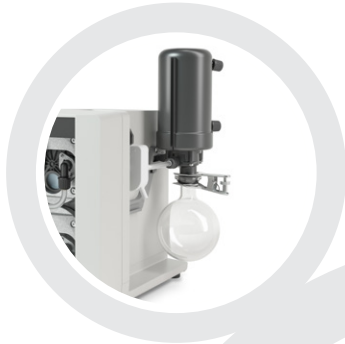




## Vacuum Pump V-300

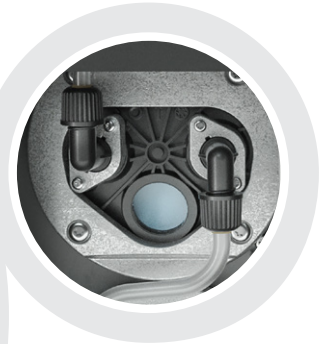
The economical and silent vacuum source

The chemically resistant PTFE diaphragm vacuum pump impresses with its very silent and economical operation. With a flow rate of 1.8 m<sup>3</sup>/h and an ultimate vacuum of 5 mbar, it is optimally suited to be combined with the Rotavapor® R-300.



### Convenient

Silent operation and level detection of receiving flask



### Reliable

High quality materials and easy detection of condensate and particles



### Extendable

Seamless plug & play integration into a Rotavapor® R-300 system



## Vacuum Pump V-300

Key features and advantages





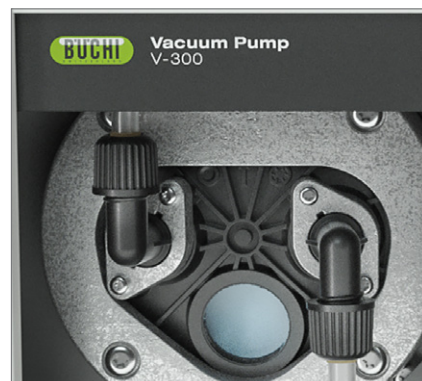
### Seamless Integration

Integrate the V-300 seamlessly into a Rotavapor® R-300 system where the vacuum is centrally controlled by the Interface I-300 / I-300 Pro.



### Speed-controlled

A set vacuum is achieved very precisely by means of speed-control operation. Due to the absence of sudden pressure changes bumping is minimized.



### Visible membranes

Condensed solvents or particles are easily visible thanks to the transparent front panel.



### Quiet operation

Thanks to speed-control, the pump operates smoothly to keep the set vacuum. This results in very low noise emission (32 dB).



### Secondary condenser

The optional post-pump condenser captures vapor which is otherwise released into the lab atmosphere.



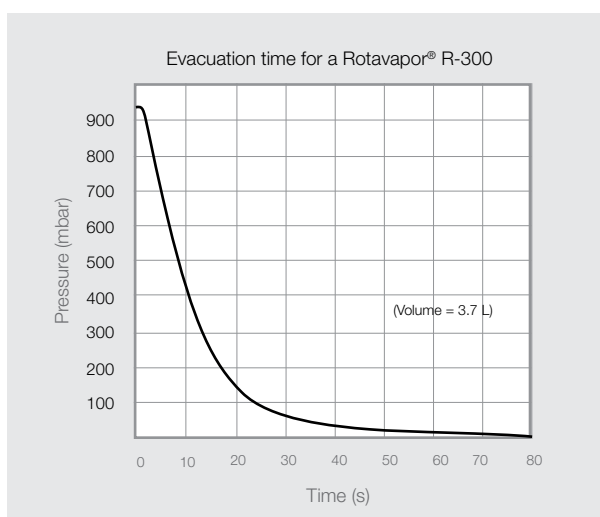
### Level sensor

In combination with the Interface I-300 / I-300 Pro an optional sensor alerts the operator to empty the receiving flask when required.

## Performance data

With a flow rate of 1.8 m<sup>3</sup>/h and a final vacuum of 5 mbar the Vacuum Pump V-300 is optimally suited to be combined with a rotary evaporator.

