KNF LABORATORY EQUIPMENT KNOWING WHAT COUNTS

KNF LABORATORY EQUIPMENT – RETHINKING EVERYDAY LAB WORK

KNF is always looking for ways to minimize the challenges of everyday laboratory tasks through user-friendly equipment. That is why KNF designs compact devices with intuitive interfaces and intelligent functions with clear advantages. They are quiet, efficient and completely reliable.

Lab technology that supports you.

LABOPORT® – MODULAR AND EXPANDABLE

LABOPORT® SC 820 G

The new laboratory vacuum pump system guarantees maximum performance and safety in the laboratory, tailored to your individual needs:

The powerful basic pump can be easily modified to an even higher environmentally friendly system. Various system components such as a separator, high-performance condenser and the new vacuum controller, allows the systems to be used for a wide range of laboratory applications.

Simple, safe and precise

- Automatic, accurate recognition and monitoring of the boiling point using the integrated ramp function
- No solvent library required
- High recovery rates even for solvents with low boiling points
- ATEX-compliant in accordance with (Ex) II 2/-G IIB+H2 T3 internal atmosphere only

LABOPORT® Vacuum control unit
for SC 820 G and SC 840 G systems

HELLO, NEW LABOPORT SYSTEMS!

LABOPORT® N 820 G

LABOPORT® SR 820 G

Eco-friendly technology

- Safe solvent recovery
- Protection against aggressive chemicals
- High energy efficiency

MODULAR VACUUM PUMP SYSTEMS

- **Safe operation**
  Wireless remote control for safe operation from outside closed fume hoods

- **Clear overview**
  Touch screen display and precise control for easy and intuitive operation

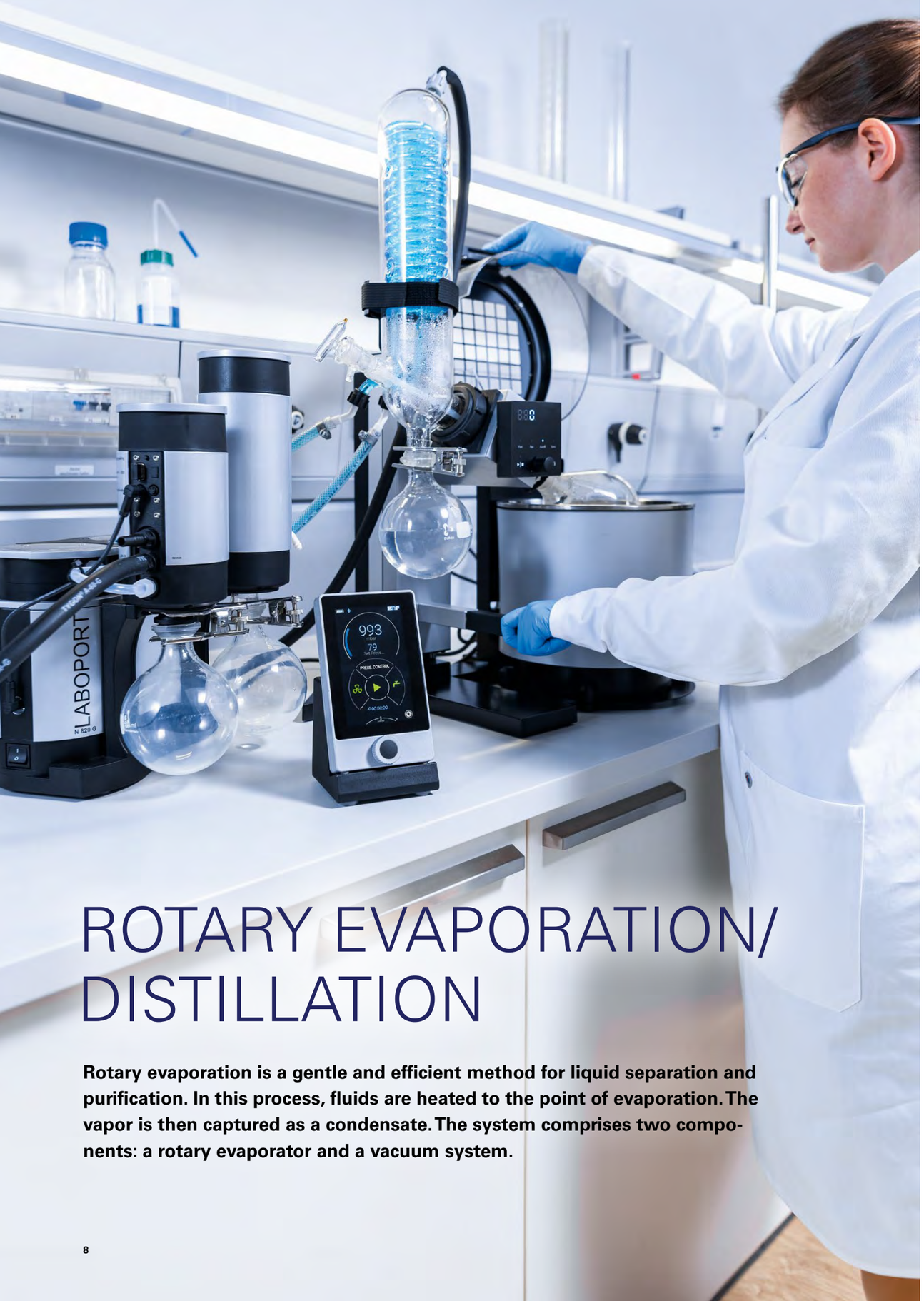
- **Wide range of applications**
  Four operation modes that cover almost all common laboratory applications

