# KNF LABORATORY EQUIPMENT KNOWING WHAT COUNTS

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# KNF LABORATORY EQUIPMENT

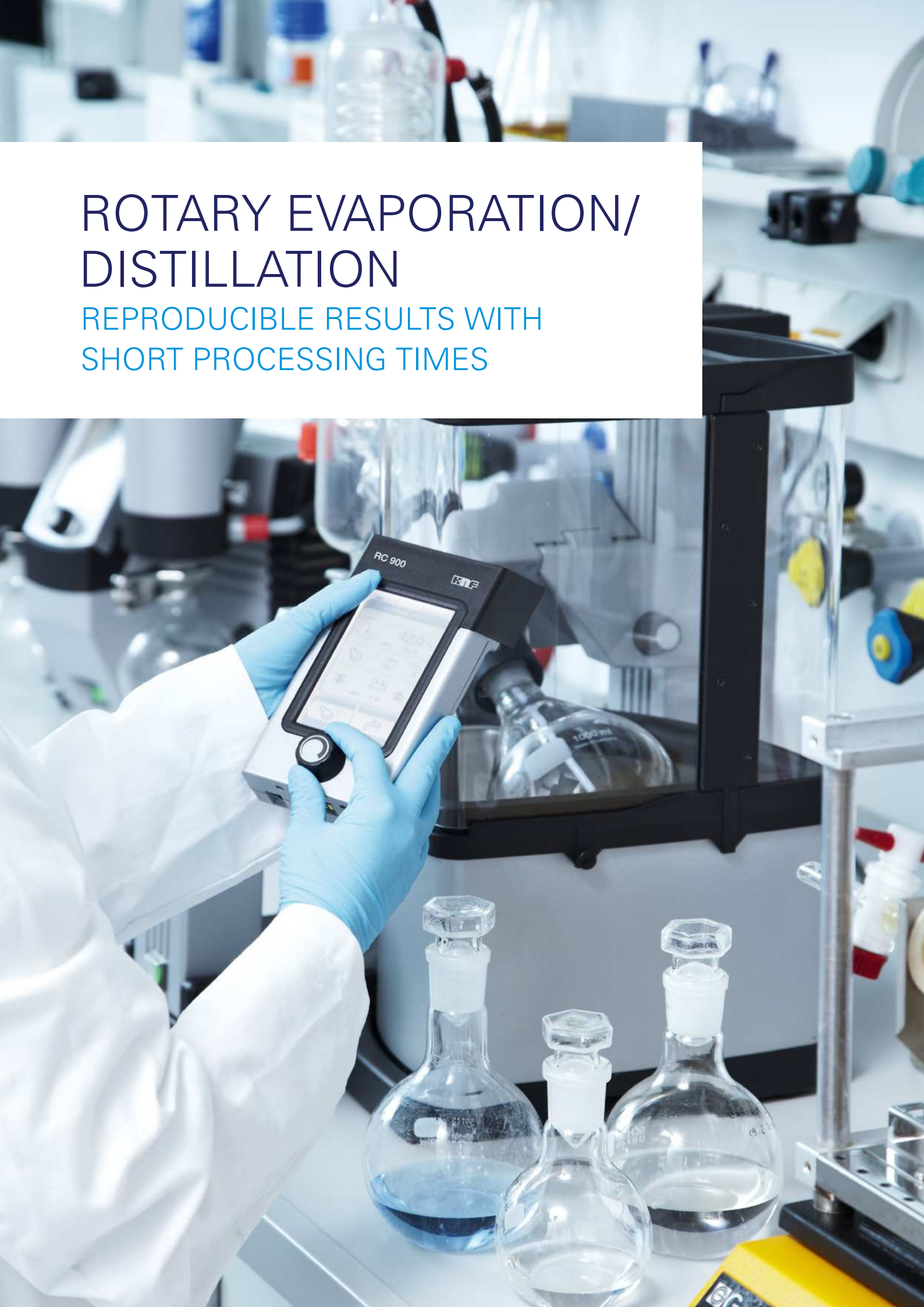
## COMPELLING ADVANTAGES

**KNF permanently strives** to counter the challenges of daily lab work with easy handling. Devices from KNF are therefore intuitive and compact, and offer clear advantages when it comes to intelligent functions: quiet operation, powerful and totally reliable.

**Discover lab technology that supports you.**

# ROTARY EVAPORATION/ DISTILLATION

## REPRODUCIBLE RESULTS WITH SHORT PROCESSING TIMES



# BENEFIT FROM EXPERT KNOWLEDGE

## ROTARY EVAPORATION TAILORED TO PRACTICAL NEEDS

**Under the spotlight at KNF:** What aspects are really key to rotary evaporation in everyday lab practice? What is needed to guarantee simple, economical and reliable processes day in day out? These are the questions we used to guide us when developing and implementing the RC 900 and the RC 600. We became involved in daily lab work. We asked lab technicians what they wished for, enlisted experts to perform tests and incorporated their suggestions.

**What makes KNF's rotary evaporators stand out?** They are designed to impress thanks to their distinct handling advantages, clever functional details and well thought out safety features.

**EASY TO USE I CLEVER FUNCTIONAL DETAILS I WELL THOUGHT OUT SAFETY FEATURES**

### RC 900. SUPERIOR PERFORMANCE SYSTEM.

Rotary evaporator, vacuum pump system and chiller as a perfectly coordinated system.

RC 900 SC 920 G C 900

### RC 600. DESIGNED FOR ACADEMIA LABS.

System packages are available to suit every budget. The system set-up shown here features the powerful N 920 G vacuum pump. The VC 900 vacuum control unit can also be used to precisely control vacuum pumps from other manufacturers.

