



# Vacuum Pumps Solvent Recovery Systems

# Vacuum Pumps

The ability to handle difficult and different vacuum challenges quickly.

Wiggins is your general laboratory companion and provides products that can be used in all kinds of laboratory environments.

ChemVak is product line in vacuum technology offering an extensive range of vacuum pumps for all applications.

Including :



Chemical resistant diaphragm vacuum pumps which can be used in the chemical, pharmaceutical, petrochemical and other industries

Chemical resistant diaphragm pumps



Chemical resistant diaphragm pumps  
Frequency conversion chemical resistant vacuum pumps

Chemical resistant diaphragm vacuum pumps which can be widely used to hard acidic, basic and solvent vapors



Solvent recovery systems



Oil-free Piston Vacuum Pump, no pollution, no need for oil changes.

Oil-free piston vacuum pumps

Oil-sealed Rotary Vane vacuum pumps are widely used traditional vacuum pumps in research and production



Rotary vane vacuum pumps



Pressure pumps and air supply systems

## Chemical Resistant Diaphragm Pumps ( A Series )



New Entry Level for  
Anti-Corrosion Diaphragm Pump

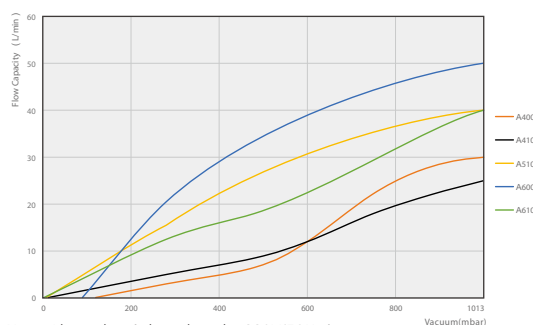


- > Chemvak A series are chemical resistant diaphragm vacuum pumps which can be used in the chemical, pharmaceutical, petrochemical and other industries, such as suction filtration, vacuum distillation, rotational evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and so on.
- > A series Pumps can be widely used to hard acidic, basic and solvent vapors by utilizing corrosion proof PTFE on all the wetted surfaces. The vacuum chamber and the drive chamber are separated and sealed, Ensure a longer working life of mechanical components
- > Chemvak A series pumps are driven by Diaphragm, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.
- > Driven direct by motor with no additional belt-driven transmission; the quality vibration-proof assembly makes Chemvak A series run at the lowest noise level among all other equivalent pumps.
- > Cost-effective, reliable, unique structural design, noise less than 50dB.
- > A variety of models are available to meet the various needs of the laboratory, with a minimum vacuum of up to 2 mbar.
- > Every motor of Chemvak A series pumps has a built-in thermal protection device to shut off the pump automatically when overheated and then resume working when the temperature cools down.

### Features

- > No pollution when working.
- > Can be used for suction of high temperature steam or Condensate
- > Overheat protection and power insurance
- > Chemical resistant design
- > Suitable for corrosive gases and steam media
- > Environmentally friendly design
- > Strong tightness

Chemical Resistant Diaphragm Pumps Flow curve



Note: Above data is based on the 220V/50Hz instrument

### Specifications

Model	A400	A410	A510	A600	A610
Power	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz
Max. power (W)	95	95	245	270	245
Max. current (A)	0.6	0.6	1	1	1
Max. vacuum (mbar)	120	13	8	100	2-4
Max. Flow Rate (L/min)	30	25	40	50	40
Motor Speed (rpm)	1450	1450	1450	1450	1450
Number of Stages	Single	Double	Double	Single	Double
Outlet (mm)	10	10	10	10	10
Size WxDxH (mm)	230x155x173	230x155x173	290x190x210	290x190x210	290x190x210
Weight (kg)	4.5	4.5	10	10	10
Noise Level (dB)	50	50	50	50	50
Order No.	170400-22	170410-22	170510-22	170600-22	170610-22





## Chemical Resistant Diaphragm Pumps (C Series)

C series construction with PTFE makes them very resistant to chemical vapors from inlet to exhaust and very tolerant to condensates. Pumping chambers are hermetically ensuring long lifetimes of mechanical parts.

Most importantly, diaphragm pumps are oil-free, for vastly reduced service demands compared with oil sealed pumps. They eliminate the cost of water and its contamination well-known from water-jet aspirators, and the waste-oil disposal of rotary vane pumps.

They are chemical resistant diaphragm vacuum pumps which can be widely used to hard acidic, basic and solvent vapors by utilizing corrosion proof PTFE on all the wetted surfaces. Through innovative mechanical technology and human considerations, we have made C series to be quiet, safe, maintenance-free and cost effective vacuum pumps.

### Features

#### High chemical resistant

All wetted parts of C series pump are made of PTFE which are ideal for extremely aggressive / corrosive gases and vapors.

#### Long-term durable

Head cover and diaphragm made of PTFE/PTFE-coated with stability core for unsurpassed long-term performance

#### No air pollution, maintenance free

Chemvak C series pumps are driven by Diaphragm, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.

#### Practical

- > smooth surfaces for easy cleaning
- > sealing system provides reduced leakage rates for improved ultimate vacuum

#### Quiet and low vibration

Driven direct by motor with no additional belt-driven transmission; the quality vibration-proof assembly makes Chemvak C series run at the lowest noise level among all other equivalent pumps.

#### Thermal protection device

Every motor of Chemvak C series pumps has a built-in thermal protection device to shut off the pump automatically when overheated and then resume working when the temperature cools down.

#### International safety certification

CE certification

#### The stability core principle: for unprecedented long-term performance

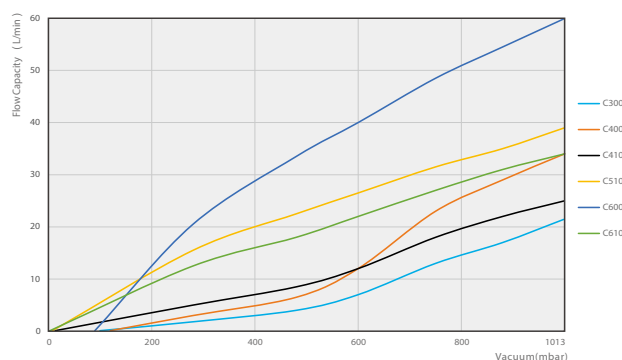
chemistry diaphragm pumps provide optimum performance and unsurpassed service intervals even in harsh chemical applications. We achieve this unmatched reliability by manufacturing the most highly stressed components – the head cover and clamping disk.

- > high quality PTFE coated EPDM provide long term chemical resistance
- > this thick-walled, diffusion resistant, molded fluoroplastic is supported by a stable metallic core for durability
- > mechanical precision finishing ensures reproducible WIGGENS quality

## Application

- > Chemical and petrochemical Industry
- > Pharma Industry
- > Filtration processes
- > Vacuum distillation
- > Rotary evaporation
- > Vacuum and centrifugal concentration
- > Solid phase extraction
- > Conventional drying and gel drying
- > Advanced substitute for water-jet pumps

## Chemical Resistant Diaphragm Pumps Flow curve



Note: Above data is based on the 220V/50Hz instrument

## Specifications



Model	C300		C400		C410		C510		C600		C610	
Powe	115V / 60Hz	220V / 50Hz	115V / 60Hz	220V / 50Hz	115V / 60Hz	220V / 50Hz	115V / 60Hz	220V / 50Hz	115V / 60Hz	220V / 50Hz	115V / 60Hz	220V / 50Hz
Max. powe (W)	70	60	90	95	90	95	250	245	250	270	250	245
Max. current ( A )	1.6	0.5	1.4	0.5	1.4	0.5	2.4	1.1	2.4	1.1	2.4	1.1
Max. vacuum (mbar)	100		120		13		8		90		2-4	
Max. Flow Rate (L/min)	22	22	34	34	25	25	41	34	60	60	37	37
Motor Speed (rpm)	1700	1450	1700	1450	1700	1450	1700	1450	1700	1450	1700	1450
Number of Stages	Single		Single		Double		Double		Single		Double	
Outlet (mm)	10		10		10		10		10		10	
Size WxDxH ( mm )	233*110*210		294*156*195		294*156*195		380*156*226		380*162*226		380*171*226	
Weight (kg)	6		8.5		8.5		13.2		13.2		13.8	
Noise Level (dB)	50		50		50		60		60		60	
Order No.	169300		169400		169410		169510		169600		169610	

## Packages

### Package 1 includes

The pump with vacuum trap, regulator and vacuum gauge (order no. 169311-06)



### Package 2 includes

The pump with vacuum trap, regulator and digital meter DVM150C (order no. 169312-06)



### Package 3 includes

The pump with chemical resistant vacuum controller DVR480



## High-power Chemical Resistant Diaphragm Pumps

### General version and frequency conversion version

C series are chemical resistant diaphragm vacuum pumps which can be widely used to hard acidic, basic and solvent vapors by utilizing corrosion proof PTFE on all the wetted surfaces. Through innovative mechanical technology and human considerations, we have made Chemvak C series to be quiet, safe, maintenance-free and cost effective vacuum pumps.

- > The construction provides the advantageous combination of high pumping speed and deep ultimate vacuum in a pump with a very small footprint. All parts in contact with pumped media are made of chemically resistant PTFE/ PTFE-coated. Well-proven PTFE sandwich diaphragms increase reliability and extend operating life.
- > This series of chemical resistant vacuum pumps are suitable for the treatment of corrosive gases in the chemical, pharmaceutical, petrochemical and other industries, such as extraction, vacuum distillation, rotational evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and other uses.
- > All parts in contact with gas and condensate are made of high-quality PTFE, the gas chamber and drive chamber are separated and sealed to ensure a long life of the mechanical parts
- > Overheat protection, automatic shutdown when the temperature is too high, and automatic start when it back to the normal temperature, to ensure the security and stability of the system.
- > Frequency conversion pump can control the pressure of vacuum system more accurately, effectively overcome the zigzag fluctuation caused by switch valve. You can select appropriate frequency converters and pressure sensors to form a closed-loop system. Or you can also select the complete frequency conversion chemical resistant vacuum systems.