LABOPORT® – SMART CONTROL

Our new laboratory vacuum pump systems provide continuous control, making your lab even safer, more efficient and user-friendly.

The most recent highlight in our range is the vacuum control unit with wireless remote control for the SC 820 G and SC 840 G pump systems. It offers intuitive handling and maximum ease of operation. Its newly designed touch screen display offers high-precision vacuum regulation for complete process control. The large user interface also ensures that you have an overview of what is important at all times.

All functions are shown in one clear view without complicated sub-menus, giving you immediate oversight. The new vacuum controller offers complete accuracy, safety and functionality for almost all common lab applications. So whatever you are working on, it is exactly what you need.



ROTARY EVAPORATION/ DISTILLATION

Rotary evaporation is a gentle and efficient method for liquid separation and purification. In this process, fluids are heated to the point of evaporation. The vapor is then captured as a condensate. The system comprises two components: a rotary evaporator and a vacuum system.

The most important considerations when choosing a rotary evaporator

All KNF pumps are chemical-resistant, offer a high vapor compatibility and feature a gas ballast. There are three key parameters to consider when selecting an appropriate vacuum system. Firstly, the performance of the vacuum system is dependent on the volume of the evaporating flask used. The larger the volume, the higher the flow rate required. Beyond this, it is necessary to consider the ultimate vacuum required for the evaporation process, as well as whether or not a remote control is required.

Evaporating flask volume
< 3 liters

Evaporating flask volume
3–5 liters

Evaporating flask volume
> 5 liters

Ultimate vacuum
≤ 2 mbar abs.

Ultimate vacuum
≥ 6 mbar abs.

With remote control

Without remote control

Diaphragm Vacuum Pump **LABOPORT® N 820 G**

Evaporating flask volume
< 3 liters

Ultimate vacuum
≥ 6 mbar abs.

Without remote control

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump **N 920 G**

Evaporating flask volume
< 3 liters

Ultimate vacuum
≤ 2 mbar abs.

Without remote control

- Flow rate: 21 l/min
- Ultimate vacuum: 2 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Vacuum Pump System — LABOPORT® SC 820 G

Evaporating flask volume
< 3 liters

Ultimate vacuum
≥ 6 mbar abs.

With remote control

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)
- Incl. wireless controller with touch screen

More information

Vacuum Pump System — SC 920 G

Evaporating flask volume
< 3 liters

Ultimate vacuum
≤ 2 mbar abs.

Control unit

- Flow rate: 21 l/min
- Ultimate vacuum: 2 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)
- Incl. controller

More information

Vacuum Pump System — LABOPORT® SH 820 G

Evaporating flask volume
< 3 liters

Ultimate vacuum
≥ 6 mbar abs.

Without remote control

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump — LABOPORT® N 840 G

Evaporating flask volume
3–5 liters

Ultimate vacuum
≥ 6 mbar abs.

Without remote control

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Vacuum Pump System — LABOPORT® SC 840 G

Evaporating flask volume
3–5 liters

Ultimate vacuum
≥ 6 mbar abs.

With remote control

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)
- Incl. wireless controller with touch screen

More information

Vacuum Pump System — LABOPORT® SH 840 G

Evaporating flask volume
3–5 liters

Ultimate vacuum
≥ 6 mbar abs.

Without remote control

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump — N 860.3 FT 40.18

Evaporating flask volume
> 5 liters

Ultimate vacuum
≤ 6 mbar abs.

Without remote control

- Flow rate: 60 l/min
- Ultimate vacuum: 4 mbar abs.

More information

Vacuum Control Unit — VC 900

Regardless of your selection parameters, the VC 900 control unit can be used with any pump.

This separate control unit allows a range of vacuum pumps to be operated remotely, easily and intuitively using a touch screen.

- Digital display for easy vacuum control
- Separate control unit with pressure sensors and valves
- Four different operating modes

More information

Rotary Evaporator **RE 212 FW-G**

- Digital display for intuitive operation
- Wide rotation speed: 5–315 rpm
- Two compact heating baths with digital display available (Water bath standard 10–90 °C, optional oil bath 10–180 °C)
- Possibility to place the heating bath on the right or left side
- Optional protective cover for heating bath
- Robust, chemical-resistant vacuum seal

More information

Flexible options

Designed to provide you with the best value: Choose from two system packages to suit your budget.