C 900 N 920 G VC 900 RC 600

# RC 900

## SUPERIOR PERFORMANCE SYSTEM

**Cooling condenser is straight-forward to detach** by turning the clamping nut. The cooling condenser is also extremely easy to clean.

Central **remote control** for all relevant parameters for distillation and for the heating bath – easy operation by touching and turning.

**Memory function** – simply press the memory button to save the flask's current immersion depth and rotation speed for easy and reliable process repeatability.

**Tube guide inside the tower** – tidy and safe, with tubes no longer an obstruction.

**Uncomplicated flask exchange** – flask simply locks into place – and can be done with one hand.

Convenient, fully adjustable **flask angle** set via a control knob.

Cordless heating bath with diode to indicate heat level and a pour spout for **safe, spill-free emptying**.

### SUCCESSFULLY COMBINED

**Joining forces to create a precisely balanced system**, we present the RC 900 rotary evaporator combined with the SC 920 G vacuum pump system and the C 900 chiller, which together form an effective, efficient system.

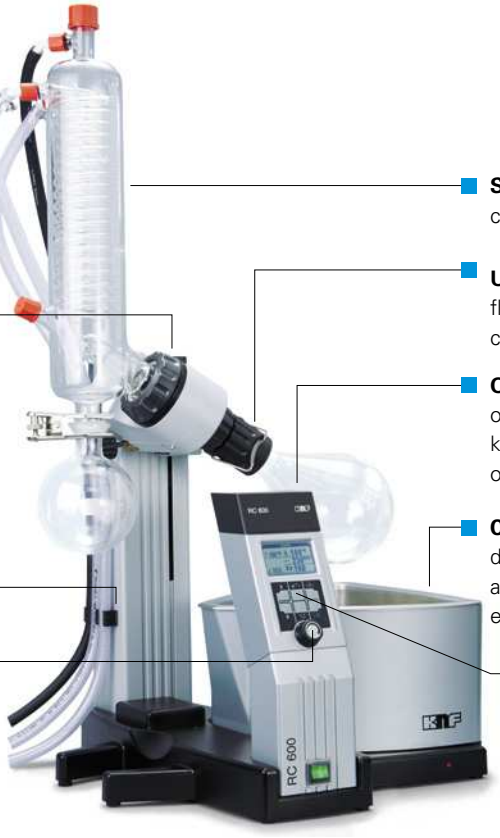
# RC 600

## DESIGNED FOR ACADEMIA LABS

**Cooling condenser is straight-forward to detach** by turning the clamping nut. The cooling condenser is also extremely easy to clean.

**Fixed tube guide.**

Control knob to adjust set points for **heating bath temperature** and **flask rotation speed**.




**Safety as standard** – coated cooling condenser.

**Uncomplicated flask exchange** – flask simply locks into place – and can be done with one hand.

**Operating unit** – all functions operated centrally via a membrane keypad providing exeptional ease of use.

**Cordless heating bath** with a diode to indicate heat level and a pour spout for safe, spill-free emptying.

**Memory function** – simply press the memory button to save the flask's current immersion depth and rotation speed for easy and reliable process repeatability.

### A VERSATILE SYSTEM COMPONENT

**Set for flexibility:** Several system packages to suit different budget conditions are available. The VC 900 vacuum control unit can also be used to precisely control vacuum pumps from other manufacturers.

#### SMART EVAPORATION

C 900 N 920 G VC 900 RC 600

#### TURNKEY EVAPORATION

C 900 SC 920 G RC 600

# RC 900 AND RC 600

## EASE OF USE, DESIGNED TO INSPIRE YOU EVERY DAY

### **FLASK EXCHANGE** | QUICK, EASY AND RELIABLE

Flasks can be exchanged quickly and easily:

- Push flask into retainer until the fastening clip is heard locking into place – that's all there is to it.
- To release, lift the fastening clip and remove the flask.
- Safety catch prevents the flask slipping accidentally during removal.
- The memory function saves the current immersion depth and rotation speed, enabling flasks to be changed quickly, easily and reliably during an iterative process.

### **FLASK ANGLE** | FULLY ADJUSTABLE AND PRECISE

Different flask sizes require adjustable pivoting to ensure the flask is properly immersed in the water or oil bath.

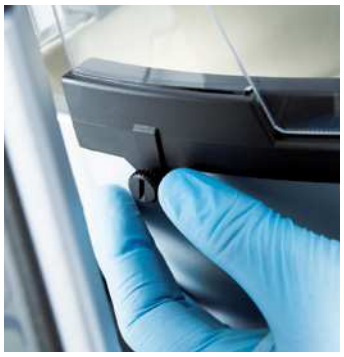
- With the RC 900, the optimum position can be set with ease using a fully adjustable control knob.

### **COOLING CONDENSER** | HIGH-PERFORMANCE AND EASY TO CLEAN

The cooling condenser performance is impressive thanks to its optimized coil design.

- Condensate collection is fast and efficient.
- Simply unscrew a clamping nut to detach the condenser for cleaning.
- Large opening of the condenser greatly facilitates cleaning.
- Dry ice cold finger available as accessory.

# RC 900 AND RC 600
## ELABORATED SAFETY FEATURES



### **PROTECTIVE COVER** | COMPREHENSIVE SAFETY WHEN NEEDED

The safety guard completely covers the heating bath. It is therefore the accessory of choice when ultimate safety is required.

- Simply place it on the rim of the heating bath and tighten three locking screws to secure.
- Electronic monitoring of the protective cover; if the heating bath is turned on when the protective cover is open, a warning sound is emitted.
- Easy access to flask thanks to hinged designed.