### Application

- > Vacuum distillation for large volume
- > Large capacity reaction kettle
- > Large capacity vacuum filtration
- > Vacuum enrichment
- > Vacuum drying
- > Various applications in the semiconductor industry

### Features

- > Vacuum stability, easy to control, high control precision
- > Excellent chemical and vapour resistance
- > In the high vacuum degree, the performance is still very good.
- > Long life, simple and convenient for maintaince.
- > Simple and convenient to work in a stable and lasting way
- > Small structural size, energy conservation and environmental protection
- > High level of protection for motor, suitable for various environments



C960T

### Packages

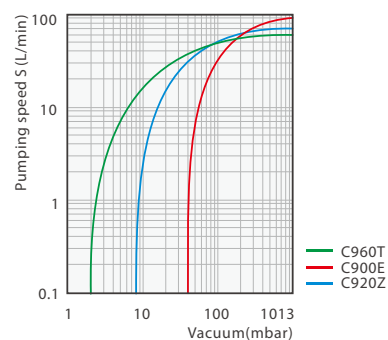
#### Package 1 includes

The pump with vacuum trap, regulator and vacuum gauge (order no. 169311-06)



#### Package 2 includes

The pump with vacuum trap, regulator and digital meter DVM150C (order no. 169312-06)



### Specifications



Model	C900E	C920Z	C960T	C980V	C900EF	C920ZF	C960TF	C980VF
	General version				Frequency conversion version			
Power supply	220V / 50Hz	220V / 50Hz	220V / 50Hz	220V / 50Hz	50Hz ,230/400, V Δ /Y 60Hz ,265/460, V Δ /Y			
Power (W)	370	370	370	370	370	370	370	370
Max. vacuum (mbar)	< 30	< 8	< 2	< 1	< 30	< 8	< 2	<1
Max. Flow Rate (L/min)	95	75	60	40	95	75	60	40
Motor Speed (rpm)	1425	1425	1425	1425	1380(50Hz)/1680(60Hz)			
Number of Stages	Single	Double	Double	Four	Single	Double	Double	Four
IP Code	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55
Outlet (mm)	10	10	10	10	10	10	10	10
Size WxDxH ( mm )	440*270*240	440*270*240	440*270*240	440*270*240	440*270*240	440*270*240	440*270*240	440*270*240
Weight (kg)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Noise Level (dB)	50	50	50	50	50	50	50	50
Vacuum control	Vacuum controller, such as DVR480				External variable frequency controller			
Order No.	169900-22	169920-22	169960-22	169980-22	169900B-22	169920B-22	169960B-22	169980B-22

## Frequency Conversion Chemical Resistant Vacuum Systems

### Integrated variable frequency controller

- > A new generation of intelligent vacuum technology, modular design, integrating variable frequency pumps and control units, compact design, light weight. It can adjust the speed of the diaphragm pump by frequency conversion motor and controller, control the vacuum pressure more accurately.
- > PID Self-tuning for vacuum control, the controller automatically changes the PID value according to the artificial intelligence logic algorithm, accurately adjusting the motor speed and stabilizing the precise vacuum degree.
- > This series of chemical resistant vacuum pumps are suitable for the treatment of corrosive gases in the chemical, pharmaceutical, petrochemical and other industries, such as extraction, vacuum distillation, rotational evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and other uses.
- > All parts in contact with gas and condensate are made of high-quality PTFE, the gas chamber and drive chamber are separated and sealed to ensure a long life of the mechanical parts
- > Overheat protection, automatic shutdown when the temperature is too high, and automatic start when it back to the normal temperature, to ensure the security and stability of the system.



C960TEF



#### Standard Configuration:

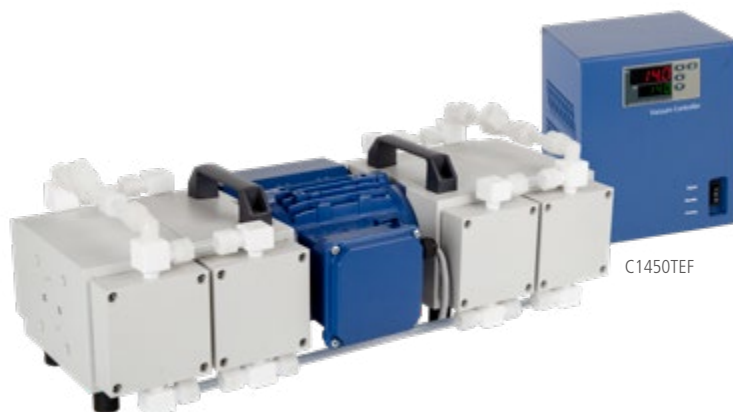
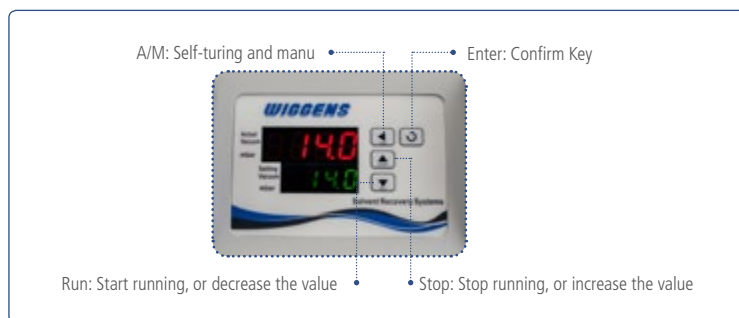
The vacuum system integrated variable frequency controller, and also includes vacuum trap, regulator and vacuum gauge (order no. 169311-06)

### Features

- > Vacuum stability, easy to control, high control precision
- > Excellent chemical and vapour resistance
- > In the high vacuum degree, the performance is still very good.
- > Long life, simple and convenient for maintenance.
- > Simple and convenient to work in a stable and lasting way
- > Small structural size, energy conservation and environmental protection
- > High level of protection for motor, suitable for various environments

### Application

- > Vacuum distillation for large volume
- > Large capacity reaction kettle
- > Large capacity vacuum filtration
- > Vacuum enrichment
- > Vacuum drying
- > Various applications in the semiconductor industry



C1450TEF

### Specifications

Model	C900EEF	C920ZEF	C960TEF	C980VEF	C1450TEF
Power (W)	400	400	400	400	600
Resolution	0.1mbar	0.1mbar	0.1mbar	0.1mbar	0.1mbar
Setting range	0.1-1000mbar	0.1-1000mbar	0.1-1000mbar	0.1-1000mbar	0.1-1000mbar
Max. vacuum (mbar)	< 30	< 8	< 2	< 1	<8
Max. Flow Rate (L/min)	95	75	60	40	145
Motor Speed (rpm)	1380(50Hz)/1680(60Hz)	1380(50Hz)/1680(60Hz)	1380(50Hz)/1680(60Hz)	1380(50Hz)/1680(60Hz)	1400
Number of Stages	Single	Double	Double	Four	Double
Outlet (mm)	10	10	10	10	G1/2
Size WxDxH ( mm )	220*400*495	220*400*495	220*400*495	220*400*495	635*280*200
Weight (kg)	25	25	25	25	36.5
Noise Level (dB)	50	50	50	50	65
Order No.	169900C-22	169920C-22	169960C-22	169980C-22	1691450C-22



## Solvent Recovery Systems

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories. This system is ideal for high vacuum requirements with high boiling solvents. Typical applications are rotary evaporators and drying ovens.

The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets.

The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables efficient recycling of solvents and active protection of the environment outstanding chemical resistance and superior vapor tolerance

- > exceptionally high performance even at low vacuum
- > excellent ultimate vacuum even with gas ballast
- > whisper quiet and very low vibration
- > excellent environmental friendliness due to efficient solvent recovery
- > Sealed system to enable a good distillation environment
- > Precise control of the evaporation process
- > Compact and environmental friendly design
- > Low noise
- > Buffer bottle prevents particles from damaging the pump
- > Direct electric connection
- > Ultimate vacuum range: 1-30 mbar
- > Flow rate range: 25-95 L/min

### CSH System

The inlet of the CSH System is connected to a segregation bottle, whereas the outlet is connected to a condenser, which is used to condensate and recover the solvent.

Model	CSH 410	CSH 510	CSH 610
Build in Pump Type	C410	C510	C610
Power (W)	95	245	245
Ultimate Vacuum (mbar)	13	8	2
Max. Flow Rate (l/min)	25	34	34
Outlet Size (outer diameter in mm)	10	10	10
Weight (kg)	12.5	15.8	16.6
Order No.	900512	900513	900514

### CSC System

The inlet of the CSH System is connected to a segregation bottle, whereas the outlet is connected to a condenser, which is used to condensate and recover the solvent. In addition, the system contains a vacuum controller to set, display, and control the vacuum.

Fully automated vacuum generation system comprising Chemical resistant diaphragm vacuum pump, base plate, high performance condenser, segregation bottle, Vacuum control device, valves and control unit.

Model	CSC 410	CSC 510	CSC 610
Build in Pump Type	C410	C510	C610
Power (W)	95	245	245
Ultimate Vacuum (mbar)	13	8	2
Max. Flow Rate (l/min)	25	34	34
Outlet Size (outer diameter in mm)	10	10	10
Weight (kg)	16	19.3	20.1
Order No.	900522	900523	900524

### CSC Systems (Frequency conversion)

- > New generation of intelligent vacuum technology, modular design, integrating variable frequency pumps and control units, compact design, light weight.
- > PID Self-tuning for vacuum control, the controller automatically changes the PID value according to the artificial intelligence logic algorithm, accurately adjusting the motor speed and stabilizing the precise vacuum degree.
- > All parts in contact with gas and condensate are made of high-quality PTFE, the gas chamber and drive chamber are separated and sealed to ensure a long life of the mechanical parts
- > It can be directly connected to the power supply and working system.
- > Recovery flasks at air inlet to prevent solid particles and liquid water from entering the pump body.

