

Oil Free Vacuum Pumps

V300 /V400 /V410

V600 /V 610



English Operating Manual

WIGGENS labortechnik GmbH

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ChemVak

Oil Free Vacuum Pumps

V300 / V400 / V410

V600 / V610

Congratulations!

You have made an excellent choice.

Wiggins wants to thank you for the trust you have placed in us.

This operating manual has been designed to help you gain an understanding of the operation and possible applications of our V series vacuum pumps. For optimal utilization of all functions, we recommend that you thoroughly study this manual prior to beginning any operation.

The Wiggins Quality Management System



ISO 9001

Certificate Registration No. 01 100084841

Unpacking and Inspection

Unpack the pump and accessories and inspect them for possible transport damage. Damage should be reported to the responsible carrier, railway, or postal authority, and a damage report should be requested. These instructions must be followed fully for us to guarantee our full support of your claim for protecting against loss from concealed damage. The form required for filing such a claim will be provided by the carrier.

Printed in Germany

Changes without prior notification reserved

Important: keep operating manual for future use

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A. Important Notice

This instrument is designed for laboratory usage only.

Before setting up and operating the **Vacuum Pump**, please read these instructions carefully to familiarize with all installation and operation process. Any individual shall be well trained by reading the instructions or by technical people from authorized distributors before operating the instrument.

The instrument shall not be modified or altered in any way. Any modification or alteration will void the warranty, void the regulatory certifications and create potential safety hazard.

We are not responsible for any injury or damage caused by using the instrument for any non-intended purpose, or modifying the instrument by any person who is not authorized.

B. Unpacking

When unpacking, notice if the pump is in good situation. If not, please contact the distributor.

C. Installation

1. Check voltage specified on nameplate on the bottom. Make sure if it matches the line voltage in your location.
2. Install the instrument in a clean, dust-less and ventilated area under 40°C.
3. To enable suction function, connect the inlet of the pump to the outlet of objective equipment with a high-pressure hose.

D. Warning

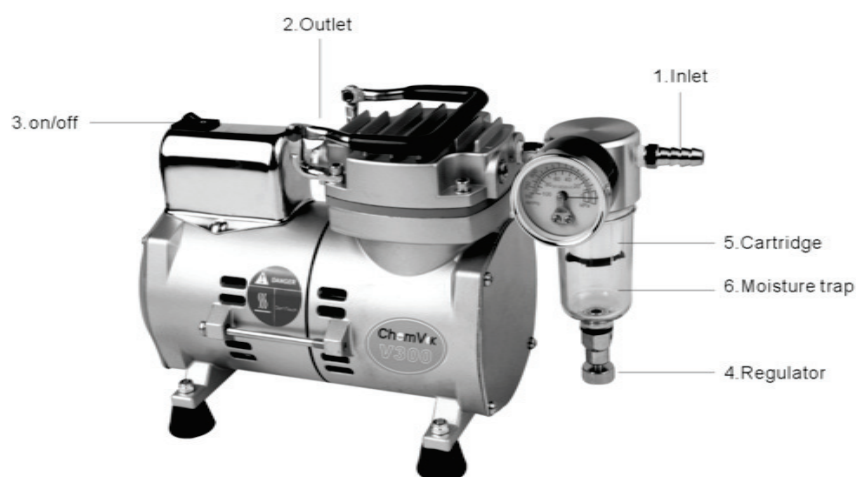
1. The pump is not corrosion-proof. Please do not operate it with corrosive gases directly.
2. When pump is used in water filtration, do not make the liquid level of flask exceed safety level. Failure to comply can result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.
3. The filter cartridge is used to absorb moisture and dust. Please replace the cartridge to maintain proper pumping efficiency when it is saturated.
4. If the pump does not work when restarted during operation, release the vacuum, and

turn-on again. Otherwise may result in overloading and damage the motor.