### **HEATING BATH** | SAFE FOR THE USER AND THE PROCESS

The cordless heating bath offers safety and ease of use.

- Vertical double wall for the safe transportation of filled heating baths without spillages.
- Pour spout for safe emptying.
- Diode to indicate heat level.
- Mounted on the guide rail, the horizontal position of the heating bath can easily be adjusted to suit different flask sizes.
- Fill guide makes it easier to feed in the specific quantities of water or oil required for each flask size.

### **REMOTE CONTROL OF THE RC 900** | CENTRAL AND SECURE

The remote control allows the RC 900 to be operated safely even from outside closed fume hoods.

- All functions including heating bath can be centrally controlled.
- Ergonomically advantageous placement for glare-free input of parameters.

## QUIET

### SC 920 G Vacuum Pump System

- Flow rate 1.26 m³/h / Ultimate vacuum 2 mbar abs.
- Quiet operation
- Remote-controlled for safe operation from outside closed fume hoods
- Automatic, accurate recognition and monitoring of the boiling point using the integrated ramp function
- High recovery rates even with low boiling point solvents
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve
- Speed-controlled

### SC 950 Vacuum Pump System

- Flow rate 3 m³/h / Ultimate vacuum 2 mbar abs.
- Suited for supplying vacuum to different applications
- Quiet operation
- Remote-controlled for safe operation from outside closed fume hoods
- Automatic, accurate recognition and monitoring of the boiling point using the integrated ramp function
- High recovery rates even with low boiling point solvents
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve
- Speed-controlled

## DUAL CONTROL

**SCC 950 Vacuum Pump System**

- Flow rate 3 m³/h / Ultimate vacuum 2 mbar abs.
- Equipped with two controllers to simultaneously and independently assist two rotary evaporators
- Automatic, accurate recognition and monitoring of the boiling point using the integrated ramp function
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve
- Speed-controlled

LABOPORT®

## ROBUST

**SC 820 and SC 840 Vacuum System**

- Flow rate up to 2.04 m³/h / Ultimate vacuum 8 mbar abs.
- Vacuum system comprising chemically resistant diaphragm vacuum pump, base plate, condenser, separator and vacuum control unit

LABOPORT®

## CHEMICALLY RESISTANT

**N 820.3 FT.18 and N 840.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate up to 2.04 m³/h / Ultimate vacuum 8 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors
- ⟨Ex⟩ ATEX-compliant in accordance with **ATEX II 2G IIB+H2 T3X internal atmosphere only**
- Also available with an integrated gas ballast valve: N 820.3 FT.18 G and N 840.3 FT.18 G

LABOPORT®

## ROBUST

**N 842.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate 2.04 m³/h / Ultimate vacuum 2 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors

## SPEED-CONTROLLED

**N 920 G Diaphragm Vacuum Pump**

- Flow rate 1.26 m³/h / Ultimate vacuum 2 mbar abs.
- High suction speed, particularly in the low vacuum range
- Integrated rotational speed control enables pumping capacity to be easily adapted manually to process requirements
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve

**Tip:** When combined with the VC 900 vacuum control unit and the connection cable, the rotational speed is controlled in accordance with the requirements of the process.

## A POWERFUL PACKAGE

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

- Flow rate 3.6 m³/h / Ultimate vacuum 4 mbar abs.
- Integrated KNF self-drying system ensures that condensate is quickly removed from the pump heads without the vacuum being altered. This significantly reduces process time and preserves the pump heads.
- Chemically resistant and thus ideal for use with extremely aggressive/corrosive gases and vapors

## VACUUM CONTROL

**VC 900 Vacuum Control Unit**

- Control of the vacuum application
- Separate control unit with pressure sensors and two-step controlled valve to be placed independently from the operating unit
- Easy to use

## ECONOMICAL

**C 900 Chiller**

- Operating temperature range -10 to +40 °C, cooling capacity 250 W
- Compact design, small footprint
- Splash-proof membrane keypad
- Easy to fill

# DEGASSING

## CONSTANT VACUUM FOR CLEAR RESULTS

LABOPORT®

## HIGH-PERFORMANCE

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

- Flow rate 0.96 m³/h / Ultimate vacuum 20 mbar abs.
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## FAST

**N 938.50 KT.18 Diaphragm Vacuum Pump**

- Flow rate 1.8 m³/h / Ultimate vacuum 15 mbar abs.
- Connecting both pump heads in parallel and in series ensures exceptionally fast evacuation
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## CHEMICALLY RESISTANT

**N 820.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate 1.2 m³/h / Ultimate vacuum 8 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors
- Ⓔx ATEX-compliant in accordance with **ATEX II 2G IIB+H2 T3X internal atmosphere only**
- Also available with an integrated gas ballast valve: N 820.3 FT.18 G

## SPEED-CONTROLLED

**N 920 G Diaphragm Vacuum Pump**

- Flow rate 1.26 m³/h / Ultimate vacuum 2 mbar abs.
- High suction speed, particularly in the low vacuum range
- Integrated rotational speed control enables pumping capacity to be easily adapted manually to process requirements
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve

**Tip:** When combined with the VC 900 vacuum control unit and the connection cable, the rotational speed is controlled in accordance with the requirements of the process.