Model	CSC900E	CSC920Z	CSC960T	CSC980V
Power (W)	400	400	400	400
Resolution	0.1mbar	0.1mbar	0.1mbar	0.1mbar
Setting range	0.1-1000mbar	0.1-1000mbar	0.1-1000mbar	0.1-1000mbar
Max. vacuum (mbar)	< 30	< 8	< 2	< 1
Max. Flow Rate (L/min)	95	75	60	40
Outlet (mm)	10	10	10	10
Weight (kg)	25	25	25	25
Noise Level (dB)	50	50	50	50
Order No.	900532	900533	900534	900535



CSH System

Includes chemical resistant diaphragm pump, separator, condenser, tubing



CSC System

Includes chemical resistant diaphragm pump, vacuum controller, separator, condenser, tubing



CSC System (Frequency conversion)

Includes chemical resistant diaphragm pump, variable frequency controller, separator, condenser, tubing



## Chemical Resistant Vacuum Controller

- > Large measurement and control range
- > Can control the vacuum down to 0.1 mbar
- > Supports the programming of up to 5-step control
- > All parts that come into contact with gases are made of PTFE or highly durable ceramic to ensure high chemical resistance
- > Bright LED display and convenient on-touch control
- > RS-232 and analog connection available
- > Pressure release feature for easy vacuum system installation
- > Direct electric control of the vacuum pump
- > Energy saving and environmental friendly
- > Suitable for continuous operation



### Specifications

Model	DVR480	DVR480-Pro
Voltage	100-240V, 50/60Hz	100-240V, 50/60Hz
Displayed Vacuum Accuracy	0.1 mbar	0.1 mbar
Controllable Range	0.1...1000 mbar	0.1...1000 mbar
Measurement Accuracy	0.25 level	0.1 level
Display	LED	LED
Control Mode	On-Touch	On-Touch
Timer / Program	Yes / Up to 5 Steps	Yes / Up to 5 Steps
Pressure Release Feature	Yes	Yes
Electrical Control of the Pump	Yes	Yes
Protection Category	IP40	IP40
Corrosion resistance	All parts that come into contact with gases are made of PTFE or highly durable ceramic to ensure the resistance to various acid, base, or organic solvent gases.	

## Accessories For Chemical Resistant Diaphragm Pumps

### General Purpose Valves

A range of plug valves for applications with demand towards pressure and temperature, with max. pressure at 1 bar and max. vacuum at 7 bar.

**Note:** Rapid changes in temperature in excess of 25°C /min may cause these valves to leak due to the expansion properties of PTFE. Can be sterilised at 135°C .

Order No.	Outer Diameter/mm	Bore (mm)
<b>Straight Through Bayonet</b>		
016.702.5.2	4.5	2
016.702.2	6.0	2
016.703.7.2	6.8	3
016.703.2	8.0	3
016.704.9.2	9.0	4
016.704.2	10.0	4
016.705.2	11.0	5
<b>Straight Through Screw</b>		
016.1202.6.2	6	2
016.1203.2	8	3
016.1204.2	8	4
<b>T-Shape Bayonet</b>		
016.802.5.2	4.5	2
016.802.2	6.0	2
016.803.7.2	6.8	3
016.803.2	8.0	3
016.804.9.2	9.0	4
016.804.2	10.0	4
016.805.2	11.0	5
<b>T-Shape Screw</b>		
016.1302.6.2	6	2
016.1303.2	8	3
016.1304.2	8	4

### Connector

Order No.	Outer Diameter mm	Inner Diameter mm
<b>Straight Through Connector</b>		
016.902.5.2	4.5	2
016.902.2	6.0	2
016.903.7.2	6.8	3
016.903.2	8.0	3
016.904.9.2	9.0	4
016.904.2	10.0	4
016.905.2	11.0	5
<b>L-Shape Connector</b>		
016.1002.5.2	4.5	2
016.1002.2	6.0	2
016.1003.7.2	6.8	3
016.1003.2	8.0	3
016.1004.9.2	9.0	4
016.1004.2	10.0	4
016.1005.2	11.0	5
<b>T-Shape Connector</b>		
016.1102.5.2	4.5	2
016.1102.2	6.0	2
016.1103.7.2	6.8	3
016.1103.2	8.0	3
016.1104.9.2	9.0	4
016.1104.2	10.0	4
016.1105.2	11.0	5
<b>4-Way Connector</b>		
016.1112.5.2	4.5	2
016.1112.2	6.0	2
016.1113.7.2	6.8	3
016.1113.2	8.0	3
016.1114.9.2	9.0	4
016.1114.2	10.0	4
016.1115.2	11.0	5

## Accessories For Chemical Resistant Diaphragm Pumps

### PTFE Connector

Order No.	Description
C410015	Diameter: 10mm, suitable for C300, 400, 410, 510, 600, 610, 900E, 920Z and 960T



PTFE Connector with O-ring

### Adapter ( Flange to screw thread )

Order No.	Description
C410055	KF25 to screw thread, suitable for C300, 400, 410, 510, 600, 610, 900E, 920Z and 960T



Adapter ( Flange to screw thread )

### Silencer

Order No.	Description
C900E030	suitable for chemical resistant diaphragm pumps



Silencer

### Diaphragm and Valve Plate Sets

Order No.	Description
410001	Diaphragm and Valve Plate Set, 1 diaphragm and 2 valve plate, suitable for C300/400/410
510001	Diaphragm and Valve Plate Set, 1 diaphragm and 2 valve plate, suitable for C510/600/610/900E/920Z/960T/980V
C410005	Diaphragm, suitable for C300/400/410, 1/pk
C510011	Diaphragm, suitable for C510/600/610/900E/920Z/960T/980V, 1/pk
C510013	Valve Plate, suitable for C300/400/410/510/600/610/900E/920Z/960T/980V, 1/pk



Diaphragm

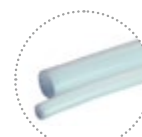


Valve Plate

### Tubing

Order No.	Outer Diameter, mm	Inner Diameter, mm	Thickness, mm	Length, m
<b>PTFE Tubing</b>				
016.1706.01	6	4	1	1
016.1708.01	8	6	1	1
016.1712.01	12	10	1	1
016.1714.01	14	12	1	1
<b>Viton Tubing</b>				
168000-01	12	6	3	1
168001-01	14	8	3	1
168002-01	16	10	3	1

Length upon request (min. 1 m)



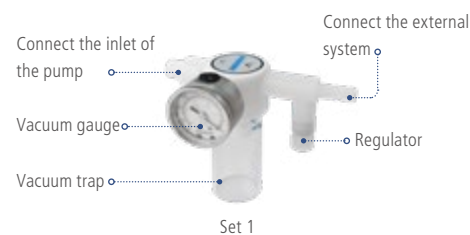
PTFE Tubing



Viton Tubing

### Chemical Resistant Vacuum Regulator / Filter Equipment

Order No.	Description
169311-06	Set 1 (Includes vacuum trap, regulator and vacuum gauge )
169312-06	Set 2 (Includes vacuum trap, regulator and digital meter DVM150C )
169313-06	Regulator



Set 1



Set 2

Part	Material	Part	Material
Pressure Regulating Valve	PVDF	Filter Bottle	Borosilicate Glass
Filter cartridge	PTFE	Adapter	PTFE
Filter Bracket	ABS	Vacuum Sensor	Stainless Steel

## VDM Vacuum Digital Meter

- > Compact design, flange connector, strong tightness
- > TFT high-light screen, easy to observation for multiple angles or long distance
- > Directly to connect with the pumps
- > DVM150C for chemical resistant diaphragm pumps

Models	DVM150C
Voltage	100-240V, 50/60Hz
Display screen	TFT
Display resolution	0.1-1000mbar
Testing range	0-1000mbar
Material of sensor	Ceramic
Material for contact parts of the gas	PTFE and Ceramic
Size of the meter	100*65*55mm
Order No.	15060-01



## Application recommendation

### Matching rotary evaporator



Pump models	Max. vacuum (mbar)	Flow Rate (L/min)	Suitable for
C410	13 mbar	25 L/min	1L / 2.5L
C510	8 mbar	34 L/min	5L
C600	90 mbar	60 L/min	10L
C610	2 mbar	34 L/min	5L
C920Z	8 mbar	75 L/min	50L,100L

### Matching vacuum oven



Pump models	Max. vacuum (mbar)	Flow Rate (L/min)	Suitable for
C410	13 mbar	25 L/min	15L
C510	8 mbar	34 L/min	45L
C600	90 mbar	60 L/min	60L
C610	2 mbar	34 L/min	30L

### Matching vacuum concentrator



Pump models	Max. vacuum (mbar)	Flow Rate (L/min)
C410	13mbar	25L/min
C510	8 mbar	34 L/min
C600	90 mbar	60 L/min
C610	2 mbar	34 L/min

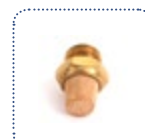
### Matching vacuum freeze dryer



Pump models	Max. vacuum (mbar)	Flow Rate (L/min)
R-8D	4x10 <sup>-4</sup> mbar	180 L/min
R-17D	4x10 <sup>-4</sup> mbar	283 L/min
R-24D	4x10 <sup>-4</sup> mbar	360 L/min
R-36D	4x10 <sup>-4</sup> mbar	540L/min

## Oil-Free Piston Vacuum Pumps

Chemvak V series vacuum pump is a piston-powered, oil-free pump. With innovative electronic, mechanical technology and human design concept make, compact and light weight, clean and maintenance free, safe and comfortable.



Copper Muffler



Moisture Trap/ Vacuum Regulator / Filter



Thermal protection device



Quiet and low vibration &lt;50dB

### Features

#### No air pollution, maintenance free

Chemvak V series pumps are driven by Piston, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.

#### Moisture trap with filter cartridge

Chemvak V series pumps are equipped with filter cartridge in air inlet to filter particle and moisture to prolong the life of pump.

#### Oil-free

The oil-free piston vacuum pump provides continuous, reliable, high flow vacuum for your container.

#### Vacuum regulator

Chemvak V series pumps are equipped with vacuum regulator to adjust vacuum.