Ultimate vacuum: 5 mbar ± 2 mbar  
Suction capacity: 1.8 m<sup>3</sup>/h



## V-300: Your most important benefits



### Convenient

- Quiet operation thanks to speed regulation
- Unattended operation in combination with Interface I-300 / I-300 Pro when combined with optional level sensor for secondary condenser that alerts potential overflow of the receiving flask



### Reliable

- High chemical resistance due to the use of high quality materials
- Increased lifetime thanks to speed-controlled operation in conjunction with the optional Interface I-300 / I-300 Pro
- Easy visual detection of condensate and particles due to transparent front panel



### Extendable

- Seamless plug & play integration into:
  - A speed-controlled vacuum system with Interface I-300 / I-300 Pro
  - A fully automated BUCHI Rotavapor® R-300 system including all process parameters

## Complete your portfolio



Interface I-300 /  
I-300 Pro  
Convenient process  
regulation and  
monitoring



Rotavapor®  
R-300  
Convenient and efficient  
rotary evaporation



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



Recirculating Chiller  
F-305 / F-308 / F-314  
The efficient and water  
saving way of cooling

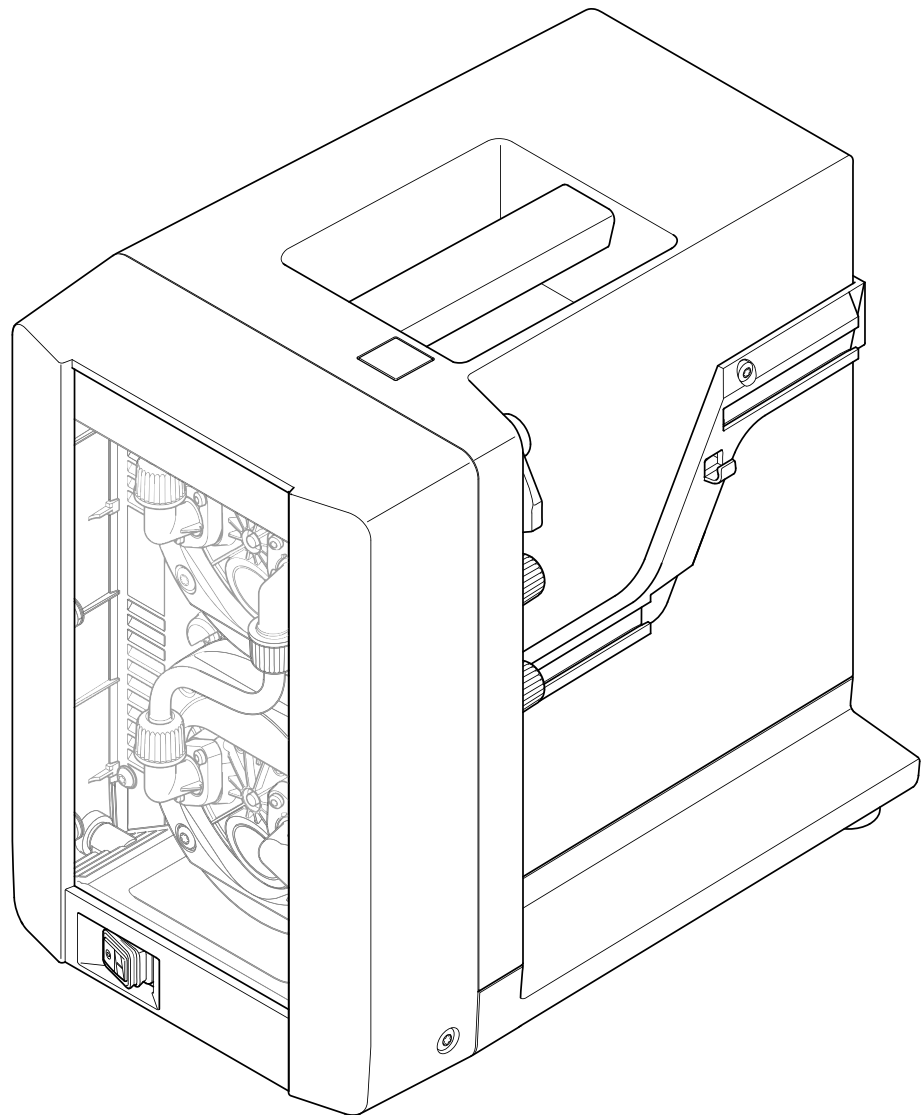




## Vacuum Pump V-300

### Technical data sheet

The Vacuum Pump V-300 is a chemically resistant PTFE diaphragm pump. The speed-controlled operation in conjunction with the Interface I-300 / I-300 Pro results in economical operation and very low noise emission. Thanks to the transparent front panel, contaminants are easily visible. It is optimally suited to work with the I-300 / I-300 Pro and R-300.