5. This pump has a thermal switch that automatically shuts-off when it becomes overheated or lack of voltage.
6. Do not touch the pump during working or just after use as motor is hot. (70~80°C)
7. Do not use any lubricant, which may damage the pump.
8. Use the pump in a dry, clean well-ventilated area.
9. Never spray flammable or toxic materials.
10. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a competent person in order to avoid hazard.

E. Operation

E.1. V300

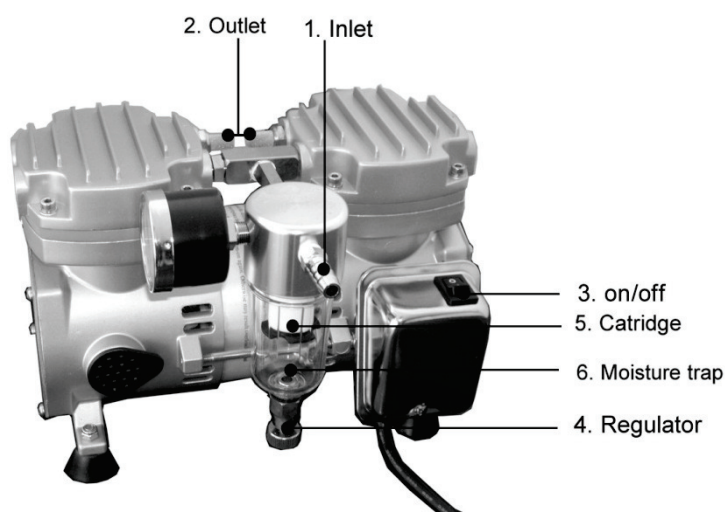


Operating procedure

1. Schematic of the pump system is shown as above.
2. Once all of tubes have been connected, pumping function is activated by pressing on/off button.
3. To setup vacuum, adjust the regulator.

* **Warning: When pump is used in water filtration, please be noted, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.**

E.2. V400

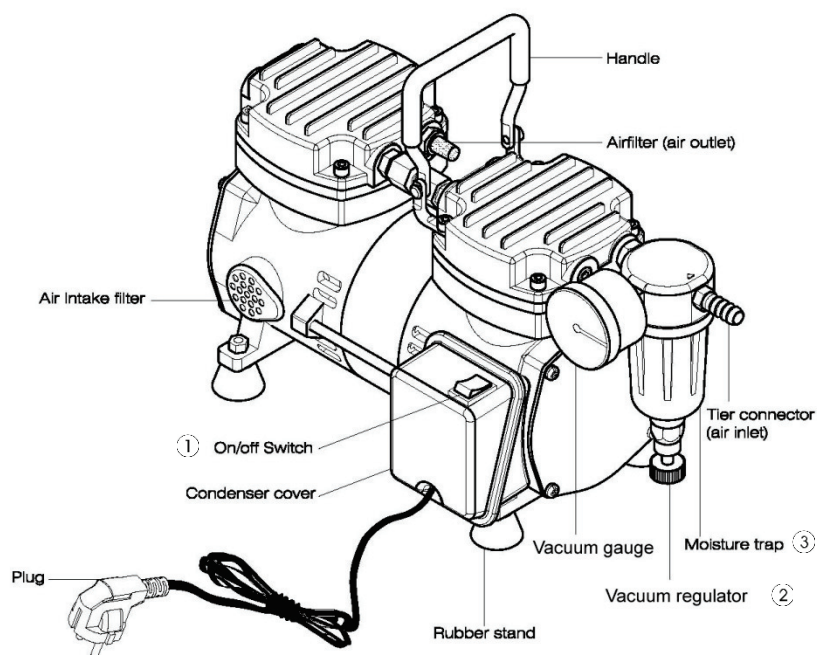


Operating procedure

1. Schematic of the pump system is shown as above.
2. Once all of tubes have been connected, pumping function is activated by pressing on/off³ button
3. To setup vacuum, adjust the regulator 4.