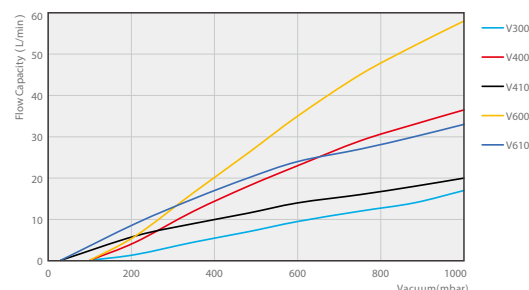
#### Thermal protection device

Every motor of Chemvak V series pumps has a built-in thermal protection device to shut off the pump automatically when overheated and then resume working when the temperature cools down.

### Application

- > Biology laboratories
- > Food industry
- > Microbiological detection
- > Vacuum extraction
- > Liquid filtration
- > Vacuum drying
- > Suspended solids measurement

### Oil-Free Piston Vacuum Pumps flow curve



Note: Above data is based on the 220V/50Hz instrument



### Specifications

Model	V300	V400	V410	V430	V600	V610	V800	V810
Power (V / Hz)	220 / 50	220 / 50	220 / 50	220 / 50	220 / 50	220 / 50	220 / 50	220 / 50
Max. power (W)	60	80	80	125	190	210	220	220
Max. current (A)	0.3	0.4	0.4	0.6	1	1	1	1
Max. vacuum (mbar)	100	100	30	150 / 5.5bar	100	30	100	30
Max. flow rate (L/min)	17	34	19	28	60	40	80	50
Motor rotation (RPM)	1450	1450	1450	1450	1450	1450	1450	1450
Port thread (mm)	9	9	9	9	9	9	9	9
Dimension WxDxH(mm)	272x142x165	310x152x165	310x152x165	247x235x200	340x155x195	340x155x195	340x185x195	340x185x195
Weight (kg)	4.4	5.4	5.4	5.5	8.6	8.6	8.6	8.6
Noise level (dB)	50	60	50	50	52	52	52	52
Order No.	167300-22	167400-22	167410-22	167430-22	167600-22	167610-22	167800-22	167810-22



## Accessories For Oil-Free Piston Pumps



### Connectors

Description	Suitable for	Order No.
<b>Connectors</b>		
Outlet Diameter 9.5 mm	Oil-Free Piston Pumps	167300-20
Outlet Diameter 8 mm	Oil-Free Piston Pumps	167300-21
Outlet Diameter 6.4 mm	Oil-Free Piston Pumps	167300-26
Outlet Diameter 4.8 mm	Oil-Free Piston Pumps	167300-23
Outlet Diameter 3.2 mm	Oil-Free Piston Pumps	167300-24

### L- Shape Connector

Outlet Diameter 8 mm	Oil-Free Piston Pumps	167300-25
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### Quick Connection Outlets

Outlet Diameter 12 mm	Oil-Free Piston Pumps	168100-12
Outlet Diameter 10 mm	Oil-Free Piston Pumps	168100-10
Outlet Diameter 8 mm	Oil-Free Piston Pumps	168100-08
Outlet Diameter 6 mm	Oil-Free Piston Pumps	168100-06
Outlet Diameter 4 mm	Oil-Free Piston Pumps	168100-04

### Silencer

Description	Suitable for	Order No.
Silencer	V300/400/410/V430	167300-42
Silencer	V600/610/V800/V810	167600-42

### Tubing

Outer Diameter mm	Inner Diameter mm	Thickness mm	Length m	Suitable for	Order No.
<b>PER Tubes</b>					
6	4	1	1	A,C,V Pumps	168010-01
8	6	1	1	A,C,V Pumps	168011-01
10	8	1	1	A,C,V Pumps	168012-01
12	10	1	1	A,C,V Pumps	168013-01
<b>Silicon Tubes</b>					
12	6	3	1	V Pumps	168020-01
14	8	3	1	V Pumps	168021-01
16	10	3	1	V Pumps	168022-01

Length upon request (min. 1m)

### Foot Pedal

Description	Suitable for	Order No.
Foot Pedal	Applicable to C and V Series Vacuum Pumps	167200-41

### Non-Chemical-Resistant Filtration Device

Description	Order No.
Non-Chemical-Resistant Filtration Device Set 1(incl. pressure gauge)	167300-05

## Application recommendation

Pump Models	Max. vacuum	Max. flow rate	Suitable for
V300	100 mbar	17 L/min	1L
V400	100 mbar	34 L/min	5L
V410	30 mbar	19 L/min	2~3L
V430	150 mbar	28 L/min	5L
V600	100 mbar	60 L/min	5~15L
V610	30 mbar	40 L/min	5~15L
V800	100 mbar	80 L/min	5~20L
V810	30 mbar	50 L/min	5~15L

# Vacuum Filtration Systems

## All-In-One Systems







- > Compact and portable design
- > Combines all necessary items for filtration
- > Large variety of filtration flasks
- > Oil-free vacuum provision
- > Easy maintenance
- > Low noise level
- > Manual pressure control
- > Availability of chemical resistant systems



CE

Product	Content	Application
VF203A	> Oil-free vacuum pump	Normal filtration Suspended solids measurement
	> VF6 filtration flask set	
	> Silicone tube	
	> 0.2 µm water-blocking filter	
	> Fiberglass filter membrane fiberglass filter membrane (47mm / 1 µm)	
VF203B	> Oil-free vacuum pump	Normal filtration Microorganism determination
	> VF2 filtration flask set	
	> Dragon 100 lab burner	
	> Silicone tube	
	> 0.2 µm water-blocking filter	
VF205A	> Strong oil-free vacuum pump	Normal filtration Suspended solids measurement
	> VF6 filtration flask set	
	> Silicone tube	
	> 0.2 µm water-blocking filter	
	> Fiberglass filter membrane fiberglass filter membrane (47mm / 1 µm)	
VF205B	> Strong Oil-free vacuum pump	Normal filtration Microorganism determination
	> VF2 filtration flask set	
	> Dragon 100 lab burner	
	> Silicone tube	
	> 0.2 µm water-blocking filter	
VF204	> Fiberglass filter membrane fiberglass filter membrane (47mm / 1 µm)	HPLC Gas chromatography AA micro-analysis Mobile phase decontamination
	> Chemical resistant vacuum pump	
	> VF3 filtration flask set	
	> High-pressure resistant tube	
	> 0.2 µm water-blocking filter	
VF214	> Strong chemical resistant vacuum pump	HPLC Gas chromatography AA micro-analysis Mobile phase decontamination
	> VF3 filtration flask set	
	> High-pressure resistant tube	
	> 0.2 µm water-blocking filter	
	> 0.2 µm water-blocking filter	

## Specifications

Model	VF 203A	VF 203B	VF 205A	VF 205B	VF 204	VF 214
Working mode	All-In-One Filtration System		All-In-One Filtration System		Chemical Resistant Vacuum Filtration System	
Power (W)	60	60	80	80	60	95
Ultimate vacuum(mbar)	150	150	150	150	100	13
Max. Flow Rate(L/min)	17 L/min	17 L/min	34 L/min	34 L/min	22 L/min	25 L/min
Tube I.D. (mm)	8	8	8	8	8	8
Motor Speed (rpm)	1450	1450	1450	1450	1450	1450
Weight (kg)	7.1	7.1	7.5	7.5	7.1	8.3
Noise Level (dB)	50	50	60	60	50	50
	VF6	VF2	VF6	VF2	VF3	VF3
Contained Filtration Glass Set						
Order No.	167203A	167203B	167205A	167205B	169204	169214



# Filtration Collocations

## Features

- > Wide range of pumps and filtration flasks
- > High quality components
- > Quick filtration results
- > Easily exchangeable elements

## Application

- > Suspended solids measurement
- > HPLC
- > Gas chromatography
- > AA micro-analysis
- > Mobile phase decontamination
- > Food and beverages industry
- > Pharma industry

Product	Features	Components	Application
V300A	<ul style="list-style-type: none"> <li>&gt; Modular design</li> <li>&gt; Environmental friendly</li> <li>&gt; Maintenance-free</li> <li>&gt; Low noise</li> <li>&gt; Added filters for enhanced pump longevity</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Oil-free vacuum pump</li> <li>&gt; VF6 filtration flask set</li> <li>&gt; Silicone tube</li> <li>&gt; Fiberglass filter membranes (47mm / 1 µm)</li> <li>&gt; PTFE disc filter</li> </ul>	Water quality measurement Normal liquid filtration
V300B	<ul style="list-style-type: none"> <li>&gt; Modular design</li> <li>&gt; Magnetic Stability Cup</li> <li>&gt; Environmental friendly</li> <li>&gt; Maintenance-free</li> <li>&gt; Low noise</li> <li>&gt; Added filters for enhanced pump longevity</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Oil-free vacuum pump</li> <li>&gt; VF1 magnetic filtration flask set</li> <li>&gt; Silicone tube</li> <li>&gt; Fiberglass filter membranes (47mm / 1 µm)</li> <li>&gt; PTFE disc filter</li> </ul>	Suspended solids measurement Normal liquid filtration
V300SS	<ul style="list-style-type: none"> <li>&gt; Modular design</li> <li>&gt; Flame-sterilizable</li> <li>&gt; Spin-Lock system</li> <li>&gt; Environmental friendly</li> <li>&gt; Maintenance-free</li> <li>&gt; Low noise</li> <li>&gt; Added filters for enhanced pump longevity</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Oil-free vacuum pump</li> <li>&gt; VF2 filtration flask set</li> <li>&gt; Dragon 100 lab burner</li> <li>&gt; Silicone tube</li> <li>&gt; Fiberglass filter membranes (47mm / 1 µm)</li> <li>&gt; PTFE disc filter</li> </ul>	Microbiological detection All kinds of liquid filtration
C300A	<ul style="list-style-type: none"> <li>&gt; Chemical Resistance</li> <li>&gt; Modular design</li> <li>&gt; Environmental friendly</li> <li>&gt; Low maintenance</li> <li>&gt; Low noise</li> <li>&gt; Added filters for enhanced pump longevity</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Chemical resistant vacuum pump</li> <li>&gt; VF3 filtration flask set</li> <li>&gt; High-pressure resistant tube</li> <li>&gt; PTFE disc filter</li> </ul>	Sample pretreatment for HPLC, GC, and AA analysis All kinds of solvent purification (mobile phase)