# FILTRATION/SPE

## RELIABLE VACUUM FOR CLEAN RESULTS. COMPACT, POWERFUL, FAST.

LABOPORT®

## SMALL AND FOR (ALMOST) ANY USE

**N 86 KT.18 Mini Diaphragm Vacuum Pump**

- Flow rate 0.33 m³/h / Ultimate vacuum 160 mbar abs.
- Extremely low footprint
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## HIGH-PERFORMANCE

**N 816.3 KT.18 and N 816.1.2 KT.18 Diaphragm Vacuum Pump**

- Flow rate up to 1.8 m³/h / Ultimate vacuum up to 20 mbar abs.
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## FAST

**N 938.50 KT.18 Diaphragm Vacuum Pump**

- Flow rate 1.8 m³/h / Ultimate vacuum 15 mbar abs.
- Connecting both pump heads in parallel and in series ensures exceptionally fast evacuation
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## CHEMICALLY RESISTANT

**N 840.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate 2.04 m³/h / Ultimate vacuum 8 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors
- ⟨Ex⟩ ATEX-compliant in accordance with **ATEX II 2G IIB+H2 T3X internal atmosphere only**
- Also available with an integrated gas ballast valve: N 840.3 FT.18 G

# FLUID ASPIRATION

## RELIABLE VACUUM WITH PROCESS-SPECIFIC FLOW RATES

LABOPORT®

## SMALL AND FOR (ALMOST) ANY USE

**N 86 KT.18 Mini Diaphragm Vacuum Pump**

- Flow rate 0.33 m³/h / Ultimate vacuum 160 mbar abs.
- Extremely low footprint
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## HIGH-PERFORMANCE

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

- Flow rate 0.96 m³/h / Ultimate vacuum 20 mbar abs.
- PTFE-coated diaphragm is ideal for aggressive/corrosive gases and vapors

LABOPORT®

## CHEMICALLY RESISTANT

**N 810.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate 0.6 m³/h / Ultimate vacuum 8 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors
- ⟨Ex⟩ ATEX-compliant in accordance with **ATEX II 2G IIB+H2 T3X internal atmosphere only**
- Also available with an integrated gas ballast valve: N 810.3 FT.18 G

# METERING AND TRANSFERRING LIQUIDS

## PRECISE, SAFE AND CLEAN HANDLING OF NEUTRAL AND AGGRESSIVE LIQUIDS

LIQUIPORT®

## RELIABLE

**NF 100 and NF 300 Chemically-resistant Diaphragm Liquid Pump**

- Flow rate from 0.2 up to 3 l/min / Pressure head 10 mWg, suction head 3 mWg
- Self priming, dry running
- Pump heads available in your choice of PP, PVDF or PTFE – diaphragms available in PTFE, valves in FFKM
- Pressure head also available for 60 mWg on request
- Flow rate can either be set manually (Version S) or both manually and via an external control device (Version RC)

SIMDOS®

## PRECISE

**SIMDOS® 02 and SIMDOS® 10 Chemically-resistant Diaphragm Dosing Pump**

- Flow rate from 0.03 up to 100 ml/min / Pressure head 60 mWg, suction head 2 mWg and 3 mWg respectively
- Pump heads available in your choice of PP, PVDF or PTFE – diaphragms available in PTFE, valves in FFKM
- Flow rate can either be set manually (Version S) or both manually and via an external control device as well as with interface RS 232 (Version RCP)
- Additional safety diaphragm for maximum security
- Easy exchange of the transfer diaphragm by activating the maintenance command in the operating program

# GEL DRYING

## OPTIMUM RESULTS ACHIEVED THANKS TO CHEMICAL RESISTANCE AND FULLY VARIABLE VACUUM

LABOPORT®

## CHEMICALLY RESISTANT

**N 820.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate 1.2 m³/h / Ultimate vacuum 8 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors
- ⟨Ex⟩ ATEX-compliant in accordance with **ATEX II 2G IIB+H2 T3X internal atmosphere only**
- Also available with an integrated gas ballast valve: N 820.3 FT.18 G

## SPEED-CONTROLLED

**N 920 G Diaphragm Vacuum Pump**

- Flow rate 1.26 m³/h / Ultimate vacuum 2 mbar abs.
- High suction speed, particularly in the low vacuum range
- Integrated rotational speed control enables pumping capacity to be easily adapted manually to process requirements
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve

**Tip:** When combined with the VC 900 vacuum control unit and the connection cable, the rotational speed is controlled in accordance with the requirements of the process.

# CENTRIFUGAL CONCENTRATION

## PRECISE, HIGH-PERFORMANCE VACUUM FOR RAPID, GENTLE TREATMENT OF SAMPLES

## SPEED-CONTROLLED

**N 920 G Diaphragm Vacuum Pump**

- Flow rate 1.26 m³/h / Ultimate vacuum 2 mbar abs.
- High suction speed, particularly in the low vacuum range
- Integrated rotational speed control enables pumping capacity to be easily adapted manually to process requirements
- PPS pump head combined with PTFE-coated diaphragm are ideal for aggressive/corrosive gases and vapors
- Integrated gas ballast valve

**Tip:** When combined with the VC 900 vacuum control unit and the connection cable, the rotational speed is controlled in accordance with the requirements of the process.