Rotary evaporator RE 212 FW-G | LABOPORT® N 820 G

The RE 212 FW-G rotary evaporator combined with our speed-controlled LABOPORT® N 820 G diaphragm vacuum pump

Rotary evaporator RE 212 FW-G | LABOPORT® SC 820 G

The RE 212 FW-G rotary evaporator combined with our SC 820 G vacuum pump system with wireless control unit

FILTRATION

Vacuum filtration is an efficient process used to remove suspended particles and matter from fluids. Using a vacuum pump, a pressure differential is created to draw the liquid through the filter more effectively. The pump can be equipped with a vacuum control and a vacuum gauge to easily regulate the vacuum.

The relevance of the right vacuum level...

All KNF pumps are chemical-resistant and have a high vapor compatibility. The efficiency of vacuum filtration can be affected by a number of different factors, including the porosity of the filter, the viscosity of the liquid to be filtered and the type of particle to be removed. When choosing a vacuum pump, it is important to consider the volume of your flask and the number of filtration units (here referred to as "funnels"). A vacuum that is too weak will cause the process to take more time, while a vacuum that is too strong can lead to the filter tearing or collapsing.

Filtration
1 funnel

Filtration
3–6 funnels

Filtration
6–12 funnels

Filtration
12–24 funnels

Mini Diaphragm Vacuum Pump **LABOPORT® N 96**

Filtration
1 funnel

- Flow rate: 7 l/min
- Ultimate vacuum: 130 mbar abs.
- Adjustable motor speed control
- Small footprint saves valuable bench space in the lab

More information

Diaphragm Vacuum Pump **LABOPORT® N 816.3 KT.18**

Filtration
3–6 funnels

- Flow rate: 16 l/min
- Ultimate vacuum: 20 mbar abs.
- Optional fine control valve (suction side) available

More information

Diaphragm Vacuum Pump — LABOPORT® N 938.50 KT.18

Filtration

6–12 funnels

- Flow rate: 30 l/min
- Ultimate vacuum: 15 mbar abs.
- Optional fine control valve (suction side) available

More information

Diaphragm Vacuum Pump — LABOPORT® N 840 G

Filtration

12–24 funnels

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- High condensate and vapor compatibility

More information

FILTRATION

SPE/SOLID-PHASE EXTRACTION

Solid-phase extraction is a common method of sample preparation where compounds are dissolved in a liquid and separated according to their chemical and physical properties. A vacuum pump can be used to speed up this physical extraction process.

An ideal solution from KNF

All KNF pumps are chemical-resistant and have a high vapor compatibility. When choosing a vacuum pump for solid-phase extraction, it is important to select a pump with both an appropriate flow rate and a vacuum level suited to the application. The N 816.3 KT.18 diaphragm vacuum pump by KNF offers an ideal solution. The optional fine control valve allows users to precisely control and adjust the vacuum.

SPE/Solid-Phase Extraction

Diaphragm Vacuum Pump **LABOPORT® N 816.3 KT.18**

SPE/Solid-Phase Extraction

- Flow rate: 16 l/min
- Ultimate vacuum: 20 mbar abs.
- Optional fine control valve (suction side) available

More information

DESICCATION/ DEGASSING

Degassing is used to remove dissolved gases from liquids. This is particularly important in applications where dissolved gases remaining within the liquid would negatively impact the outcome. Desiccation, by contrast, aims to remove the moisture from a solid or maintain a dry environment when working with moisture-sensitive materials. Both applications make use of a vacuum desiccator and a vacuum pump that controls the vacuum inside the desiccator.

Viscosity and container volume

All KNF pumps are chemical-resistant and have a high vapor compatibility. The viscosity of the solvent and the container volume or capacity play an important role in both dessication and vacuum degassing. Viscous liquids such as gels, creams and synthetic resins require a higher ultimate vacuum than thin liquids. The larger the volume, the higher the flow rate required to ensure a fast evacuation of the system.

Solvent
Low viscosity fluid

Solvent
Viscous fluid

Volume
≤ 20 liters

Volume
> 20 liters

Diaphragm Vacuum Pump **LABOPORT® N 816.3 KT.18**

Solvent
Low viscosity fluid

Volume
≤ 20 liters

- Flow rate: 16 l/min
- Ultimate vacuum: 20 mbar abs.
- Optional fine control valve (suction side) available

More information

Diaphragm Vacuum Pump — LABOPORT® N 820 G

Solvent
Viscous fluid

Volume
≤ 20 liters

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control

More information

Diaphragm Vacuum Pump — N 920 G

Solvent
Viscous fluid

Volume
≤ 20 liters

- Flow rate: 21 l/min
- Ultimate vacuum: 2 mbar abs.
- Adjustable motor speed control

More information

Diaphragm Vacuum Pump — LABOPORT® N 938.50 KT.18

Solvent
Low viscosity fluid

Volume
> 20 liters

- Flow rate: 30 l/min
- Ultimate vacuum: 15 mbar abs.
- Optional fine control valve (suction side) available

More information

Diaphragm Vacuum Pump — LABOPORT® N 840 G

Solvent
Viscous fluid

Volume
> 20 liters

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control

More information

DESICCATION/DEGASSING

CENTRIFUGAL CONCENTRATION

Centrifugal vacuum concentration combines centrifugal force, a vacuum and heat in order to quickly and efficiently dry or concentrate multiple small samples. As this process makes use of aggressive solvents, it is advisable to use a pump with high chemical resistance and good vapor compatibility.