* ***Warning: When pump is used in water filtration, please be noted, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.***

E.3. V410

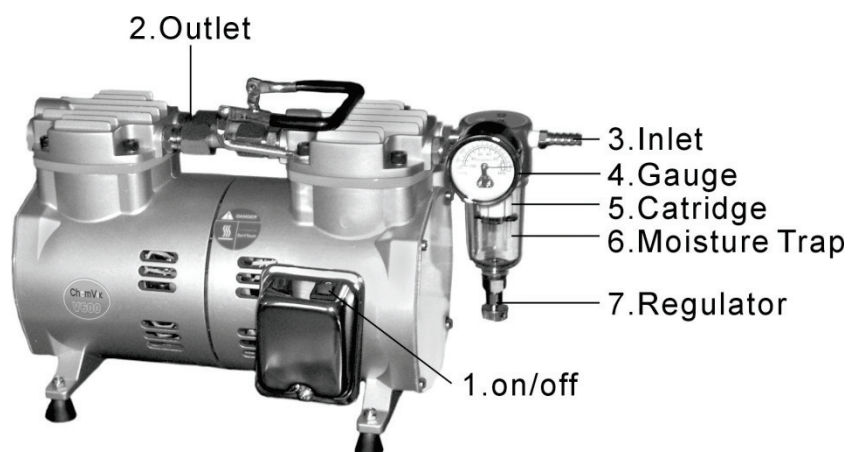


Operating procedure

1. Schematic of the pump system is shown as above.
2. Once all of tubes have been connected, 1 Press on/off button to start working.
3. To setup vacuum, adjust the regulator 1.

*** Warning: When pump is used in water filtration, please be note, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.**

E.4. V600

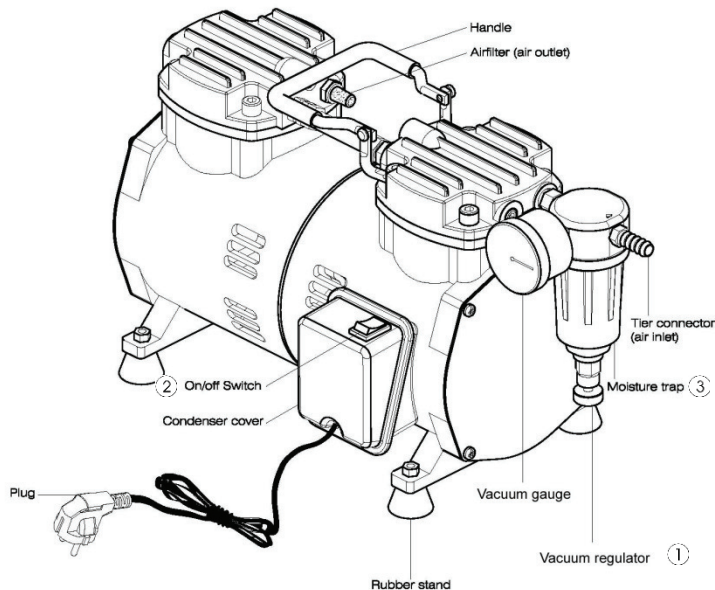


Operating procedure

1. Schematic of the pump system is shown as above.
2. Once all of tubes have been connected, pumping function is activated by pressing on/off 1 button.
3. To setup vacuum, adjust the regulator 7.

