



Vacuum Pump V-100

Economical vacuum source

The V-100 is an economical and chemical-resistant vacuum pump with a space saving design. It covers the essential needs in vacuum generation.



Economical
Designed to meet
essential needs



Convenient
Light weight and
compact design



Reliable
Long lasting due to use of
high quality materials



V-100: Your most important benefits



Economical

- Effective vacuum source for limited budgets
- Small footprint saves valuable laboratory space
- Useable for multiple applications:
 - Evaporation
 - Drying and concentration
 - Suction straining and filtration



Convenient

- Light weight and compact design with integrated carrying handle
- High uptime due to low maintenance
- Accurate vacuum regulation thanks to optional interface



Reliable

- High chemical resistance thanks to use of quality materials
- Maximum longevity due to:
 - Robust and stable design
 - Integrated ECO² mode

Complete your portfolio



Rotavapor®
R-100
Economical evaporation



Interface
I-100
Economical vacuum
regulation



Recirculating Chiller
F-100 / F-105
The easy way of cooling



Multivapor™
P-6 / P-12
Efficient evaporation
for multiple samples

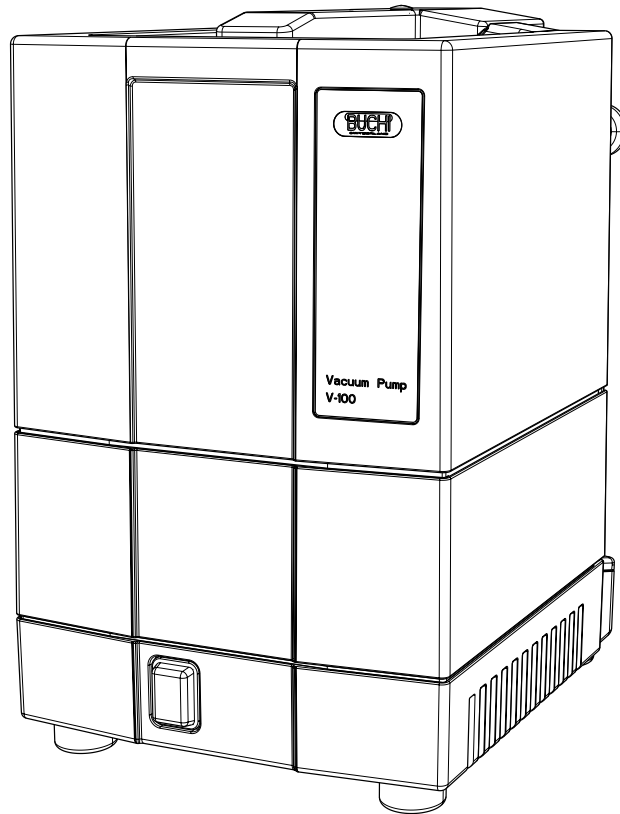




Vacuum Pump V-100

Technical data sheet

The Vacuum Pump V-100 is an economical and chemically resistant PTFE diaphragm vacuum pump with a space saving design. It covers the essential needs in vacuum generation. On/off-regulated by the Interface I-100, it is optimally suited to work with the Rotavapor® R-100. The ready to use vacuum pump will be delivered with a silencer and 2 m of vacuum tubing.



Scope of delivery

All models are delivered ready to use and are complete of:

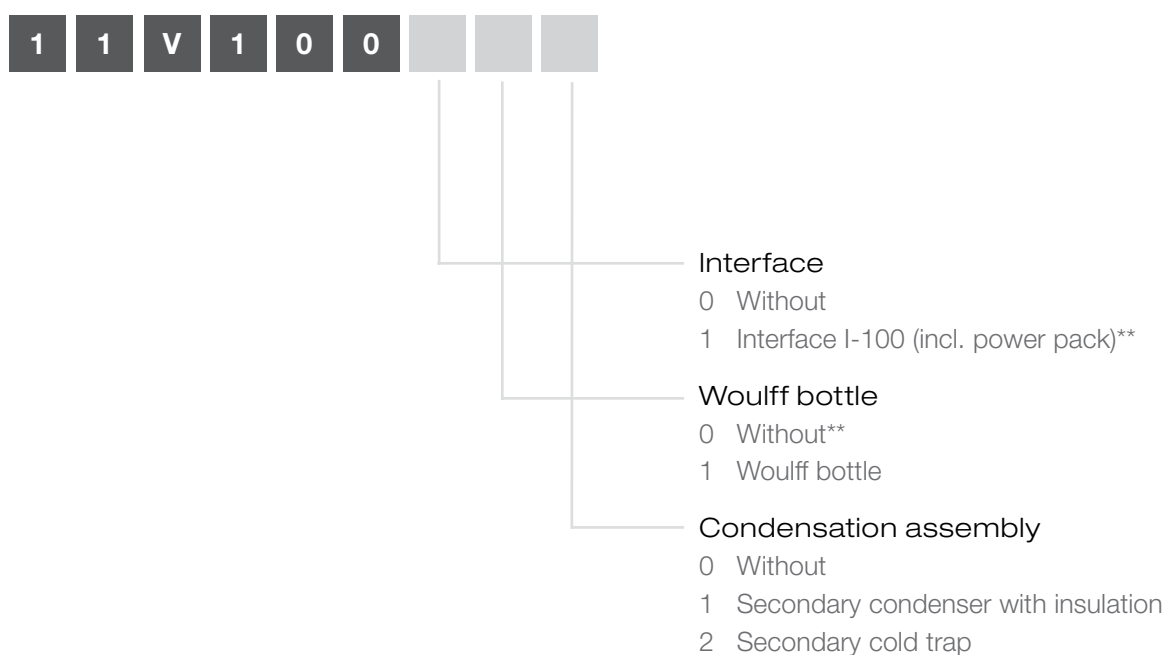
Components	V-100
Vacuum Pump V-100	1
Vacuum hose	1
Power cable	1
Silencer	1
Set hose connection	1
Interface I-100	*
Woulff bottle	*
Condensation assembly	*
Communication cable (Mini-DIN)	*

*Optional, according to order code

Order code

A recommended solution with the Vacuum Pump V-100 in combination with Rotavapor® R-100, Interface I-100 and Recirculating Chiller F-100 / F105 can be found in the technical data sheet of the Rotavapor® R-100, “Exemplary solution”.

Choose the configuration according to your needs:



**When using the vacuum pump with the Interface, the valve unit is not needed, but a Woulff bottle. A Woulff bottle is recommended for any configuration. All required holders are included.

Recommended combinations of Rotavapor® / vacuum systems

Available instrument.	Recommended vacuum system
R-100 without I-100	V-100 with I-100 and Woulff bottle
R-100 with I-100	V-100 (including Woulff bottle) with additional Mini-DIN cable (11060882)

Dimensions and weights

	Dimensions (WxHxD)	Weight
Shipping box V-100 incl. I-100	340 x 630 x 340 mm	–
V-100, silencer	180 x 275 x 210 mm	5.6 kg
V-100, secondary condenser, silencer	220 x 365 x 335 mm	6.6 kg
V-100, cold trap, silencer	220 x 415 x 300 mm	6.6 kg
V-100, I-100, Woulff bottle, silencer	180 x 400 x 350 mm	6.6 kg
V-100, I-100, Woulff bottle, secondary condenser, silencer	220 x 400 x 350 mm	7.5 kg
V-100, I-100, Woulff bottle, cold trap, silencer	220 x 415 x 350 mm	7.5 kg

Technical data

Vacuum Pump	V-100
Suction capacity (DIN 28432)	1.5 m ³ /h*
Number of steps (heads)	2 (2)
Final vacuum (absolute)	10 mbar (± 2 mbar)
Connections	GL14
Power consumption	150 W
Power consumption in ECO ² -mode* (70 %)	70 W
Electrical requirements	100 – 240 V, 50/60 Hz
Pump motor	DC, brushless
Nominal speed	max. 1280 rpm
Nominal speed in ECO ² -mode* (70 %)	70 % of nominal speed
Sound level (EN 61010-1)	32 – 57 dB(A) 57 dB(A) with 100 % load
Material in contact	PTFE, FEP, FFKM, PPS
Approvals	CE

* The ECO²-mode is active after 1 h with suction capacity of 1 m³/h

Compatibility

Compatibility of vacuum pumps with vacuum controllers of different generations

		Compatibility	Working principle	Communication cable
V-100	I-100	yes	on/off control	038010 / 11060882*
	V-850 / V-855	yes	on/off control	038010 / 11060882*
	V-800 / V-805	no	-	-
V-700 / V-710	I-100	yes	on/off control	038010
	V-850 / V-855	yes	speed controlled	044989
	V-800 / V-805	yes	on/off control	038010
V-500	I-100	yes	on/off control	038010
	V-850 / V-855	yes	on/off control	038010
	V-800 / V-805	yes	on/off control	038010

Regulated: On/Off function - the vacuum pump is switched ON and OFF automatically via the Vacuum Controller / Interface

* Length of communication cable: 038010 (1.5 m), 11060882 (0.6m)

Explanation of terms

On/Off control: the pump is automatically turned On and Off via the interface -> On/Off communication

Speed controlled: the pump is turned On and Off as well as speed controlled via the interface

Functional principle

The diaphragm pump is a positive displacement pump that uses a combination of the reciprocating action of a PTFE diaphragm and non-return check valves. The eccentric module lets the diaphragm move strictly axial which increase the durability.