LABOPORT®

## CHEMICALLY RESISTANT

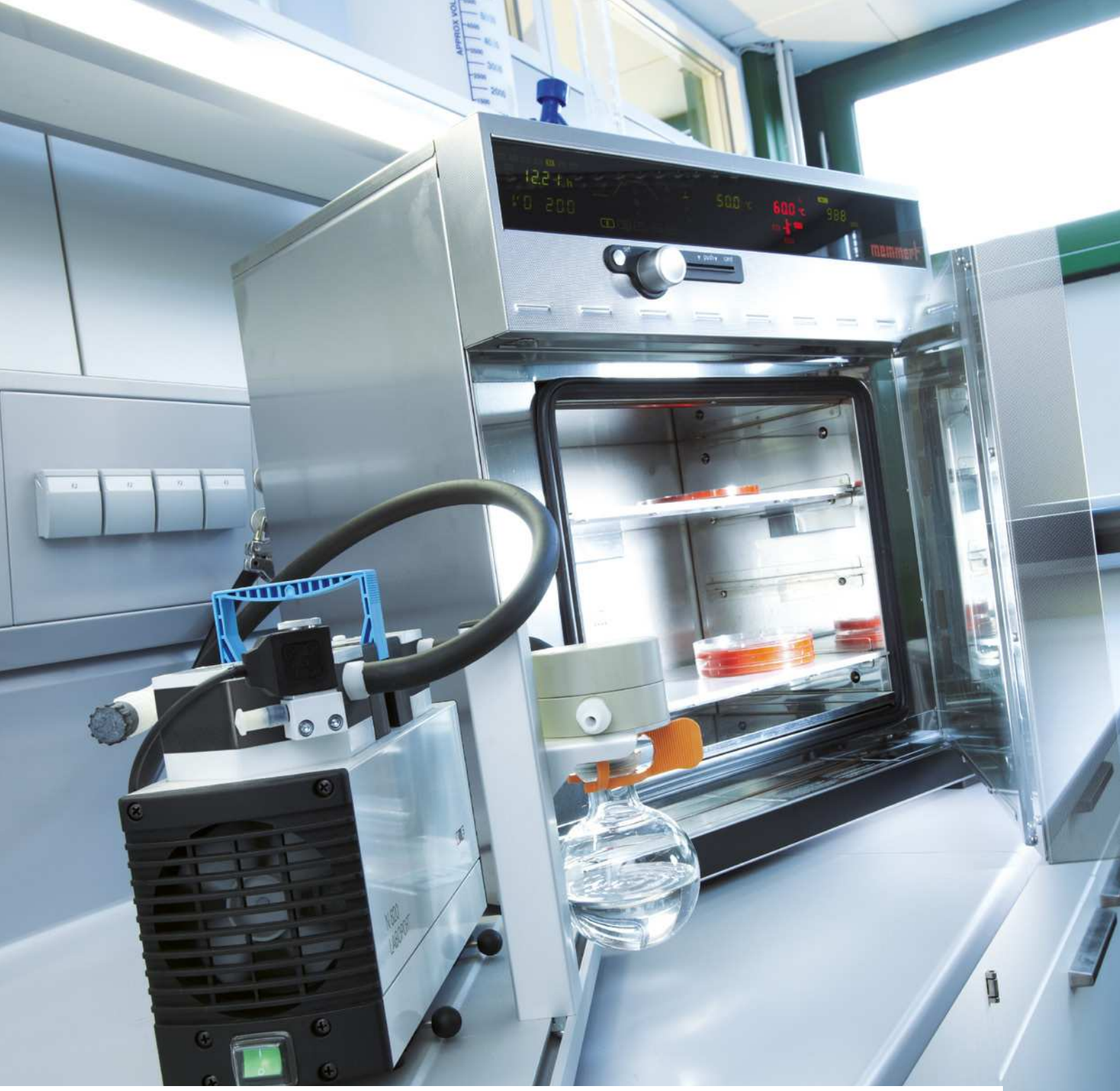
**N 840.3 FT.18 Diaphragm Vacuum Pump**

- Flow rate 2.04 m³/h / Ultimate vacuum 8 mbar abs.
- High level of vapor and condensate compatibility
- PTFE pump head combined with PTFE-coated diaphragm are ideal for extremely aggressive/corrosive gases and vapors
- Ⓔx ATEX-compliant in accordance with **ATEX II 2G IIB+H2 T3X internal atmosphere only**
- Also available with an integrated gas ballast valve: N 840.3 FT.18 G

## A POWERFUL PACKAGE

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

- Flow rate 3.6 m³/h / Ultimate vacuum 4 mbar abs.
- Integrated KNF self-drying system ensures that condensate is quickly removed from the pump heads without the vacuum being altered. This significantly reduces process time and preserves the pump heads.
- Chemically resistant and thus ideal for use with extremely aggressive/corrosive gases and vapors



# VACUUM OVEN

## OUTSTANDING CHEMICAL AND CONDENSATE COMPATIBILITY WITH FAST EVACUATION OF LARGE VAPOR QUANTITIES

LABOPORT® SD

## TRIED AND TESTED

**N 820.3 FT.40.18 and N 840.3 FT.40.18**
**Diaphragm Vacuum Pump**

- Flow rate up to 2.04 m³/h / Ultimate vacuum 10 mbar abs.
- Integrated KNF self-drying system ensures that condensate is quickly removed from the pump heads without the vacuum being altered. This significantly reduces process time and preserves the pump heads.
- Chemically resistant and thus ideal for use with extremely aggressive/corrosive gases and vapors

## A POWERFUL PACKAGE

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

- Flow rate 3.6 m³/h / Ultimate vacuum 4 mbar abs.
- Integrated KNF self-drying system ensures that condensate is quickly removed from the pump heads without the vacuum being altered. This significantly reduces process time and preserves the pump heads.
- Chemically resistant and thus ideal for use with extremely aggressive/corrosive gases and vapors

# MULTI-USER VACUUM SYSTEMS

## INEXPENSIVE, SPACE-SAVING SOLUTIONS FOR SUPPLYING VACUUM TO DIFFERENT APPLICATIONS

## QUIET

**SC 950 Vacuum Pump System**

- Flow rate 3 m³/h / Ultimate vacuum 2 mbar abs.
- Remote-controlled operation for safety when mounted in laboratory furniture
- Automated, precise boiling point recognition and control
- Speed-controlled
- Integrated gas ballast valve