*** Warning: When pump is used in water filtration, please be noted, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.**

E.5. V610



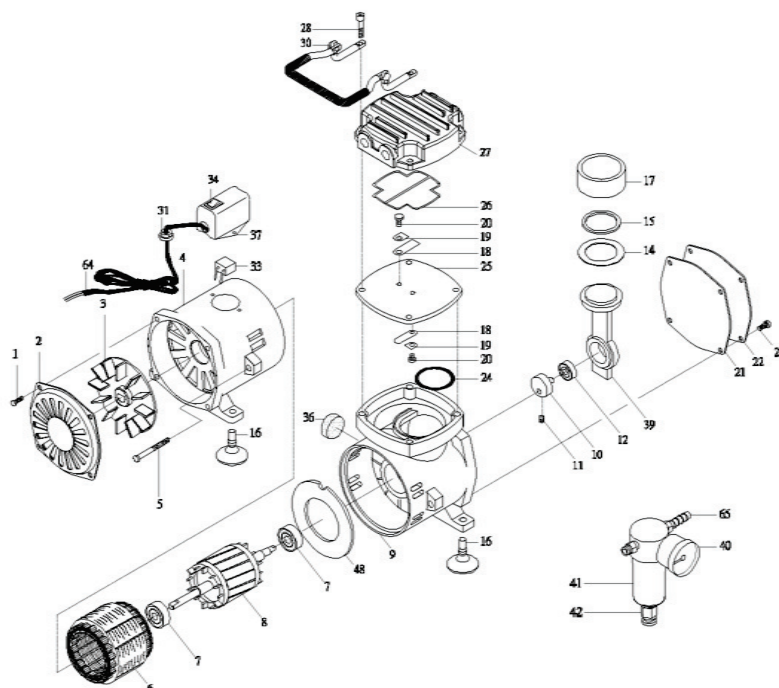
Operating procedure

1. Schematic of the pump system is shown as above.
2. Once all of tubes have been connected, pumping function is activated by pressing on/off 2 button.
3. To setup vacuum, adjust the regulator 1.

*** Warning: When pump is used in water filtration, please be noted, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.**

