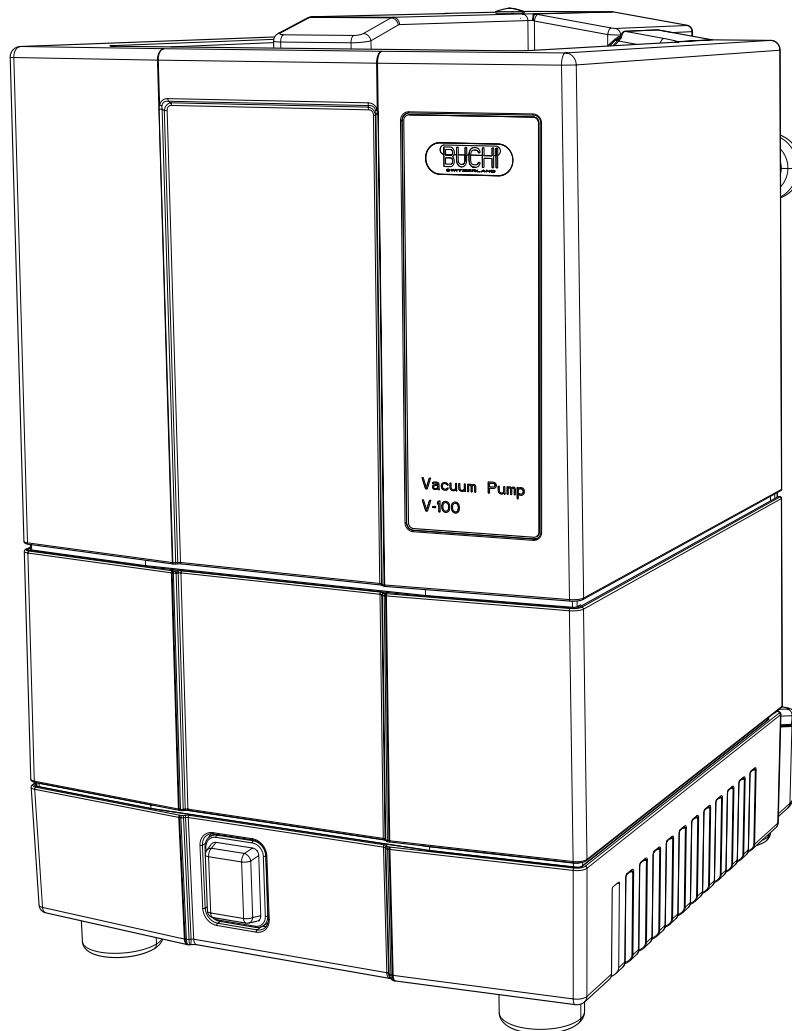




Vacuum Pump V-100

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:

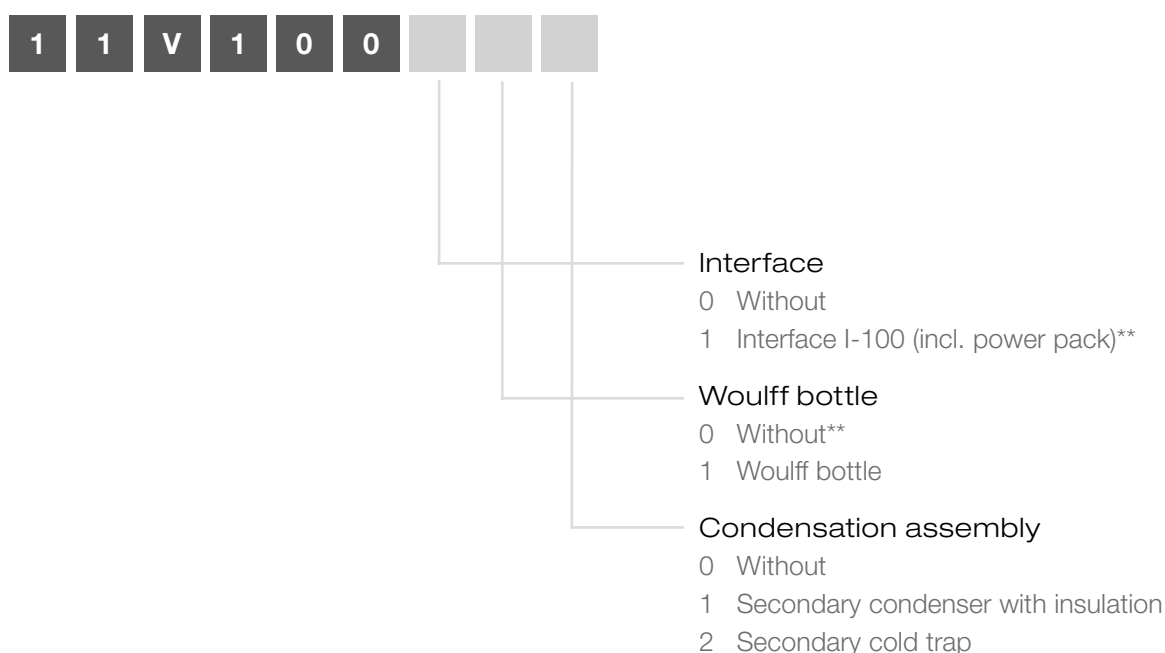
| Components | V-100 |
|--------------------------------|-------|
| Vacuum Pump V-100 | 1 |
| Vacuum hose | 1 |
| Power cable | 1 |
| Silencer | 1 |
| Set hose connection | 1 |
| Interface I-100 | * |
| Woulff bottle | * |
| Condensation assembly | * |
| Communication cable (Mini-DIN) | * |

*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 |
|--|--------------------|--------|
| 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 (DIN 45635) | 40 – 52 dB(A) |
| 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 | regulated | 038010 / 11060882* |
| | V-850 / V-855 | yes | regulated | 038010 / 11060882* |
| | V-800 / V-805 | no | - | - |
| V-700 | I-100 | yes | regulated | 038010 |
| | V-850 / V-855 | yes | speed controlled | 044288 |
| | V-800 / V-805 | yes | regulated | 038010 |
| V-500 | I-100 | yes | regulated | 038010 |
| | V-850 / V-855 | yes | regulated | 038010 |
| | V-800 / V-805 | yes | regulated | 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)

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 |

V-100

| | |
|---|----------|
| 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 |
| 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 |

| Vacuum Pump wear parts | Order number |
|--|--------------|
| 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