V300A



V300B



V300SS



C300A

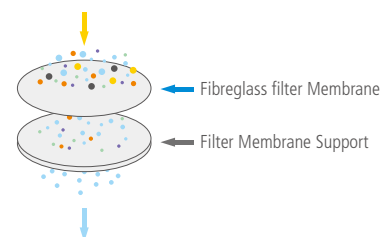
## Specifications

Model	V300A	V300B	V300SS	C300A
Flow Rate of the Pump(l/min)	17 l/min	17 l/min	17 l/min	22 l/min
Ultimate Vacuum(mbar)	150 mbar	150 mbar	150 mbar	210 mbar
Filtration Glass Set	VF6	VF1	VF2	VF3
Suction Bottle Capacity(ml)	1000 ml	1000 ml	1000 ml	1000 ml
Filter Diameter(mm)	47/50 mm	47/50 mm	47/50 mm	47/50 mm
Filter Flask Capacity(ml)	300 ml	300 ml	100 ml	300 ml
Filter Flask Material	(Glass Filter Cup)	(Magnetic Filter Cup)	(Stainless Steel Filter Cup)	(Glass Filter Cup)
Effective Filtration Area(cm <sup>2</sup> )	8 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	8 cm <sup>2</sup>
Tube I.D. (mm)	8 mm	8 mm	8 mm	8 mm
Order No.	167301	167302	167303	169301

## Filtration Sets

- > Vacuum filtration technique is widely used in liquid filtration in microbiological detection, SuspendedSolid detection, sample pre-process or solvent purification, mostly for microanalysis of HPLC, GC, or AA in food, medicine, beverage, drinking water, etc.
- > This unique design combined a filtration funnel with a receiver ask with drain, together with magnetic weighted base, guaranteeing the efficiency and stability.

Drawing for filtration principle



### Specifications

Model	VF1	VF2	VF3	VF5	VF6	VF7	VF8
Funnel	PES	SUS316	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass
Funnel Base	PES	SUS316	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass
Material	Membrane Support	PP	SUS316	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass
	Stopper	Silicon	Silicon	--	Silicon	Silicon	Silicon
	Receiver Flask with Drain	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass
Funnel Capacity	300 ml	100 ml	250 ml	15ml	250 ml	250 ml	15ml
Filtration Flask Capacity	1000 ml	1000 ml	1000 ml	125ml	1000 ml	1000 ml	125ml
Filter Diameter	47 mm	47 mm	47 mm	25mm	47 mm	47 mm	25mm
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	8 cm <sup>2</sup>	2.2cm <sup>2</sup>	8 cm <sup>2</sup>	8 cm <sup>2</sup>	2.2cm <sup>2</sup>
Tube I.D. (mm)	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm

Model	VF9	VF10	VF11	VF12	VF30	VF32	VF33
Funnel	SUS316	Borosilicate Glass	SUS316	Borosilicate Glass	PES	SUS316	SUS316
Funnel Base	SUS316	Borosilicate Glass	SUS316	Borosilicate Glass	PES	SUS316	SUS316
Material	Membrane Support	SUS316	Borosilicate Glass	SUS316	Borosilicate Glass	PP	SUS316
	Stopper	Silicon	--	Silicon	Silicon	Silicon	Silicon
	Receiver Flask with Drain	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass	Borosilicate Glass
Funnel Capacity	300 ml	1000 ml	500 ml	300 ml	300 ml	100 ml	300 ml
Filtration Flask Capacity	1000 ml	4000 ml	2000 ml	1000 ml	1000 ml	1000 ml	1000 ml
Filter Diameter	47 mm	47 mm	47 mm	47 mm	47 mm	47 mm	47 mm
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm

### Order Information



VF1

For solvent purification, general filtration and waste inhalation

VF1, 47mm Magnetic Filtration set	167200-01
Magnetic filter funnel 300 ml (1+2+3+4)	167100-18
1 300 ml Magnetic Filter Cup	167000-34
2 PP Membrane Support	167000-37
3 PES Filtration Base	167000-35
4 Silicone stopper	167110-16
5 Receiver flask with drain, 1000 ml	167300-08
6 Weighted Base	167200-04



VF2

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

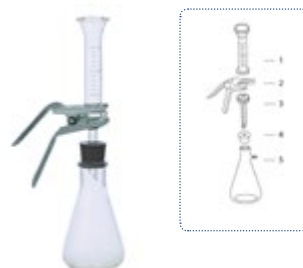
VF2, 47 mm Stainless Steel Filtration Set	167200-02
100ml Stainless steel filter holder (1+2+3+4)	167103-10
1 Stainless steel funnel, 100 ml	167103-61
2 Stainless steel support screen	167100-31
3 Stainless steel support base	167103-60
4 Silicone stopper	167110-16
5 Receiver flask with drain, 1000 ml	167300-08
6 Weighted Base	167200-04



### VF3

**Application** Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

VF3, 47 mm Glass Filtration Set		167200-03
250ml Glass filter holder ( 1+2+3 )		167120-30
1	Glass funnel, 250 ml	167210-03
2	Aluminum Magnesium Alloy Clamp	167240-01
3	Glass support base & tubulated cap	167230-01
4	Ground joint ask, 1000 ml	167250-01



### VF5

**Application** Ideal for small volume vacuum filtration for biological analysis or particulate contamination analysis.

VF5, 25mm Glass Microanalysis Filtration Set		167200-05
15 ml Glass filter holder ( 1+2+3+4 )		167120-32
1	Glass funnel, 15 ml	167220-15
2	Anodized aluminum clamp	167240-05
3	Glass support base	167230-04
4	Silicone stopper	167110-18
5	125 ml Receiver flask	167250-05



### VF6

**Application** Ideal for solvent purification and general filtration for microbiology, suspended solid analysis etc.

VF6, 47 mm Glass Filtration Set		167200-06
250ml Glass filter holder ( 1+2+3+4 )		167120-31
1	Glass funnel, 250 ml	167210-03
2	Anodized aluminum clamp	167240-01
3	Glass support base	167230-03
4	Silicone stopper	167110-17
5	Receiver flask, 1000 ml	167250-03



### VF7

**Application** Ideal for solvent purification and general filtration for microbiology, suspended solid analysis etc.

VF7, 47 mm Glass Filtration Set		167200-07
250ml Glass filter holder ( 1+2+3+4+5 )		167120-33
1	250 ml Glass Filter Cup	167210-03
2	Anodized aluminum clamp	167240-01
3	Stainless steel support screen	167230-31
4	Glass support base	167230-07
5	Silicone stopper	167110-17
6	Receiver flask, 1000 ml	167250-03



### VF8

**Application** Ideal for small volume vacuum filtration for biological analysis or particulate contamination analysis.

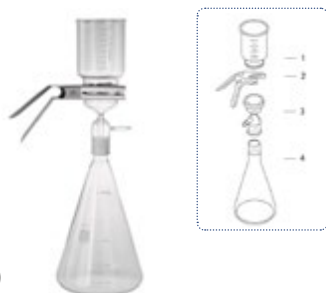
VF8, 25mm Glass Microanalysis Filtration Set		167200-08
15 ml Glass filter holder ( 1+2+3+4+5+6 )		167120-40
1	Glass funnel, 15 ml	167220-15
2	Anodized aluminum clamp	167240-05
3	Stainless steel support screen	167230-32
4	Glass support base	167230-08
5	Silicone stopper	167110-18
6	125 ml Receiver flask	167250-05



### VF9

**Application** For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

VF9, 47mm Stainless Steel Filtration Set		167200-09
300ml Stainless steel filter holder ( 1+2+3+4 )		167103-30
1	Stainless steel funnel, 300 ml	167103-63
2	Stainless Steel Membrane Support	167100-31
3	Stainless steel support base	167103-60
4	Silicone stopper	167110-16
5	Receiver flask with drain, 1000 ml	167300-08
6	Weighted Base	167200-04



## VF10

Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

VF10, 47 mm Glass Filtration Set	167200-10
1000ml Glass filter holder ( 1+2+3 )	167210-35
1 Glass funnel, 1000 ml	167210-10
2 Anodized aluminum clamp	167240-01
3 Glass support base & tubulated cap	167230-01
4 Ground joint flask, 4000 ml	167250-06



Unique filtration Adapter design can connect with GL45 storage bottle (1000ml, 2000ml, 5000ml...etc.)

## VF12

Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

VF12, Glass Filtration Set	167200-12
250ml Glass filter holder ( 1+2+3+4 )	167120-31
1 Glass funnel, 250 ml	167210-03
2 Anodized aluminum clamp	167240-01
3 Glass support base	167230-03
4 Silicone stopper	167110-16
5 Filtration Adapter	167000-65
6 1000ml Glass storage bottle ( Duran )	21801545



## VF32

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

VF32, 47mm Stainless Steel Filtration Set	197010-32
100ml Stainless steel filter holder ( 1+2+3+4 )	167103-10
1 Stainless steel funnel, 100 ml	167103-61
2 Stainless Steel Membrane Support	167100-31
3 Stainless steel support base	167103-60
4 Silicone stopper	167110-16
PC waste bottle with cover, 1000 ml ( 5+6+7 )	197000-11-PC
5 PC cover	197000-32-PC
6 Overflow protection	197000-39
7 PC bottle, 1000 ml	197000-31-PC



## VF11

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

VF11, 47mm Stainless Steel Filtration Set	167200-11
500ml Stainless steel filter holder ( 1+2+3+4 )	167103-50
1 Stainless steel funnel, 500 ml	167103-65
2 Stainless Steel Membrane Support	167100-31
3 Stainless steel support base	167103-60
4 Silicone stopper	167110-16
5 Receiver flask with drain, 2000 ml	167200-13



## VF30

For solvent purification, general filtration and waste inhalation

VF30, 47mm Magnetic Filtration set	197010-30
Magnetic filter funnel 300 ml ( 2+3+4+5 )	167100-18
1 PP Funnel Lid	167130-32
2 Magnetic Filter Cup, 300ml	167000-34
3 PP Membrane Support	167000-37
4 PES support base	167000-35
5 Silicone stopper	167110-16
PC waste bottle with cover, 1000 ml ( 6+7+8 )	197000-11-PC
6 PC cover	197000-32-PC
7 Overflow protection	197000-39
8 PC bottle, 1000 ml	197000-31-PC



## VF33

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

VF33, 47mm Stainless Steel Filtration Set	197010-33
300ml Stainless steel filter holder ( 1+2+3+4 )	167103-30
1 Stainless steel funnel, 300 ml	167103-63
2 Stainless Steel Membrane Support	167100-31
3 Stainless steel support base	167103-60
4 Silicone stopper	167110-16
PC waste bottle with cover, 1000 ml ( 5+6+7 )	197000-11-PC
5 PC cover	197000-32-PC
6 Overflow protection	197000-39
7 PC bottle, 1000 ml	197000-31-PC

# Multi-Position Filtration Systems

## Features

**The manifold is made of SS316**

All parts of manifold are made of SS316 Which are excellent chemical resistance and can be fast sterilized by flame and steam.