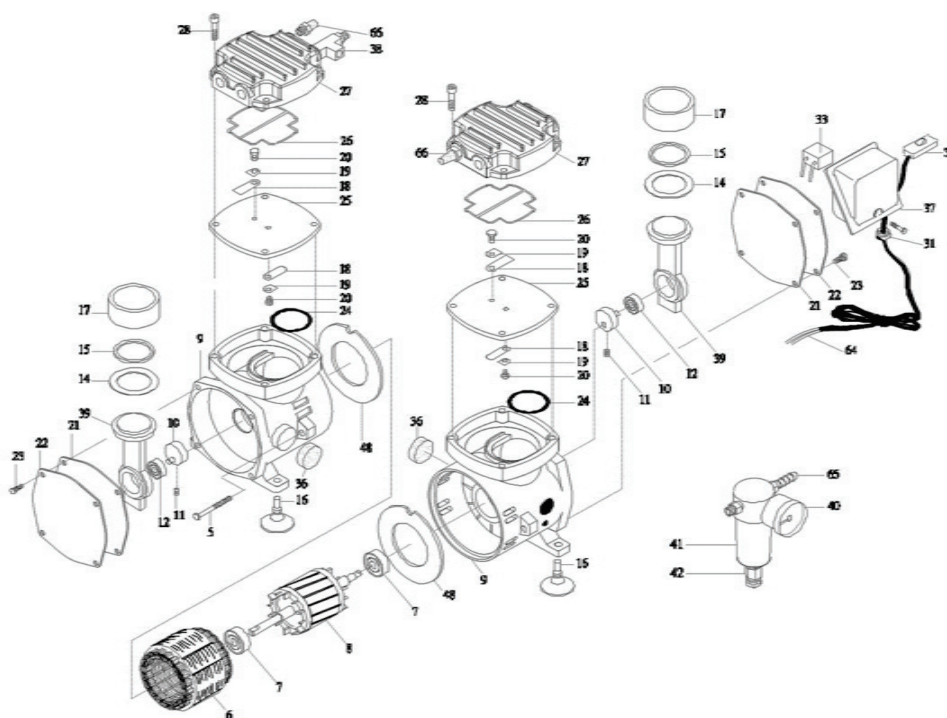
F. Parts List

F.1. V300



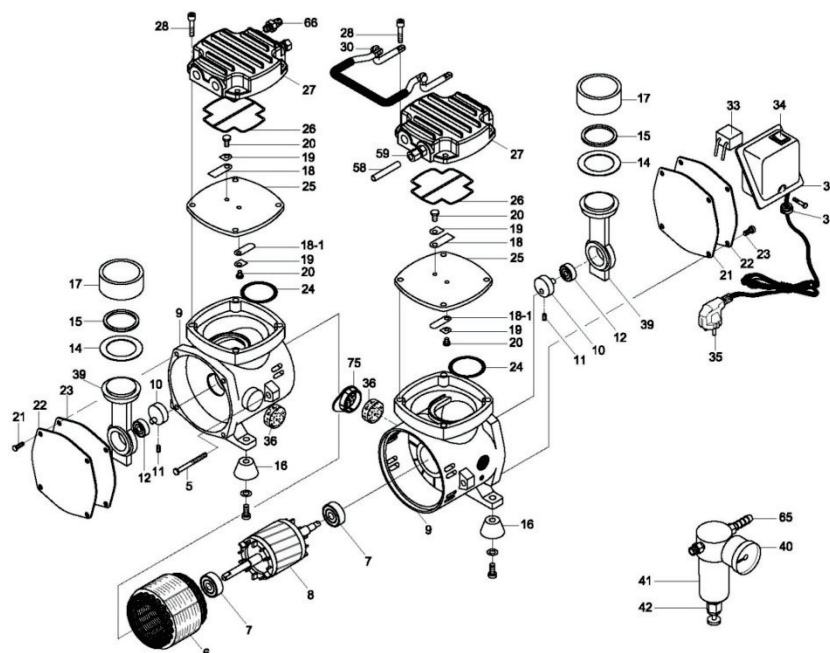
Index	Description	Quan	Index	Description	Quan
1	Setscrew	4	6	Stationary Motor *(2P/4P)	1
2	Plastic Cover	1	7	Bearing	2
3	Cooling Fan	1	8	Rotary motor *(2P/4P)	1
4	Rear Body	1	9	Front Body	1
5	Setscrew	2	10	Counterweight	1
11	Setscrew	1	27	Cylinder Head	1
12	Bearing	1	28	Setscrew	4
14	Compression Ring	1	30	Handle	1
15	Lock Plate	1	31	Cable Protector	1
16	Rubber Stand	4	33	Condenser	1
17	Cylinder	1	34	On/Off Switch	1
18	Valve Plate	1	35	Plug	1
18-1	Valve Plate	1	36	Air Intake Filter	1
19	Valve Plate Lock	2	37	Condenser Cover	1
20	Setscrew	2	39	Connecting Rod	1
21	Paper Pad	1	40	Pressure Gauge	1
22	Front Body Lid	1	41	Moisture Trap	1
23	Setscrew	4	42	Drain Valve	1
24	O-ring	1	48	Isolation	1
25	Cylinder block	1	65	Tier Connector	1
26	O-ring	1			