Choosing a centrifugal concentrator: the key parameters

All KNF vacuum pumps recommended for centrifugal concentration are highly resistant to chemicals and have excellent vapor compatibility. Another important parameter when choosing a suitable pump is the volume of the centrifugal concentrator being used. The larger the volume, the higher the flow rate required.

Volume
≤ 30 liters

Volume
> 30 liters

Diaphragm Vacuum Pump **LABOPORT® N 820 G**

Volume
≤ 30 liters

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

CENTRIFUGAL CONCENTRATION

Diaphragm Vacuum Pump **LABOPORT® N 840 G**

Volume
> 30 liters

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump **N 860.3 FT.40.18**

Volume
> 30 liters

- Flow rate: 60 l/min
- Ultimate vacuum: 4 mbar abs.

More information

VACUUM OVEN

Vacuum ovens remove moisture from substances through a combination of high temperatures and reduced pressure. The vacuum oven regulates the temperature, while the vacuum pump lowers the pressure inside the oven. KNF pumps and solutions are optimally designed for this process, and guarantee consistent performance with perfect results.

Fast and gentle vacuum drying

All KNF vacuum pumps recommended for vacuum oven applications are highly resistant to chemicals and have excellent vapor compatibility. Both the volume of the vacuum oven and the sample volume should be considered when selecting a vacuum pump for best results. The larger the volume, the higher the pump flow rate required. If the level of the vacuum needs to be controlled, a vacuum pump system should be used instead of only a pump.

Volume
≤ 20 liters

Volume
20–50 liters

Volume
> 50 liters

Control unit

No control unit

Vacuum Pump System **LABOPORT® SR 820 G**

Volume
≤ 20 liters

No control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Vacuum Pump System **LABOPORT® SR 840 G**

Volume
20–50 liters

No control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump — LABOPORT® N 820 G

Volume
≤ 20 liters

No control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Vacuum Pump System — LABOPORT® SC 820 G

Volume
≤ 20 liters

Control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Incl. wireless remote control with touch screen
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump — LABOPORT® N 840 G

Volume
20–50 liters

No control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Vacuum Pump System — LABOPORT® SC 840 G

Volume
20–50 liters

Control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Incl. wireless remote control with touch screen
- Ideal for solvents with high boiling points (e.g. DMF, DMSO)

More information

Diaphragm Vacuum Pump — LABOPORT® N 820.3 FT.40.18

Volume
≤ 20 liters

No control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 8 mbar abs.

More information

Diaphragm Vacuum Pump — LABOPORT® N 840.3 FT.40.18

Volume
20–50 liters

No control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 8 mbar abs.

More information

Diaphragm Vacuum Pump — N 860.3 FT.40.18

Volume
> 50 liters

No control unit

- Flow rate: 60 l/min
- Ultimate vacuum: 4 mbar abs.

More information

Vacuum Control Unit — VC 900

Regardless of your selection parameters, the VC 900 control unit can be used with any pump.

This separate control unit allows a range of vacuum pumps to be operated remotely, easily and intuitively using a touch screen.

- Digital display for easy vacuum control
- Separate control unit with pressure sensors and valves
- Multiple operating modes

More information

MULTI-USER VACUUM SYSTEMS

Multi-user vacuum systems offer a dual benefit by efficiently supplying multiple applications with vacuum using just one pump. For the best results, it is important to choose the right pump/vacuum pump system for the appropriate number of connection points.

Choosing a multi-user vacuum system: the key parameters

All KNF pumps feature high condensate and vapor compatibility. When selecting the most suitable multi-user vacuum system, both the the required number of connection points and working vacuum level should be considered. In basic terms, the more connection points you wish to supply, the higher your central vacuum system's flow rate will need to be. If the level of the vacuum needs to be controlled, a vacuum pump system should be used instead of only a pump.