**The spin-lock design**

The manifold uses a spin-lock connection which facilitates fast and stable installation without clamp.

**Individual control valve**

Each branch permits individual control.

**Compatible to different sizes of funnels**

manifolds are available to fit 100, 300, 500ml funnel at option.

**Light and handy aluminum design**

The manifold is made of anodized aluminum which is autoclavable, light and cost-effective.

**Magnetic filter holder is included**

Magnetic filter holder allows one-handed operation, prevents possible twisting and tearing of the membrane.

## Application

- > Biological laboratories
- > Chemical industry
- > Microbiological detection
- > All kinds of liquid filtration



## Specifications

Model	BioVac330B	BioVac630B	BioVac321A	BioVac321B
Max. Flow Rate	34 l/min	58 l/min	34 l/min	34 l/min
Ultimate Vacuum(mbar)	150 mbar	150 mbar	150 mbar	150 mbar
Waste Bottle (Capacity in ml/ Material)	3000 ml, PC	3000 ml, PC	3000 ml, PC	3000 ml, PC
Number of Branches	3	6	3	3
Manifold Material	Stainless Steel	Stainless Steel	Aluminum	Aluminum
Filter Diameter(mm)	47 / 50 mm	47 / 50 mm	47 / 50 mm	47 / 50 mm
Filter Cup (Capacity in ml/ Material)	100 ml Stainless Steel	100 ml Stainless Steel	300 ml Magnetic	100 ml Stainless Steel
Effective Filtration Area(cm <sup>2</sup> )	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8 mm	8 mm	8 mm	8 mm

## Ordering Information

	Model	Order No.	Model	Order No.	Model	Order No.	Model	Order No.
Model	BioVac330B	167403	BioVac630B	167601	BioVac321A	167401	BioVac321B	167402
Contains								
Pump	V400	167400	V600	167600	V400	167400	V400	167400
Manifold	BioVac330 3-branch Stainless steel	167103-23	BioVac630 6-branch Stainless steel	167103-26	BioVac321 3-branch Aluminum	167200-43	BioVac321 3-branch Aluminum	167200-43
Filter Cups	3 x 100 ml Stainless steel	167103-61	6 x 100 ml Stainless steel	167103-61	3 x 300 ml PES (magnetic base)	167100-18	3 x 100 ml Stainless steel	167103-10
Waste Bottle	3000 ml / PC	167200-33	3000 ml / PC	167200-33	3000 ml / PC	167200-33	3000 ml / PC	167200-33
Bunsen Burner	Dragon 100	177100-00	Dragon 100	177100-00	Without	Without	Dragon 100	177100-00
Filter Membranes	Pall GN-6 MCE *	167100-52	Pall GN-6 MCE *	167100-52	Pall GN-6 MCE *	167100-52	Pall GN-6 MCE *	167100-52
Silicon Tube	2 x 1m	168021-01	2 x 1m	168021-01	2 x 1m	168021-01	2 x 1m	168021-01

\* Pall GN-6 MCE / 0.45µm, 200 pcs

## Multi-Position Manifolds

Vacuum filtration is widely done in laboratory for various tests such as microorganism test in food, pharmacy, beverage, drinking water industries and suspended solid test in environment protection field, sample or solution pretreatment before HPLC, GC, AA analysis etc.

WIGGENS is one of the leading suppliers of vacuum filtration apparatuses in the world. WIGGENS manufactures quality and cost effective vacuum pumps, compressors, manifolds as well as funnels and filters for different applications, wiggens offer you total solution for vacuum filtration.

### Features

#### The manifold is made of SS316

All parts of BioVac 330, 630 manifold are made of SS316. Which are excellent chemical resistance and can be fast sterilized by flame and steam.

#### The spin-lock design

The manifold uses a spin-lock connection which facilitates fast and stable installation without clamp

#### Individual control valve

Each branch permits individual control.

#### Compatible to different sizes of funnels

BioVac 330 and 630 manifolds are available to fit 100, 300, 500ml funnel as option.



3-branch stainless steel manifold BioVac 330  
Order No.: 167103-23



Stainless Steel Filter Cup (Cylinder Type)



3-branch Stainless Steel Manifold set ( 100ml, 300ml, 500ml )  
Order No.: 167103-24, 167101-23, 167101-24

### 3-branch Stainless Steel Manifold set

Model	BioVac330	BioVac331	BioVac333	BioVac335
Order No.	167103-23	167103-24	167101-23	167101-24
Number of Branches	3	3	3	3
Filter Diameter(mm)	47/50	47/50	47/50	47/50
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8	8	8	8
Dimensions(L×W×H) cm	50×15×15cm	80×15×20cm	50×15×23cm	50×15×26cm
Filter Cup Material	/	Stainless Steel	Stainless Steel	Stainless Steel
Filter Cup Capacity (mL)	/	100ml	300ml	500ml
Product Description	3-branch stainless steel manifold BioVac 330	3-branch stainless steel manifold BioVac 330 + 3 x 100ml Stainless Steel Filter Cups	3-branch stainless steel manifold BioVac 330 +3 x 300ml Stainless Steel Filter Cups	3-branch stainless steel manifold BioVac 330+3 x 500ml Stainless Steel Filter Cups



The 6-branch stainless steel manifold BioVac 630  
Order No.: 167103-26



Stainless Steel Filter Cup (Cylinder Type)



6-branch Stainless Steel Manifold set BioVac 631  
Order No.: 167103-27

### 6-branch Stainless Steel Manifold set

Model	BioVac630	BioVac631	BioVac633	BioVac635
Order No.	167103-26	167103-27	167101-26	167101-27
Number of Branches	6	6	6	6
Filter Diameter(mm)	47/50	47/50	47/50	47/50
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8	8	8	8
Dimensions(L×W×H) cm	80×15×15	80×15×20	80×15×23	80×15×26
Filter Cup Material	/	Stainless Steel	Stainless Steel	Stainless Steel
Filter Cup Capacity (mL)	/	100ml	300ml	500ml
Product Description	6-branch stainless steel manifold BioVac 630	6-branch stainless steel manifold BioVac 630 + 6 x 100ml Stainless Steel Filter Cups	6-branch stainless steel manifold BioVac 630 +6 x 300ml Stainless Steel Filter Cups	6-branch stainless steel manifold BioVac 630+6 x 500ml Stainless Steel Filter Cups



## Multi-Position Filtration Manifolds

### 3-branch Stainless Steel Manifold set



Manifold only



Model	BioVac320	BioVac341	BioVac343	BioVac345	BioVac351	BioVac353	BioVac355	BioVac363	BioVac364
Order No.	167110-23	167111-31	167111-33	167111-35	167112-31	167112-33	167112-35	167113-33	167113-34
Number of Branches	3	3	3	3	3	3	3	3	3
Filter Diameter(mm)	47/50	47/50	47/50	47/50	47/50	47/50	47/50	47/50	47/50
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8	8	8	8	8	8	8	8	8
Dimensions(L×W×H) cm	50×15×12	50×15×23	50×15×27	50×15×30	50×15×30	50×15×30	50×15×33	50×15×30	50×15×30
Filter Cup Material	Without	Stainless Steel	Stainless Steel	Stainless Steel	Magnetic	Magnetic	Magnetic	Borosilicate Glass	Glass funnel with Micro-Strainer
Filter Cup Capacity (mL)	Without	100	300	500	150	300	500	250	250

### 6-branch Stainless Steel Manifold set



Manifold only



Model	BioVac620	BioVac641	BioVac643	BioVac645	BioVac651	BioVac653	BioVac655	BioVac663	BioVac664
Order No.	167110-26	167111-61	167111-63	167111-65	167112-61	167112-63	167112-65	167113-63	167113-64
Number of Branches	6	6	6	6	6	6	6	6	6
Filter Diameter(mm)	47/50	47/50	47/50	47/50	47/50	47/50	47/50	47/50	47/50
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8	8	8	8	8	8	8	8	8
Dimensions(L×W×H) cm	80×15×12cm	80×15×23cm	80×15×27cm	80×15×30cm	80×15×30cm	80×15×30cm	80×15×33cm	80×15×30cm	80×15×30cm
Filter Cup Material	Without	Stainless Steel	Stainless Steel	Stainless Steel	Magnetic	Magnetic	Magnetic	Borosilicate Glass	Glass funnel with Micro-Strainer
Filter Cup Capacity (mL)	Without	100	300	500	150	300	500	250	250

### 3-branch aluminum manifold set



Manifold only



Model	BioVac321	BioVac311	BioVac313	BioVac315	BioVac301	BioVac303	BioVac305	BioVac323	BioVac324
Order No.	167200-43	167204-31	167204-33	167204-35	167202-31	167202-33	167202-35	167203-23	167203-24
Number of Branches	3	3	3	3	3	3	3	3	3
Filter Diameter(mm)	47/50	47/50	47/50	47/50	47/50	47/50	47/50	47/50	47/50
Effective Filtration Area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Tube I.D. (mm)	8	8	8	8	8	8	8	8	8
Dimensions(L×W×H) cm	50×15×12cm	50×15×23	50×15×27	50×15×30	50×15×30	50×15×30	50×15×30	50×15×30	50×15×30
Filter Cup Material	Without	Stainless Steel	Stainless Steel	Stainless Steel	Magnetic	Magnetic	Magnetic	Borosilicate Glass	Glass funnel with Micro-Strainer
Filter Cup Capacity (mL)	Without	100	300	500	150	300	500	250	250

## Customer Assembling Options for Multi-Position Filtration System

wiggins offers free assembling options, the customer can design it yourself the filtration system based different application requirements.