F.2. V400



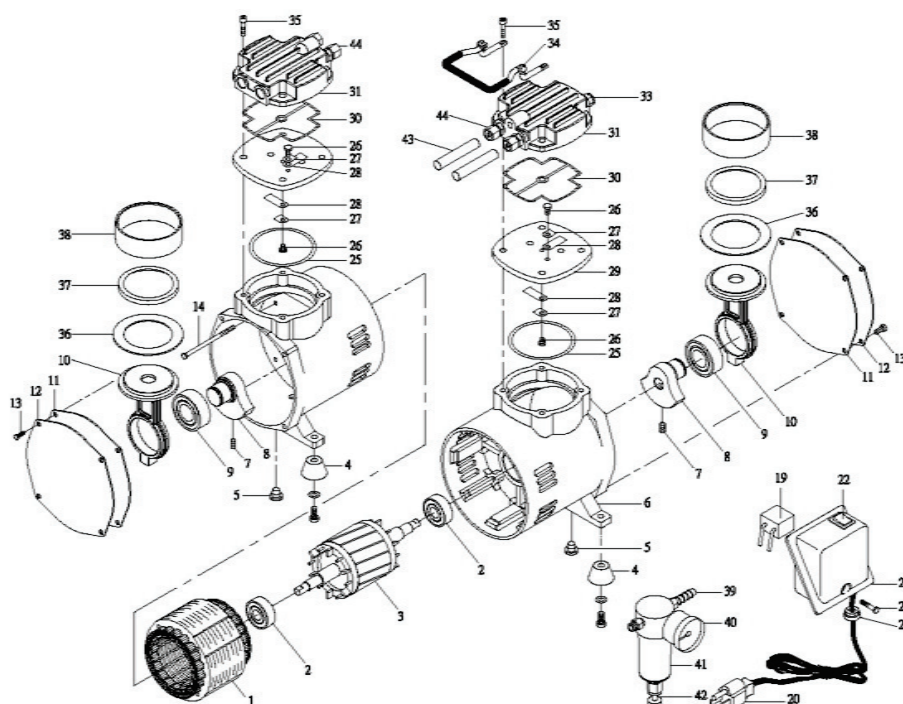
Index	Description	Q'ty	Index	Description	Q'ty
5	Setscrew	2	25	Cylinder Block	2
6	Stationary Motor	1	26	O-ring	2
7	Bearing	2	27	Cylinder Head	2
8	Rotary Motor	1	28	Setscrew	8
9	Front Body	2	31	Cable Protector	1
10	Counterweight	2	24	O-ring	2
11	Setscrew	2	33	Condenser	1
12	Bearing	2	34	On/Off Switch	1
14	Compression Ring	2	35	Plug	1
15	Lock Plate	2	36	Air Intake Filter	2
16	Rubber stand	4	37	Condenser Cover	1
17	Cylinder	2	38	3-way Connector	1
18	Valve plate	2	39	Connecting Rod	2
18-1	Valve Plate	2	40	Pressure gauge	1
19	Valve Plate Lock	4	41	Moisture trap	1
20	Setscrew	4	42	Drain valve	1
21	Paper Pad	2	48	Isolation	2
22	Front Body Lid	2	65	Tier Connector	1
23	Setscrew	8	66	Air Filter (Air inlet)	2