## Order code

Two recommended solutions, “Rotavapor® Dynamic Pro and “Rotavapor® Dynamic”, with the Vacuum Pump V-300 in combination with the Rotavapor® R-300, the Interface I-300 I-300 Pro and the Recirculating Chiller F-308 can be found in the technical datasheet of the Rotavapor® R-300 “Exemplary solution” and in the “Laboratory Rotary Evaporation Solutions” brochure.

Choose the configuration according to your needs:

**1 1 V 3 0 0**     **0**

### Interface

- 0 Without
- 1 Without, with Woulff bottle
- 2 Interface I-300, with Woulff bottle (incl. VacuBox)
- 3 Interface I-300 Pro, with Woulff bottle (incl. VacuBox)

### Condensation assembly

- 0 Without
- 1 Secondary condenser with insulation
- 2 Secondary cold trap

## Scope of delivery

All vacuum pumps are delivered ready to use and are complete of:

Components	V-300
Vacuum Pump V-300	1
Vacuum tubing	1
Power cable	1
Silencer	1
Tubing connections (set)	1
Communication cable (Mini-DIN)	1
Membrane tool (to fasten and remove membrane)	1
Interface I-300 / I-300 Pro (incl. holder)	*
Woulff bottle	*
VacuBox (incl. communication cable)	*
Condensation assembly	*

\* Optional, according to order code

## Recommended combinations of Rotavapor® / vacuum systems

Available instruments	Recommended vacuum system
R-300 without Interface I-300 / I-300 Pro, without VacuBox, without Woulff bottle	V-300 with I-300, VacuBox and Woulff bottle
R-300 with I-300 / I-300 Pro and VacuBox and Woulff bottle	V-300 (incl. Woulff bottle)

## Technical data

Vacuum Pump V-300	
Dimensions (WxHxD)	
Instrument V-300, silencer	200 x 321 x 291 mm
Shipping box without secondary assembly	585 x 370 x 385 mm
Shipping box with secondary assembly	585 x 540 x 385 mm
Weight	7.6 kg
Suction capacity	1.8 m <sup>3</sup> /h
Number of steps (heads)	2 (2)
Final vacuum (absolute)	5 mbar ± 2 mbar
Connections	GL14
Power consumption	180 W
Power consumption, energy saving mode 1 (80 %)	95 W
Power consumption, energy saving mode 2 (50 %)	60 W
Connection voltage	100 – 240 V, 50/60 Hz
Nominal speed	max. 1500 rpm
Sound level (EN 61010-1)	32 – 57 dBA (depending on operating mode) 32 dBA: with 10 % load (normal) 57 dBA: with 100 % load
Approvals	CE / CSA / CUS

## Special features

Vacuum Pump V-300	
Inspection window	A large glass window at front side Allows to observe the two pump heads and membranes for eventual dirt particles
Power saving mode (without I-300 / I-300 Pro)	Pump automatically switches to power saving mode after a given operation time Reduces power consumption while maintaining same terminal vacuum

## Vacuum Pump V-300

Level sensor (in combination with Interface I-300 / I-300 Pro only)	Warns of overflow into receiving flask of condenser/ secondary condenser  When solvents reaches a certain level, a warning pops up at interface and is sent to smartphone/ tablet
Control two Rotavapor® systems in parallel	Operate two systems (in combination with 2 Interface I-300 only)  Allows an upgrade to control two vacuum sources with two Rotavapor® systems simultaneously

## Complementary products

Compatibility of the Vacuum Pump V-300 with vacuum controllers and interfaces of different generations