### Filtration System Components Package I

Vacuum pump ①、PP/PC Waste Bottle ②、Filter Membranes ④、Silicon Tubing ⑤、Filtration combination ⑥



Multi-Position Filtration System

### Selection Table for Multi-Position Filtration System

No.	Name				
1	Vacuum pump	V400	V600	V410	V610
	Order No.	167400	167600	167410	167610
2	Suction bottle	1000ml	2000ml	3000ml	-
	Order No.	167200-31	167200-32	167200-33	-
4	Filter Membranes	Fiberglass Filter Membranes	MCE Filter Paper	-	-
	Order No.	167100-20	167100-52	-	-
5	Silicon Tubing	Outer Diameter 14mm, Inner Diameter 8mm, Length 1m			-
	Order No.	167021-01			-
6	Combination	BioVac351, BioVac353, BioVac355, BioVac363, BioVac364, BioVac651, BioVac653, BioVac655, BioVac663, BioVac664, BioVac311, BioVac313, BioVac315, BioVac301, BioVac303, BioVac305, BioVac323, BioVac324,			

### Filtration System Components Package II

Vacuum pump ①、PP/PC Waste Bottle ②、Lab Burners ③、Filter Membranes ④、Silicon Tubing ⑤、Filtration combination ⑥



Multi-Position Filtration System

### Selection Table for Multi-Position Filtration System

No.	Name				
1	Vacuum pump	V400	V600	V410	V610
	Order No.	167400	167600	167410	167610
2	Suction bottle	1000ml	2000ml	3000ml	-
	Order No.	167200-31	167200-32	167200-33	-
3	Lab Burners	Dragon 100	Dragon 220	-	-
	Order No.	177100-00	177220-00	-	-
4	Filter Membranes	Fiberglass Filter Membranes	MCE Filter Paper	-	-
	Order No.	167100-20	167100-52	-	-
5	Silicon Tubing	Outer Diameter 14mm, Inner Diameter 8mm, Length 1m			-
	Order No.	167021-01			-
6	Combination	BioVac331, BioVac333, BioVac335, BioVac631, BioVac633, BioVac635, BioVac341, BioVac343, BioVac345, BioVac641, BioVac643, BioVac645			

## Accessories For Filtration Systems

### 47mm Glass Funnel Holder

#### Features

- > Made of chemical-resistant borosilicate glass
- > High temperature resistant
- > Steam-sterilization can be applied

#### Specifications

Materials	Glass Funnel	Glass funnel with support screen
Funnel	Borosilicate Glass	Borosilicate Glass
Funnel Base	Borosilicate Glass	Borosilicate Glass
Membrane Support	Sintered Glass	Stainless Steel Support Screen + PTFE Gasket
Clamp	Aluminum	Aluminum

Type		
Funnel Capacity(ml)	250 ml	250 ml
Filter Diameter(mm)	47 mm	47 mm
Effective Filtration Area(cm <sup>2</sup> )	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>

#### Ordering Information

47mm Glass Funnel	167120-31
250ml Glass Filter Cup	167210-03
Aluminum Clamp	167240-01
47mm Glass Filter Base	167230-03
Silicon Rubber	167110-16

47mm Glass Funnel with Micro Strainer	167120-33
250ml Glass Filter Cup	167210-03
Aluminum Clamp	167240-01
Stainless Steel Support Screen	167230-31
47mm Glass Filter Base	167230-07
Silicon Rubber	167110-16



Glass Funnel



Glass funnel with support screen



## PES Funnels With Magnetic Base

- > Unique magnetic connection design
- > No clamps needed
- > High temperature sterilization possible

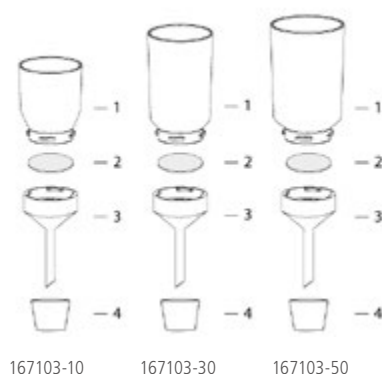
Materials	
Filter Cup	PES
Membrane Support	PP
Filter Base	PES
Rubber	Silicon

Specifications	
Magnetic filter funnel 150 ml	167130-15
Magnetic filter funnel 300 ml	167100-18
Magnetic filter funnel 500 ml	167130-50



## 47mm Stainless Steel Funnels

- > Quick and effective spin-lock system
- > No clamp needed
- > SUS316 stainless steel
- > Heat sterilization can be applied



## Ordering Information

100 ml Stainless Steel Funnel	167103-10
100ml stainless steel filter cup	167103-61
Stainless Steel Support Screen	167100-31
47mm stainless steel filter base	167103-60
Silicon Rubber	167110-17

300 ml Stainless Steel Funnel	167103-30
300 ml	167103-63
Stainless Steel Support Screen	167100-31
47mm stainless steel filter base	167103-60
Silicon Rubber	167110-17

500 ml Stainless Steel Funnel	167103-50
500ml stainless steel filter base	167103-65
stainless steel Support Screen	167100-31
47mm stainless steel filter base	167103-60
Silicon Rubber	167110-17

## Specification

Material	100 ml	300 ml	500 ml
Funnel	SUS316	SUS316	SUS316
Funnel Base	SUS316	SUS316	SUS316
Membrane Support	SUS316	SUS316	SUS316
Funnel Lid	SUS316	SUS316	SUS316
Type			
Funnel Capacity(ml)	100 ml	300 ml	500 ml
Filter Diameter(mm)	47 / 50 mm	47 / 50 mm	47 / 50 mm
Effective Filtration Area(cm <sup>2</sup> )	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>

## Stainless Steel Filter Cup (Cylinder Type)



Material	100 ml	300 ml	500 ml
Filter Cup	SUS316	SUS316	SUS316

Type			
Funnel Capacity(ml)	100 ml	300 ml	500 ml
Filter Diameter(mm)	47 / 50 mm	47 / 50 mm	47 / 50 mm
Effective Filtration Area(cm <sup>2</sup> )	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>

Stainless Steel Filter Cup (Cylinder Type)	Order No.
100ml, Suitable for BioVac 330/630	167103-61
300ml, Suitable for BioVac 330/630	167103-63
500ml, Suitable for BioVac 330/630	167103-65

## Stainless Steel Filter Cup (Cone Type)



Material	500 ml	750 ml	1000 ml
Filter Cup	SUS316	SUS316	SUS316

Type			
Funnel Capacity(ml)	500 ml	700 ml	1000 ml
Filter Diameter(mm)	47 / 50 mm	47 / 50 mm	47 / 50 mm
Effective Filtration Area(cm <sup>2</sup> )	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>

Stainless Steel Filter Cup (Cone Type)	Order No.
500ml, Suitable for BioVac 300/600	167102-50
750ml, Suitable for BioVac 300/600	167102-75
1000ml, Suitable for BioVac 300/600	167102-99

## Stainless Steel Funnel Lid



Description	Order No.
100 ml Stainless Steel Funnel Lid, Suitable for 100 ml Stainless Steel Filter Cup (Cylinder Type)	167103-11
300 ml Stainless Steel Funnel Lid, Suitable for 300 ml Stainless Steel Filter Cup (Cylinder Type)	167103-13
500 ml Stainless Steel Funnel Lid, Suitable for 500 ml Stainless Steel Filter Cup (Cylinder Type)	167103-15
Stainless Steel Funnel Lid, Suitable for 500 ml / 750 ml / 1000 ml Stainless Steel Filter Cups (Cone Type)	167110-20

## PP Funnel Lid



Specifications	Material
Order No.:	167130-32
Suitable for Funnel	Pall 4242
Number of Inlets	3
Inlet Type	Female luer slip
Filter Diameter	25 mm
Package	1
Main Body	PP
Cover	Silicon
Filter Material	PTFE
Pore Size	0.2 μm

## Filtration Flask for Liquids

Order No.	167100-13	167100-14
<b>Includes</b>		
Glass bottle	167300-08	167300-08
Rubber stopper	167110-16	167110-17
Magnetic base	167200-04	167200-04
<b>Specifiction</b>		
Capacity	1000 ml	1000 ml
Inlet / Outlet Diameter	8 mm	8 mm
Water Outlet	Yes	Yes
The dia meter of hole in center of rubber stopper	Ø15mm	Ø9.5mm



## Weighted Base

Description	Order No.
1000 ml Filtration Flask Base with a Unique Stabilization Design	167200-04



## Disc Filter

Name	Pinhead Filter	Small Disc Filter	Big Disc Filter
Order No.	194225-01	167200-35	167200-36
Brand	Pall	Pall	Pall
Filter Diameter / Pore Size	25 mm / 0.2 µm	37 mm / 0.2 µm	50 mm / 0.2 µm
Outer Diameter	30 mm	45 mm	73 mm
Material	PTFE	PTFE	PTFE
Outer Material	PP	PP	PP
Number of Filters per Package	1	1	1



## Filter Membranes

Name	Fiberglass Filter Membranes	MCE Filter Paper
Order No.	167100-20	167100-52
Brand	Pall	Pall
Filter Diameter	47 mm	47 mm
Filter Pore Size	1 µm	0.45 µm
Material	Fiberglass	MCE
Number of Filters per Package	100	200



## Silicon Tubing

Order No.	Outer Diameter (mm)	Inner Diameter (mm)	Thickness (mm)	Length (m)
168020-01	12	6	3	1
168021-01	14	8	3	1
168022-01	16	10	3	1