Supply points ≤ 3

Supply points 3–8

Control unit

No control unit

Vacuum Pump System **LABOPORT® SC 820 G**

Supply points ≤ 3

Control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Incl. wireless remote control with touch screen

More information

Vacuum Pump System **LABOPORT® SC 840 G**

Supply points 3–8

Control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control
- Incl. wireless remote control with touch screen

More information

Diaphragm Vacuum Pump — LABOPORT® N 820 G

Supply points
≤ 3

No control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control

More information

Vacuum Pump System — LABOPORT® SH 820 G

Supply points
≤ 3

No control unit

- Flow rate: 20 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control

More information

Vacuum Pump System — SC 920 G

Supply points
≤ 3

Control unit

- Flow rate: 21 l/min
- Ultimate vacuum: 2 mbar abs.
- Incl. controller
- Adjustable motor speed control

More information

Diaphragm Vacuum Pump — LABOPORT® N 840 G

Supply points
3–8

No control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control

More information

Vacuum Pump System — LABOPORT® SH 840 G

Supply points
3–8

No control unit

- Flow rate: 34 l/min
- Ultimate vacuum: 6 mbar abs.
- Adjustable motor speed control

More information

Diaphragm Vacuum Pump — N 860.3 FT.40.18

Supply points
3–8

No control unit

- Flow rate: 60 l/min
- Ultimate vacuum: 4 mbar abs.

More information

Vacuum Control Unit — VC 900

Regardless of your selection parameters, the VC 900 control unit can be used with any pump.

This separate control unit allows a range of vacuum pumps to be operated remotely, easily and intuitively using a touch screen.

- Digital display for easy vacuum control
- Separate control unit with pressure sensors and valves
- Four different operating modes

More information

METERING/DOSING LIQUIDS

Many lab tasks require precise amounts of liquids to produce accurate results. Whether the application calls for a single dosed quantity or the metering of consistent amounts of a fluid, diaphragm liquid pumps provide the accuracy needed for reliable, reproducible results.

Precise, accurate and reliable dosing

When selecting the best pump for your needs, the desired dosage and type of control are key considerations. There are two dosing volume options: 0.03 – 20 ml/min and 1 – 100 ml/min. The two control options are manual control (S) and external control (RC-P). Pump heads made from a range of different materials may be selected based on the liquid to be dosed.

Dosing volumne
0.03–20 ml/min

Dosing volumne
1–100 ml/min

Manual control (S)

External control (RC-P)

Diaphragm Liquid Pump **SIMDOS® 02 FEM 1.02 S**

Dosing volumne
0.03–20 ml/min

Manual control (S)

- Flow rate: 0.03–20 ml/min
- Operating pressure: 6 bar rel.
- Simple, intuitive operation
- Self-priming with dry-run protection
- Repeatability: +/-1%

More information

Diaphragm Liquid Pump **SIMDOS® 02 FEM 1.02 RC-P**

Dosing volumne
0.03–20 ml/min

External control (RC-P)

- Flow rate: 0.03–20 ml/min
- Operating pressure: 6 bar rel.
- Simple, intuitive operation
- Self-priming with dry-run protection
- Repeatability: +/-1%

More information

Diaphragm Liquid Pump — SIMDOS® 10 FEM 1.10 S

Dosing volumne

1 – 100 ml/min

Manual control (S)

- Flow rate: 1 – 100 ml/min
- Operating pressure: 6 bar rel.
- Simple, intuitive operation
- Self-priming with dry-run protection
- Repeatability: +/- 1 %