LABOBASE®

## CONSTANT

**SBC 840.40 and SBC 860.40 Vacuum System**

- Flow rate up to 3.6 m³/h / Ultimate vacuum up to 4 mbar abs.
- For up to ten users
- Fully-automated vacuum generation system comprising chemically resistant diaphragm vacuum pump, base plate, high-performance condenser, separator, vacuum control device, valves and control unit

## VACUUM CONTROL

**VC 900 Vacuum Control Unit**

- Control of the vacuum application
- Separate control unit with pressure sensors and two-step controlled valve to be placed independently from the operating unit
- Easy to use

# LABOPORT® FT DIAPHRAGM VACUUM PUMPS

## ROBUST AND ATEX-COMPLIANT FOR DEMANDING APPLICATIONS

# ATEX-APPROVED FOR MAXIMUM SAFETY

In selected LABOPORT® FT pumps, the inner, wetted area has been equipped to transfer explosive atmospheres. LABOPORT® FT pumps equipped in this way are suitable for the equipment category 2G, and are thus designated for transferring gases, vapors or mists that create conditions in which the occasional formation of an explosive atmosphere is likely.

## ATEX KEY OF SELECTED LABOPORT® FT PUMPS AND THE TRANSPORTABLE EXPLOSIVE GASES AND VAPORS:

| | ⟨Ex⟩ ATEX II 2G IIB+H2 T3X INTERNAL ATMOSPHERE ONLY | | |
|---|---|---|---|
| | **T1** | **T2** | **T3** |
| | methane | | |
| **IIA** | acetone, ammonia, benzene (pure), acetic acid, ethane, ethyl acetate, carbon dioxide, methanol, propane, toluene | ethyl alcohol, n-butane, n-butyl alcohol | gasolines, diesel fuel, aviation fuel, fuel oils, n-hexane |
| **IIB** | town gas | ethene | |
| **IIC** | hydrogen | | |

# RANGE OF LABOPORT® FT DIAPHRAGM VACUUM PUMPS

| | Rotary evaporation | Degassing | Filtration | Fluid aspiration | Gel drying | Centrifugal concentration |
|---|---|---|---|---|---|---|
| **N 810.3 FT.18** | | | | x | | |
| **N 810.3 FT.18 G** | | | | x | | |
| **N 820.3 FT.18** | x | x | | | x | |
| **N 820.3 FT.18 G** | x | x | | | x | |
| **N 840.3 FT.18** | x | | x | | | x |
| **N 840.3 FT.18 G** | x | | x | | | x |

**ATEX-compliant in accordance with ATEX II 2G IIB+H2 T3X internal atmosphere only**

| | | LABOPORT® N 86 KT.18 | 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** | x | x | | x | |
| | **Degassing** | | x | | x | x |
| | **Fluid aspiration** | x | x | | | |
| | **Gel drying** | | | | | x |
| | **Rotary evaporation** | | | | | x |
| | **Distillation** | | | | | x |
| | **Vacuum oven** | | | | | |
| | **Multi-user vacuum systems** | | | | | |
| | **Centrifugal concentration** | | | | | x |
| | **Metering / Transferring liquids** | | | | | |
| TECHNICAL DATA | **Flow rate ($m^3/h$) at atm. pressure** | 0.33 | 0.96 | 1.8 | 1.8 | 1.26 |
| | **Ultimate vacuum (mbar abs.)** | 160 | 20 | 160 | 15 | 2 |
| | **Operating pressure (bar)** | 2.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | **Flow rate (ml/min) with water at 20 °C and zero pressure head** | | | | | |
| | **Flow rate (l/min) with water at 20 °C and zero pressure head** | | | | | |
| | **Pressure head (mWg)** | | | | | |
| | **Suction head (mWg)** | | | | | |
| | **Connectors for tube (mm)** | ID 4 | ID 6 | ID 6 | ID 10 | ID 10 |
| | **Permissible media and ambient temperature** | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | Media temp.: + 5 … +40 °C Ambient temp.: +10 … +40 °C |
| | **Weight (kg)** | 1.9 | 3.95 | 3.95 | 6.8 | 8.5 |
| | **Dimensions W x H x D (mm)** | 90 x 141 x 164 | 90 x 141 x 361 | 102 x 141 x 361 | 110 x 212 x 317 | 158 x 226 x 324 |
| MATERIAL | **Pump head** | PPS | PPS | PPS | PPS | PPS |
| | **Diaphragm** | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated |
| | **Valves** | FFPM | FFPM | FFPM | FFPM | FFPM |
| ACCESSORIES | **Silencer** | Order no. 000345 | Order no. 000345 | | Order no. 007006 | Order no. 007006 |
| | **Hose connector** | G1/8 ID4 PVDF Order no. 025671 G1/8 ID6 PVDF Order no. 123363 G1/8 ID4 PA Order no. 001936 G1/8 ID6 PA Order no. 000360 G1/8 ID8 PA Order no. 004975 | G1/8 ID6 PVDF Order no. 123363 G1/8 ID6 PA Order no. 000360 G1/8 ID8 PA Order no. 004975 | | G1/8 ID10 PVDF Order no. 112004 | |
| | **Fine control valve with pressure gauge** | Order no. 001786 | | | | |
| | **Fine control valve with vacuum gauge** | Order no. 001787 | Order no. 057830 | | Order no. 112432 | Order no. 112432 |
| | **Small flange, stainless steel** | | | | | Order no. 046625 |