167201-31

167201-33

167200-31

167200-33

## PP/PC Waste Bottle

Material						
Order No.	167201-31	167201-33	167200-31	167201-32	167200-32	167200-33
Bottle	PC	PC	PC	PC	PC	PC
Bottle Cover	316L	PC	PC	PC	PC	PC
Spill-Proof Buoy	PP	PP	PP	PP	PP	PP
<b>Description</b>						
Capacity(ml)	1000 ml	2500 ml	1000 ml	1500 ml	2000 ml	3000 ml
Outlet(mm)	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm
Spill-Proof Buoy	Yes	Yes	Yes	Yes	Yes	Yes
Autoclavability (121°C )	Yes	Yes	Yes	Yes	Yes	Yes

## Glass Waste Bottle

Description	Material	
Order No.:	167120-34	
Capacity	4000 ml	Bottle Glass
Outlet	8 mm	Bottle Lid Stainless Steel
Spill-Proof Buoy	Yes	Float Switch PP
Autoclavability (121°C )	Yes	



## Stand for Suction Bottles

Description	Order No.
Stand for Suction Bottles Designed for Stabilizing the Bottle in Filtration Work	167200-39



## Foot Pedal

Description	Order No.
Suitable for C Series and V Series Vacuum Pumps	167200-41

## Silicon Drainage Tubing

Order No.	Outer Diameter (mm)	Inner Diameter (mm)	Thickness (mm)	Length (m)
168030-01	12	8	2	1

# Rotary Vane Vacuum Pumps

Oil-sealed Rotary Vane vacuum pumps are widely used traditional vacuum pumps in research and production, can be used independently, as well as working as backing pumps for molecular pumps or diffusion pumps. Wiggins' direct driven rotary vane pumps are available as one and two-stage versions, cover the range from desktop lab pumps to production line pumps, with low noise and stable working temperature for common voltages and frequencies, long lifespan, and outstanding reliability for chemical applications. Various application areas may include vacuum distillation, vacuum filtration, vacuum inspection, vacuum freeze drying, vacuum coating, vacuum leak detection, vacuum packaging, vacuum adsorption, etc.



## Features

- > Compact structure
- > Very good sealing
- > No returning throughput
- > Oil-spout prevention
- > Low noise
- > Oil-observation window
- > Handle for easy transportation
- > High flow rate
- > Low and stable ultimate vacuum
- > High evaporation resistance
- > Comparatively high chemical resistance
- > High longevity
- > Low maintenance rate
- > Low oil mist
- > Gas ballast valve
- > Overcurrent protection
- > Fulfills IP54 standards

## Application

- > Vacuum distillation
- > Vacuum filtration
- > Vacuum testing
- > Vacuum freeze drying
- > Vacuum plating
- > Leak detection
- > Vacuum packaging
- > Vacuum sorption
- > As a backing pump for turbo-molecular pumps or diffusion pumps

## Specifications

Model series	R-4SN	R-8SN	R-16SN	R-8D	R-17D	R-24D	R-36D
Number of Stages	Single	Single	Single	Double	Double	Double	Double
Flow Rate (L/min)	50	120	240	180	283	360	540
Ultimate Vacuum (mbar)	$2.5 \times 10^{-2}$	$2.5 \times 10^{-2}$	$2.5 \times 10^{-2}$	$4 \times 10^{-4}$	$4 \times 10^{-4}$	$4 \times 10^{-4}$	$4 \times 10^{-4}$
Power (W)	180	250	550	550	750	750	1100
Motor rotation(RPM)	1,400	1,400	1,400	1400	1400	1400	1400
Noise Level (dB)	< 54	< 54	< 54	< 54	< 54	< 56	< 56
Oil Capacity (L)	0.25	0.33	1	1.1	1.4	1.9	2.1
IP Code	IP40	IP40	IP40	IP44	IP44	IP44	IP44
Weight (kg)	9	11	22	29	31	37	39
Inlet and Outlet Specifications	SAE 3/8" UNF 7/16"-20	SAE 3/8" UNF 7/16"-20	DN25KF	DN25KF	DN25KF	DN25KF	DN25KF
Order No.	900101-22	900102-22	900104-22	900111-22	900112-22	900025-22	900035-22



## Accessories for Rotary Vane Vacuum Pumps

### Oil Mist Filter

The gas pumping out from the outlet often has some oil mist, which will effect the ambient, and sometime is harmful. Chemvak's exhaust filter can almost stop all the oil mist and let it flow back to the pump and can reduce noise as well.



Name	Suitable for	Order No.
Filters	R-4SN, R-8SN (Direct connection,outlet DN25KF)	900101-1
Filters	R-16SN, R-8D, R-17D, R-24D, R-36D (Direct connection,outlet DN25KF)	900111-1
Filter Element	R-16SN, R-8D, R-17D, R-24D, R-36D	900111-2
Condensate Separator	R-16SN, R-8D, R-17D, R-24D, R-36D	900111-3
Dust Filter	R-16SN, R-8D, R-17D, R-24D, R-36D	900111-4

### Connector / Flange Joint

Name	Description	Order No.
Connector	Specification: 3/8 SAE; Outlet Diameter: 8mm; R-4SN / R-8SN	168900-82
Connector	Specification: 3/8 SAE; Outlet Diameter: 10mm; R-4SN / R-8SN	168900-83
Connector	Specification: 3/8 SAE; Outlet Diameter: 12mm; R-4SN / R-8SN	168900-84
Flange Joint	Inlet: DN25KF; Outlet Diameter: 8mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D	168900-08
Flange Joint	Inlet: DN25KF; Outlet Diameter: 10mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D	168900-10
Flange Joint	Inlet: DN25KF; Outlet Diameter: 12mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D	168900-12
Flange Joint	Inlet: DN25KF; Outlet Diameter: 19mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D	168900-19
Flange Joint	Inlet: DN25KF; Outlet Diameter: 25mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D	168900-25

### DVM Vacuum Digital Meter

- > Compact design, flange connector, strong tightness
- > TFT high-light screen, easy to observation for multiple angles or long distance
- > Directly to connect with the pumps, material for contact parts of the gas is stainless steel
- > DVM150Pro for rotary vane pumps



Models	Display resolution	Testing range	Material of sensor	Size of the meter	Order No.
DVM150Pro	0.001mbar	0.001-9.999mbar	PIRANI	100*65*55mm	15060-02
No. Description					Order No.
①	Connector, KF16 to KF25, suitable for R-16SN, R-8D, R-17D, R-24D, R-36D				DVM150BJFL001
②	Connector, KF16 to threaded connector, suitable for R-4SN, R-8SN				DVM150BJFL002
③	KF16 flange clamp				BJFL003
④	KF25 flange clamp				BJFL004

### Wiggins Highspeed Pump Oil

ChemVak highspeed oil employs a very good lubricant function, and has a high emulsion and oxidation resistance. It helps to maintain the longevity of the system and to reach a stable ultimate vacuum.



Specifications	Order No.
500 mL	900100-04
1 L	900100-05
5 L	900100-02
10 L	900100-03

### Thick Vacuum Tubing

Thick rubber tube, which can be used in vacuum systems and for low evaporation pressure.



Inner Diameter(mm)	Thickness (mm)	Length(m)	Order No.
8	5	1	22690-06
10	9.5	1	22690-11
12	9.5	1	22690-13
19	9.5	1	22690-21
25	9.5	1	22690-26

### Krytox LVP High-Vacuum Grease

Very stable, incombustible silicon grease, which is suitable for high-vacuum systems. In high-vacuum environments or high personal risk environments it can be used as a lubricant or sealing compound for plugs, valves, and connecting pieces. It can be used in laboratory or pilot equipment



Specifications	Order No.
2 oz.	8116-10

## Electrical Aspirator Pump

### Portable dual-channel, water-jet aspirator pump.

VE-11 creates a vacuum using an aspirator pump that is dependent on the vapor pressure of water.

Ideal for rotary vacuum evaporators, decompressing distillatories, vacuum dryers, and vacuum filtering units.

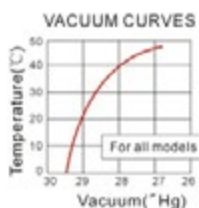
#### Features

- > Economic use of resources
- > High flow rate up to 36 L/min
- > Vacuum can be regulated between 20 mmHg and 74 mmHg
- > Employs two water flow and gas suction devices, a check valve, and an upstream prevention device
- > Housing is made of PP to enhance longevity
- > Small amounts of liquid in the machine don't harm the system Built-in circulating pump and water tank makes this unit portable and eliminates water waste.
- > Circulating pump continuously forces water quietly across a set of aspirators, and therefore clean and efficient.
- > Included (2) metal aspirators to create a vacuum with a built-in check valve to prevent backflow of water into the aspirator pump.
- > Submerged parts: 304 stainless steel, polypropylene silicone, and nickel-coated brass.
- > Tank features a drain port and spigot for easy water changes.
- > Unlike other vacuum pumps the VE-11 can suck a little bit of solvent. (water)



#### Included Accessories

- > Tank / Aspirating pump / Tank closure.
- > Two aspirators.
- > Two ø6mm (0.02") silicone rubber tube 20cm (0.7 ft) in length and an additional ø6mm (0.02") silicone rubber tube 100cm (3.3 ft) in length.



#### VE-11

with optional vacuum gauge / regulator

#### Specifications & Ordering Information

Model		VE-11
Max. Flow Rate		36 L/min (18 L/min*2)
Water Tank Capacity(L)		9.5 L
Motor Power(W)		150 W
Material (Water Tank)		Polypropylene
Dimensions	Water Tank(WxDxH)	298 x 210 x 227
	Case(WxDxH)	330 x 265 x 390
	Absorption nozzle	9.5 Ø x 2
	Overflow nozzle	17 Ø
Safety Devices		Fuse, check valve, overheat protection
Weight (kg)		5.7
Order No.		900701

#### Application Area

- > Filtration
- > Distillation
- > Rotary evaporation



Vacuum Gauge / Regulator (Option)

#### Optional Accessories

- > Vacuum gauge / regulator: to monitor and control the vacuum pressure. (between 0.0267~0.0998MPa / 7.9~29.5" Hg)
- > Cooling coil: to prevent vacuum from decreasing due to temperature increase.

#### Accessories

Description	Order No.
Vacuum Gauge / Regulator	900701-1
VC-10 Cooling Coil	900701-2
ET-02 Aspirator	900701-3



VC-10 Cooling Coil



ET-02 Aspirator