	Interface I-300 / I-300 Pro with VacuBox	Interface I-100	Vacuum Controller V-850 / V-855	Vacuum Controller V-800 / V-805
Pump V-300	speed controlled 11058707 1.8 m or 11058708 5.0 m	on/off control 11060882* 0.6 m or 038010* 1.5 m	on/off control 11060882* 0.6 m or 038010* 1.5 m  speed controlled 11060649 1.5 m	on/off control 11060882* 0.6 m or 038010* 1.5 m

\* power adapter 11060669 is needed

To connect a Vacuum Pump V-300 and an Interface I-300 or Interface I-300 Pro a VacuBox is needed. A VacuBox is included when ordering a Rotavapor® R-300 with Interface I-300 or an Interface I-300 Pro. To connect a Vacuum Pump V-300 to an Interface I-100, a Vacuum Controller V-850 / V-855 or a Vacuum Controller V-800 / V-805 no VacuBox or LegacyBox is needed.

### Explanation of terms

On/Off control:	the peripheral (pump) is automatically turned On and Off via the interface -> On/Off communication
Speed controlled:	the peripheral (pump) is turned On and Off as well as speed controlled via the interface

## Vacuum pump accessories

	Order number
Holder. For valve unit/Woulff bottle To fasten valve unit or Woulff bottle.	11059908
Insulator. For secondary condenser (11059900) Insulation cover of the secondary condenser prevents condensation.	11059903
Communication cable. Mini-DIN to DC-Jack, 300 mm Meant to be used with 1 Vacuum Pump V-300 and 2 Rotavapor systems with the Interface I-300/I-300 Pro and Rotavapor of older generations. Connection between VacuBox and power adapter of the Interface I-300/I-300 Pro.	11062266



	Order number
Communication cable. Mini-DIN, Y-piece, 2.0 m Meant to be used with 1 Vacuum Pump V-300 and 2 Rotavapor systems with the Interface I-300/I-300 Pro. Connection between VacuBox and Vacuum Pump V-300.	11062255
Secondary condenser C. Cold trap, P+G-LT Condenses remaining vapors after the vacuum pump outlet. Used with ice/dry ice. Application temperature: -70 to 40	11060050
Secondary condenser V. Vertical condenser, incl. insulator Condenses remaining vapors after the vacuum pump outlet. Used along with a recirculating chiller or tap water. Content: 500 mL receiving flask, insulator for condenser, ball joint clamp, holder.	11059900
Tubing. FEP, Ø6/8 mm, transparent, per m Use: Vacuum, cooling media	027900
Tubing. Natural rubber, Ø6/16 mm, red, per m Use: Vacuum	017622
Tubing. Synthetic rubber, Ø6/13 mm, black, per m Use: Vacuum	11063244
Tubing. Nylflex, PVC-P, Ø8/14 mm, transparent, per m Use: Vacuum, cooling media, feeding (industrial Rotavapor)	004113
Tubing. PTFE, Ø8/10 mm, white, per m Use: Vacuum, feeding (industrial Rotavapor)	027277
Woulff bottle. 125 mL, P+G, incl. holder For trapping particles and droplets and for pressure equalization.	11059905

### 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
Seal. For cap nut GL14 to FEP, EPDM	038225
O-ring. For secondary condenser, FKM/FEP, Ø28.2/2.6 mm	11057661
Hose barbs. set. 2 pcs, bent (1), straight (1), GL14 silicone seal Content: Hose barbs, cap nut, screw caps seals	11061921
Hose barbs. set. 3 pcs, bent, GL14, silicone seal Content: Hose barbs, seals	041987
Hose barbs. set. 4 pcs, bent GL14, silicone seal Content: Hose barbs, cap nuts, seals	037287
Hose barbs. set. 4 pcs, bent, GL14, EPDM seal Content: Hose barbs, cap nuts, seals	043129
Hose barbs. set. 4 pcs, bent, GL14, FEP seal Content: Hose barbs, cap nuts, seals	040295
Hose barbs. set. 4 pcs, straight, GL14, EPDM seal Content: Hose barbs, cap nuts, seals	043128

