1



**4** Desiccator cabinets, Mini desiccators

Transparent polystyrene. Air tight doors with rubber seals and two chrome-plated catches for quick closure. Door opens downwards and can be folded away into the base. Stackable. Supplied with desiccant beads.

Bohlender

Width mm	Depth mm	Height mm	Cat. No.	PK
224	200	168	9.042 646	1
224	200	336	9.042 647	1
224	200	504	9.042 648	1



**5** Desiccator cabinet, Star

Keeps moisture-sensitive products safe, secure, dry and in a dust-free environment. This is achieved by adding desiccant beads, which significantly reduce atmospheric humidity inside the cabinet. 'Star' desiccator cabinets are constructed in transparent acrylic. With aluminium reinforced frame for increased stability. A foam-rubber seal is fitted around the door which also incorporates an easy-to-read, precision dial hygrometer. Supplied with four removable shelves, base pan to hold desiccant, and desiccant beads.

Bohlender

Internal dimensions (W x D x H): 260 x 480 x 320 mm  
 External dimensions (W x D x H): 304 x 520 x 375 mm.  
 Working volume: 40 litres  
 Total volume: 45 litres  
 Weight: approx. 7 kg

Type	Cat. No.	PK
with gentle magnetic catch	9.042 651	1



**6** Desiccant beads

With orange indicator colour.

Container	Capacity kg	Cat. No.	PK
Box	1	9.042 550	1
Box	3	9.042 551	1
Bucket	8	9.042 552	1
Drum	25	9.042 553	1





### 1 Condensation traps

Duran® borosilicate glass, comprising bottle with ground glass cone neck fitting a separate inlet/outlet head with choice of tubing or ground joint connections.

Capacity ml	Cone NS	Socket NS	Connection	Cat. No.	PK
100	29	29	Tubing connections	9.305 350	1
250	45	45	Tubing connections	9.305 351	1
100	29	29	Cone / socket NS 29	9.305 352	1
250	45	45	Cone / socket NS 29	9.305 353	1



### 2 Cold traps

Duran® borosilicate glass, one-piece, with GL 45 neck and cap closure, GL 14 threaded side connections with caps and plastic tubing adapters.

Capacity ml	Cat. No.	PK
250	9.305 349	1

### 3 4 5 6 Cold traps with Dewar flask

Cold traps with Dewar flasks are made from 3.3 DIN/ISO 3585 borosilicate glass to hold LN<sub>2</sub> for vacuum applications. The flasks are vacuum insulated and silver-plated. KGW

They are encased in aluminium for protection and have a plastic ring collar, into which the cold trap is inserted.

Thus no additional support is needed for the cold trap.

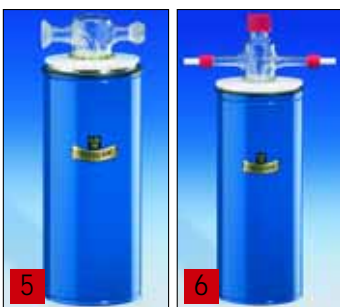
Items supplied: Cold trap, Dewar-flask, plastic ring.  
Dewar type 12C/18C: see no. 9.032.024/9.032.030

Versions Cold trap joints:

S 29 = spherical joints

GL 18 = glass screwthead with PTFE olive

O 29 = spherical joints S 29 with O-ring seal



Type	Condensate capacity ml	Coolant capacity ml	Dewar		Cold trap joints	Cat. No.	PK
			Type	Type			
KF 29-K	150	1000	12 C	S 29		9.032 065	1
KF 29-OK	150	1000	12 C	O 29		9.032 066	1
KF 29-GL	150	1000	12 C	GL 18		9.032 067	1
KFL 29-K	250	2000	18 C	S 29		9.032 068	1
KFL 29-OK	250	2000	18 C	O 29		9.032 069	1
KFL 29-GL	250	2000	18 C	GL 18		9.032 070	1
KF 29-K-A	150	1000	12 C	S 29		9.032 071	1
KF 29-OK-A	150	1000	12 C	O 29		9.032 072	1
KF 29-GL-A	150	1000	12 C	GL 18		9.032 073	1
KFL 29-K-A	150	2000	18 C	S 29		9.032 074	1
KFL 29-OK-A	150	2000	18 C	O 29		9.032 075	1
KFL 29-GL-A	150	2000	18 C	GL 18		9.032 076	1

**1 Cold traps, SKF H, stainless steel**

Cold traps protect both the vacuum system and the pump. They extend maintenance intervals and improve the overall performance of the vacuum installation.

- Sturdy, easy-to-clean design
- Easy to disassemble
- Double-wall design without separate insulating vacuum for good conductance
- Long operating time with one filling
- Easy condensate drain and cleaning without disassembling

VACUUBRAND

Type	Connection	Length mm	Width mm	Height mm	Cat. No.	PK
SKF H 25	KF DN 24	140	166	303	9.882 855	1
SKF H 40	KF DN 40	140	166	319	9.882 856	1

**2 Woulff bottles**

Erlenmeyer pattern (5000 ml is bottle-shaped), with reinforced walls, for work under vacuum and plastic coating to act as a splinter and implosion protection.

A glass insert is fitted with removable PP tubing connections, vent valve head and analogue pressure gauge with 2 scale ranges (1000 to 0 mbar, 760 to 0 mm Hg).

Capacity ml	Dia. mm	Cat. No.	PK
500	110	9.305 340	1
1000	140	9.305 341	1
2000	170	9.305 342	1
5000	185	9.305 343	1
10000	240	9.305 344	1
15000	255	9.305 345	1
20000	290	9.305 346	1

**3 Woulff bottles**

Duran®. DIN 12480.  
With 3 NS standard ground joints.  
Without base tubulature.

SCHOTT Duran

Capacity L	Dia. mm	Neck NS	Cat. No.	PK
0.50	87	19/26	9.305 319	1
1.00	113	24/29	9.305 324	1
2.00	135	29/32	9.305 329	1
5.00	185	34/35	9.305 336	1