More information

Diaphragm Liquid Pump — SIMDOS® 10 FEM 1.10 RC-P

Dosing volumne

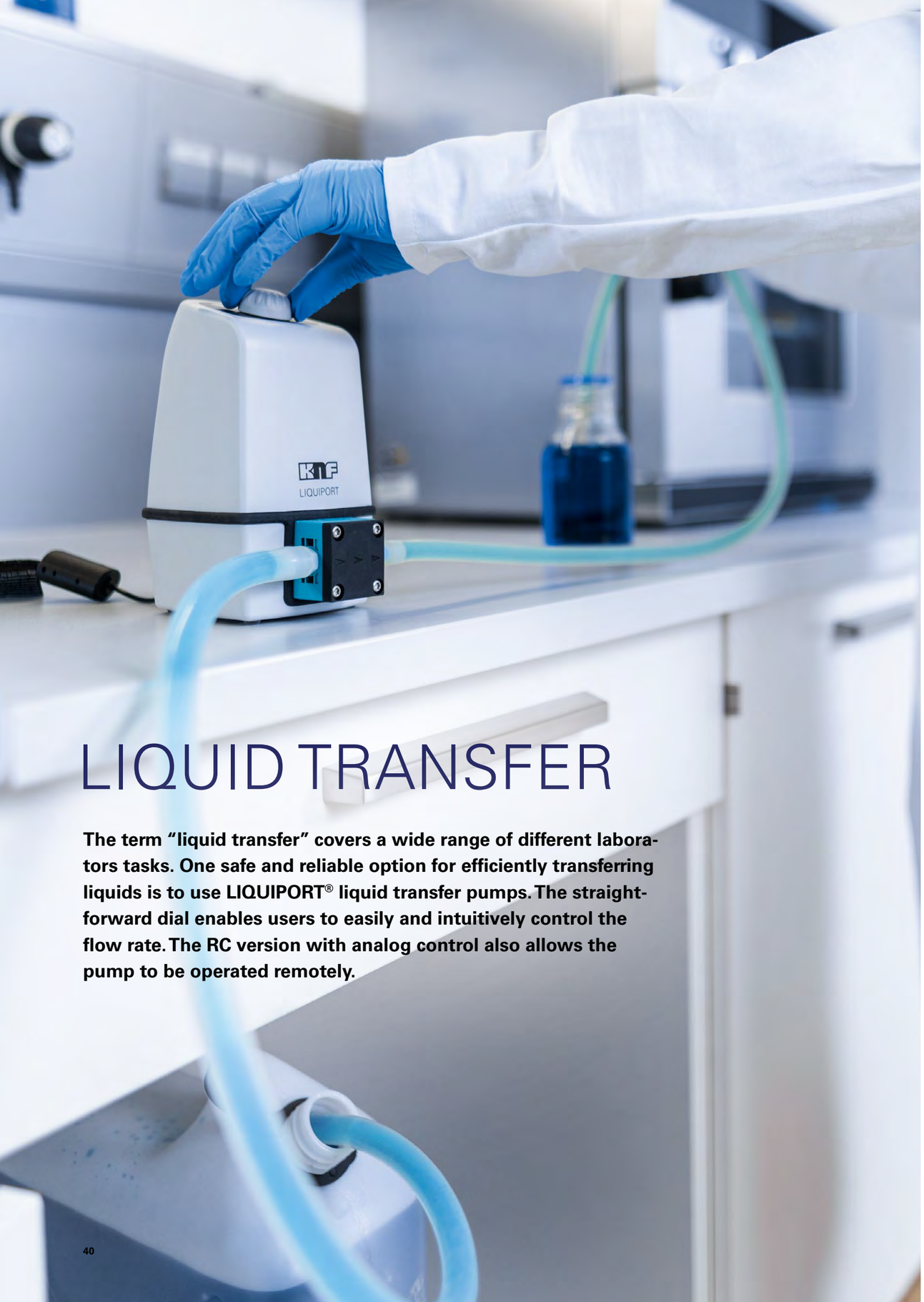
1 – 100 ml/min

External control (RC-P)

- Flow rate: 1 – 100 ml/min
- Operating pressure: 6 bar rel.
- Simple, intuitive operation
- Self-priming with dry-run protection
- Repeatability: +/- 1 %

More information

METERING/DOSING LIQUIDS



LIQUID TRANSFER

The term “liquid transfer” covers a wide range of different laborators tasks. One safe and reliable option for efficiently transferring liquids is to use LIQUIPORT® liquid transfer pumps. The straightforward dial enables users to easily and intuitively control the flow rate. The RC version with analog control also allows the pump to be operated remotely.

Transfer liquids simply, safely and reliably

As with liquid dosing and metering, flow rate and operation method are key considerations when choosing a suitable pump for liquid transfer. Pump heads made from a range of different materials may also be selected based on the liquid to be transferred. The flow rate can vary between 0.2–1.3 l/min and 0.5–3 l/min. Users also have a choice of manual control (S) or remote control (RC).

Flow rate
0.2–1.3 l/min

Flow rate
0.5–3.0 l/min

Manual control (S)

External control (RC)

Diaphragm Liquid Pump **LIQUIPORT® NF 100 S**

Flow rate
0.2–1.3 l/min

Manual control (S)

- Flow rate: 0.2–1.3 l/min
- Operating pressure: 4 bar rel.
- Simple, intuitive operation

More information

Diaphragm Liquid Pump **LIQUIPORT® NF 100 RC**

Flow rate
0.2–1.3 l/min

External control (RC)

- Flow rate: 0.2–1.3 l/min
- Operating pressure: 4 bar rel.
- Simple, intuitive operation

More information

Diaphragm Liquid Pump **LIQUIPORT® NF 300 S**

Flow rate

0.5–3.0 l/min

Manual control (S)

- Flow rate: 0.5–3.0 l/min
- Operating pressure: 4 bar rel.
- Simple, intuitive operation

More information

Diaphragm Liquid Pump **LIQUIPORT® NF 300 RC**

Flow rate

0.5–3.0 l/min

External control (RC)

- Flow rate: 0.5–3.0 l/min
- Operating pressure: 4 bar rel.
- Simple, intuitive operation