Hose barbs. set. 4 pcs, straight, GL14, FPM seal Content: Hose barbs, cap nuts, seals	040296
Hose barbs. set. 4 pcs, straight, GL14, silicone seal Content: Hose barbs, cap nuts, seals	037642
Hose barbs. set. 6 pcs, bent (4), straight (2), GL14, silicone seal Content: Hose barbs, cap nuts, seals	038000
Screw caps. set. 5 pcs, GL14	040624
Set gas ballast. Incl. gas ballast, clip, lever	11062527
Set motor and belt. Motor with belt pulley	11062528
Set wear part. Membranes, hose barbs Content: Membrane 2 pcs, support ring 2 pcs, valve 4 pcs, tube intake, tube connection, tube exhaust, elbow fitting 4 pcs, set hose barbs (11061921).	11062525
Cap nuts. set. 10 pcs, screw cap with hole GL14, seal EPDM Content: Hose barbs, cap nuts, seals	041999
Cap nuts. set. 10 pcs, screw cap with hole, GL14	041956

## Function principles

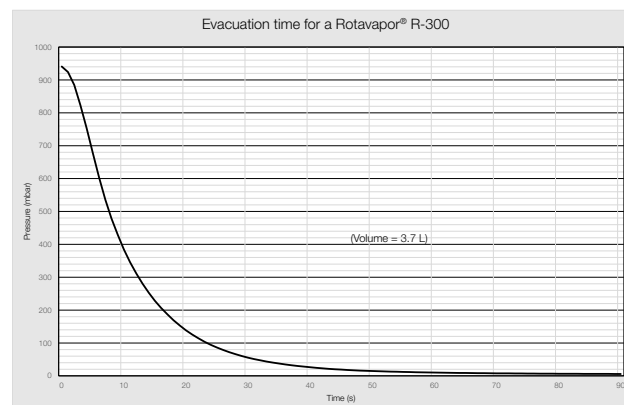
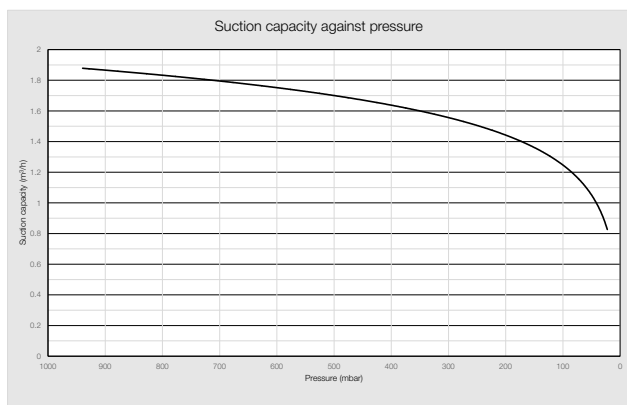
The diaphragm pump is a positive displacement pump that uses a combination of the reciprocating action of a PTFE diaphragm and non-return check valves. The eccentric module lets the diaphragm move strictly axial which leads to an increased service life.

## Energy saving mode

This power saving mode is automatically activated in unregulated operation (as a standalone, without an Interface I-1-300 or I-300 Pro), hence the pump does not work at its full capacity. The energy saving mode is activated after 1 hour of operation, where the pump works at 80 %. After 2 hours, it reduces to 50 %. The suction capacity in the first hour is 1.8 m<sup>3</sup>/h, after 1 hour 1.6 m<sup>3</sup>/h and after 2 hours 1.0 m<sup>3</sup>/h. In the energy saving mode the pump consumes less electrical power and works under reduced stress, accordingly, the overall maintenance costs will be reduced over the lifetime of the pump.

## Performance characteristics

The graph (left side) illustrates the suction capacity against the pressure. The V-300 has a good suction capacity also at a low vacuum. The graph (left side) shows suction capacity against pressure. The graph (right side) show the evacuation time of a laboratory evaporator.



## Upgrades

### Upgrade the Vacuum Pump V-300 to a speed controlled vacuum source

The Vacuum Pump V-300 can easily be upgraded to a controlled vacuum source by adding the Interface I-300 / I-300 Pro (incl. VacuBox and Woulff bottle).

### Upgrade the Vacuum Pump V-300 to operate with 2 Rotavaor® systems

The Vacuum Pump V-300 can easily be upgraded to work with two vacuum loads via Interface I-300 / I-300 Pro simultaneously (ON/OFF communication, not speed controlled).