| | LABOPORT® N 810.3 FT.18 ATEX II 2G IIB+H2 T3X internal atmosphere only | LABOPORT® N 820.3 FT.18 ATEX II 2G IIB+H2 T3X internal atmosphere only | LABOPORT® N 840.3 FT.18 ATEX II 2G IIB+H2 T3X internal atmosphere only | 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 |
|---|---|---|---|---|---|---|---|
| | | | x | | | | |
| | | x | | | | | |
| | x | | | | | | |
| | | x | | | | | |
| | | x | x | x | | | x |
| | | | | x | | | x |
| | | | | | x | x | x |
| | | | x | | | | x |
| | 0.6 | 1.2 | 2.04 | 2.04 | 1.2 | 2.04 | 3.6 |
| | 8 | 8 | 8 | 2 | 10 | 10 | 4 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | ID 10 | ID 10 | ID 10 | ID 10 | ID 10 | ID 10 | ID 12 |
| | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C |
| | 6.9 | 9.3 | 12.6 | 13.4 | 9.6 | 12.9 | 14.8 |
| | 140 x 187 x 281 | 154 x 207 x 312 | 166 x 226 x 341 | 167 x 228 x 341 | 177 x 220 x 312 | 189 x 239 x 341 | 291 x 278 x 331 |
| | PTFE | PTFE | PTFE | PTFE | PTFE | PTFE | PTFE |
| | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated |
| | FFPM | FFPM | FFPM | FFPM | FFPM | FFPM | FFPM |

| | | SCC 950 | SC 920 G | SC 950 | LABOPORT® SC 820 | LABOPORT® SC 840 |
|---|---|---|---|---|---|---|
| APPLICATION | **Filtration** | | | | | |
| | **SPE** | | | | | |
| | **Degassing** | | | | | |
| | **Fluid aspiration** | | | | | |
| | **Gel drying** | | | | | |
| | **Rotary evaporation** | x | x | x | x | x |
| | **Distillation** | x | x | x | x | x |
| | **Vacuum oven** | | | | | |
| | **Multi-user vacuum systems** | | | x | | |
| | **Centrifugal concentration** | | | | | |
| | **Metering / Transferring liquids** | | | | | |
| TECHNICAL DATA | **Flow rate (m³/h) at atm. pressure** | 3 | 1.26 | 3 | 1.2 | 2.04 |
| | **Ultimate vacuum (mbar abs.)** | 2 | 2 | 2 | 8 | 8 |
| | **Operating pressure (bar)** | | | | 1 | 1 |
| | **Flow rate (ml/min) with water at 20 °C and zero pressure head** | | | | | |
| | **Flow rate (l/min) with water at 20 °C and zero pressure head** | | | | | |
| | **Pressure head (mWg)** | | | | | |
| | **Suction head (mWg)** | | | | | |
| | **Connectors for tube (mm)** | pneumatic: ID 10<br>coolants: ID 8<br>inert gas: ID 4 | pneumatic: ID 10<br>coolants: ID 8<br>inert gas: ID 6 | pneumatic: ID 10<br>coolants: ID 8<br>inert gas: ID 4 | pneumatic: ID 10<br>coolants: ID 8 | pneumatic: ID 10<br>coolants: ID 8 |
| | **Permissible media and ambient temperature** | +10 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C | +5 … +40 °C |
| | **Weight (kg)** | 16.1 | 15.2 | 14.5 | 16.0 | 19.3 |
| | **Dimensions W x H x D (mm)** | 353 x 487 x 376 | 366 x 423 x 294 | 246 x 487 x 313 | 289 x 506 x 397 | 289 x 506 x 417 |
| MATERIAL | **Pump head** | PPS | PPS | PPS | PTFE | PTFE |
| | **Diaphragm** | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated |
| | **Valves** | FFPM | FFPM | FFPM | FFPM | FFPM |
| ACCESSORIES | **Coolant valve – G 1/2, ID 8** | Order no. 117121 | Order no. 117121 | Order no. 117121 | Order no. 045075 | Order no. 045075 |
| | **Column fixture** | for remote control<br>Order no. 120132 | for remote control<br>Order no. 120132 | for remote control<br>Order no. 120132 | | |
| | **Wall fixture** | for remote control<br>Order no. 120130 | for remote control<br>Order no. 120130 | for remote control<br>Order no. 120130 | | |
| | **Foot switch for version RC (RC = flow rate can be set both manually and via an external control device)** | | | | | |
| | **In-line filters** | | | | | |
| | **Charging station** | Order no. 129478 | Order no. 129478 | Order no. 129478 | | |
| | **Gas washing bottle, 0.5 l** | | | | | |
| | **Non-return valve – unregulated, for fume hoods (PE-HD)** | | | | | |
| | **Vacuum supply point – for safety cabinets (PPS)** | | | | | |
| | **Vacuum supply point – unregulated, for installation in laboratory equipment (PPS)** | | | | | |
| | **Mobile controller unit for regulated vacuum supply (chemically-resistant)** | | | | | |
| | **Power-supply unit** | | | | | |
| | **Connection cable for N 920 G interface** | | | | | |

| | LABOBASE® SBC 840.40 | LABOBASE® SBC 860.40 | VC 900 |
|---|---|---|---|
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| | | | x |
| | | | x |
| | | | |
| | x | x | x |
| | | | |
| | | | |
| | 2.04 | 3.6 | |
| | 10 | 4 | |
| | 1 | 1 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | ID 10 | ID 10 | pneumatic: ID 10<br>coolants: ID 10<br>inert gas: ID 4 |
| | +5 … +40 °C | +5 … +40 °C | +10 … +40 °C |
| | 22.9 | 25.3 | 1.2 |
| | 450 x 515 x 322 | 314 x 552 x 437 | 101 x 181 x 67 |
| | PTFE | PTFE | |
| | PTFE-coated | PTFE-coated | |
| | FFPM | FFPM | |
| | Order no. 045075 | Order no. 045075 | |
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| | Order no. 045886 | Order no. 045886 | |
| | Order no. 118366 | Order no. 118366 | |
| | Order no. 118364 | Order no. 118364 | |
| | Order no. 118362 | Order no. 118362 | |
| | Order no. 304108/304181 | Order no. 304108/304181 | |
| | | | Order no. 312797 |
| | | | Order no. 307757 (2 m)<br>Order no. 307758 (5 m) |