More information

Diaphragm vacuum pumps

		LABOPORT® N 96	LABOPORT® N 816.3 KT.18	LABOPORT® N 816.1.2 KT.18	LABOPORT® N 938.50 KT.18	N 920 G
APPLICATION	Filtration	x	x	x	x	
	SPE/Solid Phase Extraction	x	x			
	Dessication/Degassing		x		x	x
	Fluid aspiration via vacuum	x	x		x	
	Rotary evaporation/Distillation					x
	Vacuum oven applications					x
	Multi-user vacuum supply					
	Centrifugal concentration					x
	Dosing of liquids					
TECHNICAL SPECIFICATIONS	Flow rate (m³/h) at standard atmospheric pressure	0.4	0.96	1.8	1.8	1.26
	Ultimate vacuum (mbar abs.)	<130	20	160	15	2
	Operating pressure (bar)	2.5	0.5	0.5	0.5	0.5
	Hose connection (mm)	NPT 1/8–ID 6, PP	ID 6	ID 6	ID 10	ID 10
	Permissible media and ambient temperature (°C)	+5 … +40	+5 … +40	+5 … +40	+5 … +40	Media temp.: +5 … +40 Ambient temp.: +10 … +40
	Weight (kg)	1.3	3.95	3.95	6.8	8.5
	Dimensions W x H x D (mm)	156 x 119 x 75	90 x 141 x 361	102 x 141 x 361	110 x 212 x 317	158 x 226 x 324
MATERIAL	Pump head					
	Diaphragm	PTFE coating	PTFE coating			
	Valves	FKM	FFPM			

		LABOPORT® N 842.3 FT.18	LABOPORT® SD N 820.3 FT.40.18	LABOPORT® SD N 840.3 FT.40.18	N 860.3 FT.40.18	VC 900
APPLICATION	Filtration					
	SPE/Solid Phase Extraction					
	Dessication/Degassing	x				
	Fluid aspiration via vacuum					
	Rotary evaporation/Distillation	x	x	x	x	x
	Vacuum oven applications	x	x	x	x	x
	Multi-user vacuum supply				x	x
	Centrifugal concentration				x	
	Dosing of liquids					
TECHNICAL SPECIFICATIONS	Flow rate (m³/h) at standard atmospheric pressure	2.04	1.2	2.04	3.6	
	Ultimate vacuum (mbar abs.)	2	10	10	4	
	Operating pressure (bar)	1	1	1	1	
	Hose connection (mm)	ID 10	ID 10	ID 10	ID 12	Pneumatic: ID 10 Coolant: ID 10 Inert gas: ID 4
	Permissible media and ambient temperature (°C)	+5 … +40	+5 … +40	+5 … +40	+5 … +40	+10 … +40
	Weight (kg)	13.4	9.6	12.9	14.8	1.2
	Dimensions W x H x D (mm)	167 x 228 x 341	177 x 220 x 312	189 x 239 x 341	291 x 278 x 331	101 x 181 x 67
MATERIAL	Pump head	PTFE				
	Diaphragm	PTFE coating				
	Valves	FFPM				

New LABOPORT® vacuum pumps

		LABOPORT® N 820 G Ex II 2/-G IIB+H2 T3 internal atmosphere only	LABOPORT® N 840 G Ex II 2/-G IIB+H2 T3 internal atmosphere only
APPLICATION	Filtration		x
	Dessication/Degassing	x	x
	Fluid aspiration via vacuum	x	x
	Rotary evaporation/Distillation	x	x
	Vacuum oven applications	x	x
	Centrifugal concentration		x
TECHNICAL SPECIFICATIONS	Flow rate (m³/h) at standard atmospheric pressure	1.2	2.04
	Ultimate vacuum (mbar abs.)	6	6
	Operating pressure (bar)	0.1	0.1
	Hose connection (mm)	ID 9.5 – 8, PVDF	ID 9.5 – 8, PVDF
	Permissible media and ambient temperature (°C)	+5 … +40	+5 … +40
	Integrated gas ballast valve	Yes	Yes
	Integrated speed control	Yes	Yes
	Weight (kg)	8.8	11.3
	Dimensions W x H x D (mm)	163 x 220 x 259	177 x 240 x 289
MATERIAL	Pump head	PTFE	
	Diaphragm	PTFE coating	
	Valves	FFPM	

New LABOPORT® vacuum pump systems (without control unit)

		LABOPORT® SR 820 G Ex II 3/-G IIB+H2 T3 internal atmosphere only	LABOPORT® SH 820 G	LABOPORT® SR 840 G	LABOPORT® SH 840 G
APPLICATION	Filtration	x		x	
	Dessication/Degassing			x	
	Fluid aspiration via vacuum	x			
	Rotary evaporation/Distillation		x		x
	Vacuum oven applications	x		x	
	Centrifugal concentration	x		x	
TECHNICAL SPECIFICATIONS	Flow rate (m³/h) at standard atmospheric pressure	1.2		2.04	
	Ultimate vacuum (mbar abs.)	6			
	Operating pressure (bar)	0.1			
	Hose connection (mm)	ID 9.5 – 8, PVDF			
	Permissible media and ambient temperature (°C)	+ 5 … + 40			
	Integrated gas ballast valve	Yes			
	Integrated speed control	Yes			
	Weight (kg)	10.7	11.7	13.1	14.1
	Dimensions W x H x D (mm)	282 x 234 x 260	323 x 416 x 260	299 x 250 x 274	340 x 416 x 274
MATERIAL	Pump head	PTFE			
	Diaphragm	PTFE coating			
	Valves	FFPM			