ECO²-mode

The ECO²-mode is automatically activated after 1 hour of operation, hence the pump does not work on its full capacity. In the ECO²-mode the pump consumes less electrical power and works under reduced stress. As a consequence, the overall maintenance costs will be reduced over the lifetime of the pump.

Upgrade

The Vacuum Pump V-100 can easily be upgraded to a regulated vacuum source by adding the Interface I-100. In addition to the details listed below please check the technical data sheet of the Interface I-100 for further information.

Vacuum pump accessories

	V-100
Secondary condenser, insulation of condenser, holder, receiving flask, 500mL Condenses vapor that goes through the pump, is cooled by cooling liquid	047180
Secondary cold trap, holder, receiving flask, 500mL Condenses vapor that goes through the pump, is cooled by dry ice	047190
Valve unit, Woulff bottle, 125mL, P+G, holder for lab-stand and vacuum pump Non-return valve and condensate trap	047160
Woulff bottle, 125mL, P+G, holder for vacuum pump For trapping particles and droplets and for pressure equalisation, recommended for stand-alone systems and in combination with a vacuum pump	047170
Woulff bottle, 3-neck, 800mL, P+G For trapping particles and droplets	025519
Support set, connection tube, mounting device To mount Interface on vacuum pump	11061448
Communication cable, Mini-DIN, 0.6m Connection between Interface I-100 and Vacuum Pump V-100	11060882
Tubing, for vacuum, silicone rubber, Ø6/16mm, red, per m	017622
Tubing, for vacuum, PTFE (rigid), Ø8/10mm, white/transparent, per m	027277
Tubing, for vacuum, PEP, Ø6/8mm, transparent, per m	027900
Tubing, for cooling media, Nyflex, PVC-P, Ø8/14mm, transparent, per m	004113
Tubing, for cooling media, silicone rubber, Ø6/9mm, transparent, per m	004133

Additional glassware

Additional glassware (e.g. receiving flask for secondary condenser and cold trap) can be found in the “Laboratory Evaporation Glassware” brochure.

Vacuum Pump wear parts	Order number
Set of check valves, O-ring (4pcs)	047156
O-ring, FKM/FEP, Ø28.25/2.62mm (for secondary condenser)	11057661
Set of O-rings, FFKM, Ø15.4/1.55mm, white (4pcs)	11057136
Membrane, membrane clamp, support ring	047153
Set of membranes, membrane clamp, support ring (10pcs)	11055214
Hose barb, bent, GL14, silicone seal	018916
Set of hose barbs, bent, GL14, silicone seal, incl. cap nut (4pcs each)	037287
Set of hose barbs, bent, GL14, FPM seal, incl. cap nut (4pcs each)	040295
Set of hose barbs, bent, GL14, EPDM seal, incl. cap nut (4pcs each)	043129
Set of hose barbs, straight, GL14, silicone seal, incl. cap nut (4pcs each)	037642

Vacuum Pump wear parts	Order number
Set of hose barbs, straight, GL14, FPM seal, incl. cap nut (4pcs each)	040296
Set of hose barbs, straight, GL14, EPDM seal, incl. cap nut (4pcs each)	043128
Set of hose barbs, bent (1pc), straight (1pc), GL14, silicone seal, incl. cap nut (2pcs)	041939
Set of hose barbs, bent (4pcs), straight (2pcs), GL14, silicone seal, incl. cap nut (6pcs)	038000
Set of hose barbs, bent, GL14, silicone seal (3pcs each)	041987
Set of cap nuts, screw cap with hole, GL14, with FEP seal (10pcs)	041999
Set of cap nuts, screw cap with hole, GL14 (10pcs)	041956
Set of cap nuts, screw cap without hole, GL14 (5pcs)	040624
Set of seals, for hose barb, GL14, silicone, red (20pcs)	040023
Set of seals, for hose barb, GL14, FPM, green (10pcs)*	040040
Set of seals, for hose barb, GL14, EPDM, black (10pcs)*	040029
Seal GL14, for cap nut, GL14, FEP	038225

*FPM and EPDM seals are more chemical resistant than silicone seals