| | | SIMDOS® 02 | SIMDOS® 10 | LIQUIPORT® NF 100 | LIQUIPORT® NF 300 |
|---|---|---|---|---|---|
| APPLICATION | **Filtration** | | | | |
| | **SPE** | | | | |
| | **Degassing** | | | | |
| | **Fluid aspiration** | | | | |
| | **Gel drying** | | | | |
| | **Rotary evaporation** | | | | |
| | **Distillation** | | | | |
| | **Vacuum oven** | | | | |
| | **Multi-user vacuum systems** | | | | |
| | **Centrifugal concentration** | | | | |
| | **Metering / Transferring liquids** | x | x | x | x |
| TECHNICAL DATA | **Flow rate (m³/h) at atm. pressure** | | | | |
| | **Ultimate vacuum (mbar abs.)** | | | | |
| | **Operating pressure (bar)** | | | | |
| | **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 |
| | **Pressure head (mWg)** | 60 | 60 | 10 (60 with LIQUIPORT® NF 1.100) | 10 (60 with LIQUIPORT® NF 1.300) |
| | **Suction head (mWg)** | 2 | 3 | 3 | 3 |
| | **Connectors for tube (mm)** | ID 1.6/AD 3.2 | ID 4/AD 6 | ID 8 | ID 12 |
| | **Permissible media and ambient temperature** | Ambient temp.: +5 … +40 °C Liquid temp.: +5 … +80 °C | Ambient temp.: +5 … +40 °C Liquid temp.: +5 … +80 °C | Ambient temp.: +5 … +40 °C Liquid temp.: +5 … +80 °C | Ambient temp.: +5 … +40 °C Liquid temp.: +5 … +80 °C |
| | **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 or PTFE | PP, PVDF or PTFE | PP, PVDF or PTFE | PP, PVDF or PTFE |
| | **Diaphragm** | PTFE-coated | PTFE-coated | PTFE-coated | PTFE-coated |
| | **Valves** | FFKM | FFKM | FFKM | FFKM |
| ACCESSORIES | **Column fixture** | Order no. 160474 | Order no. 160474 | Order no. 160474 | Order no. 160474 |
| | **Wall fixture** | Order no. 160473 | Order no. 160473 | Order no. 160473 | Order no. 160473 |
| | **Foot switch for version RC (RC = flow rate can be set both manually and via an external control device)** | Order no. 155872 | Order no. 155872 | Order no. 155872 | Order no. 155872 |
| | **In-line filters** | FS 60 T PVDF Mesh opening 70 µm Order no. 165210 FS 60 X PEEK Mesh opening 35 µm Order no. 165212 | FS 25 T PVDF Mesh opening 70 µm Order no. 165211 FS 25 X PEEK Mesh opening 35 µm Order no. 165213 | | |
| | **Charging station** | | | | |
| | **Gas washing bottle, 0.5 l** | | | | |
| | **Non-return valve – unregulated, for fume hoods (PE-HD)** | | | | |
| | **Vacuum supply point – for safety cabinets (PPS)** | | | | |
| | **Vacuum supply point – unregulated, for installation in laboratory equipment (PPS)** | | | | |
| | **Mobile controller unit for regulated vacuum supply (chemically-resistant)** | | | | |

**Column fixture**

**Wall fixture**

**Foot switch**

**In-line filters FS 60**

**In-line filters FS 25**

| | | RC 900 | RC 600 | C 900 |
|---|---|---|---|---|
| APPLICATION | **Rotary evaporation** | x | x | x |
| TECHNICAL DATA | **Heating bath: Heating bath temperature (°C)** | 20 – 180 | 20 – 180 | |
| | **Working temperature range (°C)** | | | -10 – +40 |
| | **Coolant supply parameters (condenser):**<br>**- Permissible pressure (bar)**<br>**- Permissible temperature (°C)**<br>**- Coolant-coated surface (cm²)** | <br>3<br>-15 – +20<br>1230 | <br>3<br>-15 – +20<br>1230 | |
| | **Cooling capacity (W)** | | | 250 |
| | **Parameters of evaporation flask:**<br>**- Size of evaporation flask (ml)**<br>**- Rotational speed of evaporation flask (1/min)**<br>**- Length of stroke (mm)**<br>**- Lifting speed (mm/s)** | <br>50 – 3000<br>25 – 250<br>150<br>38 | <br>50 – 3000<br>25 – 280<br>150<br>38 | |
| | **Temperature stability (°C)** | | | ± 0.5 |
| | **Filling volume (l)** | | | 1.7 – 2.6 |
| | **Cooling agent** | | | R134a |
| | **Temperature control** | | | PID temperature control |
| | **Weight (kg)** | 9.1 | 9.1 | 27 |
| | **Dimensions W x H x D (mm)**<br>**- without glass (footprint)**<br>**- with glass** | -<br>431 x 464 x 447<br>487 x 823 x 447 | -<br>431 x 464 x 453<br>487 x 823 x 453 | 235 x 520 x 400<br>-<br>- |
| ACCESSORIES | **Protective cover heating bath** | Order no. 127204 | Order no. 127204 | |
| | **Refill valve** | Order no. 300639 | Order no. 300639 | |
| | **Coolant valve** | Order no. 300853 | | |
| | **Vacuum seal** | Order no. 113046 | Order no. 113046 | |

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