Diaphragm vacuum pump systems (with control unit)

		SC 920 G	LABOPORT® SC 820 G ⟨Ex⟩ II 3/-G IIB+H2 T3 internal atmosphere only	LABOPORT® SC 840 G ⟨Ex⟩ II 3/-G IIB+H2 T3 internal atmosphere only
APPLICATION	**Filtration**			
	SPE/Solid Phase Extraction			
	Degassing/Dessication			
	Fluid aspiration via vacuum			
	Rotary evaporation/Distillation	x	x	x
	Vacuum oven applications	x	x	x
	Multi-user vacuum supply	x		
	Centrifugal concentration			
	Metering/transferring liquids			
TECHNICAL SPECIFICATIONS	**Flow rate (m³/h) at standard atmospheric pressure**	1.26	1.2	2.04
	Ultimate vacuum (mbar abs.)	2	8	8
	Operating pressure (bar)		1	1
	Hose connection (mm)	Pneumatic: ID 10 Coolant: ID 8 Inert gas: ID 6	Pneumatic: ID 10 Coolant: ID 8	Pneumatic: ID 10 Coolant: ID 8
	Permissible media and ambient temperature (°C)	+5 … +40	+5 … +40	+5 … +40
	Weight (kg)	15.2	16.0	19.3
	Dimensions W x H x D (mm)	366 x 423 x 294	289 x 506 x 397	289 x 506 x 417
MATERIAL	**Pump head**		PTFE	PTFE
	Diaphragm	PTFE coating	PTFE coating	PTFE coating
	Valves	FFPM	FFPM	FFPM

ATEX key including the explosive gases and vapors that may be transferred

	⟨Ex⟩ II 2/-G IIB+H2 T3 INTERNAL ATMOSPHERE ONLY		
	T1	T2	T3
	Methane		
IIA	acetone, ammonia, benzene (pure), acetic acid, ethane, ethyl acetate, carbon oxides, methane, propane, toluene	ethyl alcohol, n-butane, n-butyl alcohol	benzines, diesel fuels, aviation fuel, fuel oils, n-hexane
IIB	natural gas	ethylene	
IIC	Hydrogen		

Diaphragm liquid pumps

		SIMDOS® 02 FEM 1.02	SIMDOS® 10 FEM 1.10	LIQUIPORT® NF 100	LIQUIPORT® NF 300
APPLICATION	**Filtration**				
	SPE/Solid Phase Extraction				
	Dessication/Degassing				
	Fluid aspiration via vacuum				
	Rotary evaporation/Distillation				
	Vacuum oven applications				
	Multi-user vacuum supply				
	Centrifugal concentration				
	Metering/transferring liquids	x	x	x	x
TECHNICAL SPECIFICATIONS	**Flow rate (ml/min) with water at 20 °C and zero pressure head**	0.03–20	1–100		
	Flow rate (l/min) with water at 20 °C and zero pressure head			0.2–1.3	0.5–3.0
	Operating pressure (bar)	6	6	1 (4 with LIQUIPORT® NF 1.100)	1 (4 with LIQUIPORT® NF 1.300)
	Suction head (mWg)	2	3	3	3
	Hose connection (mm)	ID 1.6/AD 3.2	ID 4/AD 6	ID 8	ID 12
	Permissible media and ambient temperature (°C)	Media temp.: +5 … +80 Ambient temp.: +5 … +40	Media temp.: +5 … +80 Ambient temp.: +5 … +40	Media temp.: +5 … +80 Ambient temp.: +5 … +40	Media temp.: +5 … +80 Ambient temp.: +5 … +40
	Weight (kg)	0.9	0.9	1.0	1.5
	Dimensions W x H x D (mm)	93 x 144 x 150	93 x 144 x 150	99 x 177 x 130	104 x 188 x 160
MATERIAL	**Pump head**	PP, PVDF, PTFE or stainless steel	PP, PVDF, PTFE or stainless steel	PP, PVDF or PTFE	PP, PVDF or PTFE
	Diaphragm	FFKM or PTFE coating	PTFE coating	PTFE coating	PTFE coating
	Valves	FFKM	FFKM	FFKM	FFKM

Column fixture

Wall mount

Foot switch

Inline-Filter FS 60

Inline-Filter FS 25

Rotary evaporator

		RE 212 FW-G
APPLICATION	**Rotary evaporation**	x
TECHNICAL SPECIFICATIONS	**Heating bath: Heating temperature (°C)**	10–180
	Evaporating flask parameters: **- Evaporating flask volume (ml)** **- Rotational speed (1/min)**	 50–2000 5–315
	Weight (kg)	9.1
	Dimensions W x H x D (mm) **– incl. water bath**	554 x 745 x 365

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