F.3. V410



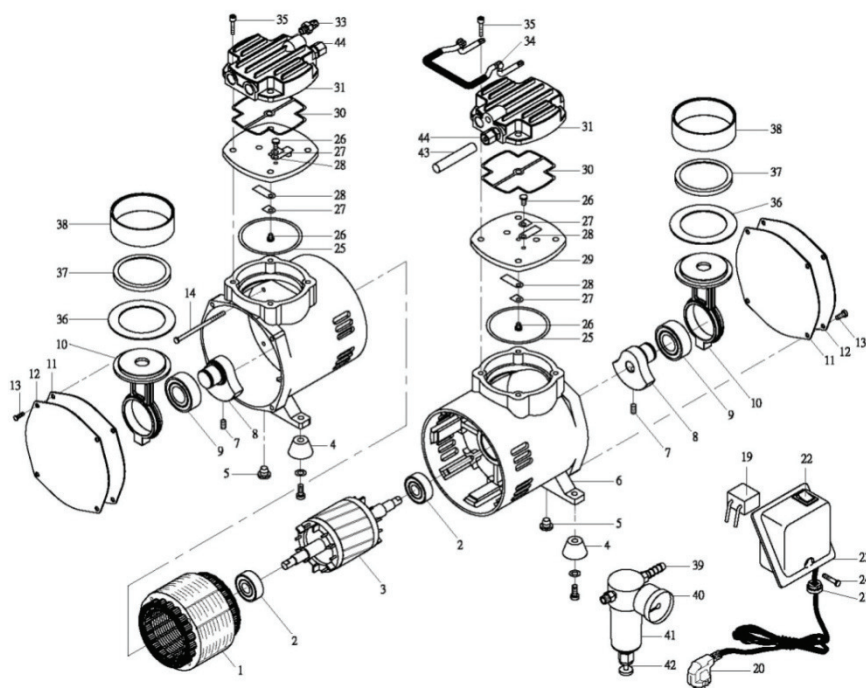
Index	Description	Q'ty	Index	Description	Q'ty
5	Setscrew	2	26	O-ring	2
6	Stationary Motor	1	27	Cylinder Head	2
7	Bearing	2	28	Setscrew	8
8	Rotary Motor	1	31	Cable Protector	1
9	Front Body	2	24	O-ring	2
10	Counterweight	2	33	Condenser	1
11	Setscrew	2	34	On/Off Switch	1
12	Bearing	2	35	Plug	1
14	Compression Ring	2	36	Air Intake Filter	2
15	Lock Plate	2	37	Condenser Cover	1
16	Rubber stand	4	38	3-way Connector	1
17	Cylinder	2	39	Connecting Rod	2
18	Valve plate	2	40	Pressure gauge	1
18-1	Valve Plate	2	41	Moisture trap	1
19	Valve Plate Lock	4	42	Drain valve	1
20	Setscrew	4	58	Interflow tube	1
21	Paper Pad	2	59	Interflow union	2
22	Front Body Lid	2	65	Tier Connector	1
23	Setscrew	8	66	Air Filter (Air inlet)	1
25	Cylinder Block	2	75	Filter mesh	1

F.4. V600



Index	Description	Quan	Index	Description	Quan
1	Stationary Motor	1	25	O-ring	2
2	Bearing	2	26	Set Screw	4
3	Rotary Motor	1	27	Valve Plate Lock	4
4	Rubber Stand	4	28	Valve Plate	4
5	Clog	2	29	Cylinder Block	2
6	Front Body	2	30	O-ring	2
7	Set Screw	2	31	Cylinder Head	2
8	Counterweight	2	33	Air filter (air inlet)	1
9	Bearing	2	34	Handle	1
10	Connecting Rod	2	35	Set Screw	8
11	Paper Pad	2	36	Compression Ring	2
12	Front Body Lid	2	37	Lock Plate	2
13	Set Screw	8	38	Cylinder	2
14	Set Screw	4	39	Tier Connector	1
19	Condenser	1	40	Pressure Gauge	1
20	Plug	1	41	Moisture Trap	1
21	Cable Protector	1	42	Drain Valve	1
22	On/off Switch	1	43	Interflow Tube	2
23	Condenser Cover	1	44	Interflow union	4
24	Set Screw	1			

F.5. V610



Index	Description	Quan	Index	Description	Quan
1	Stationary Motor	1	25	O-ring	2
2	Bearing	2	26	Set Screw	4
3	Rotary Motor	1	27	Valve Plate Lock	4
4	Rubber Stand	4	28	Valve Plate	4
5	Clog	2	29	Cylinder Block	2
6	Front Body	2	30	O-ring	2
7	Set Screw	2	31	Cylinder Head	2
8	Counterweight	2	33	Air filter (air inlet)	1
9	Bearing	2	34	Handle	1
10	Connecting Rod	2	35	Set Screw	8
11	Paper Pad	2	36	Compression Ring	2
12	Front Body Lid	2	37	Lock Plate	2
13	Set Screw	8	38	Cylinder	2
14	Set Screw	4	39	Tier Connector	1
19	Condenser	1	40	Pressure Gauge	1
20	Plug	1	41	Moisture Trap	1
21	Cable Protector	1	42	Drain Valve	1
22	On/off Switch	1	43	Interflow Tube	2
23	Condenser Cover	1	44	Interflow union	4
24	Set Screw	1			

G. Ordering Information

167300-22V300, AC220V/50Hz

167400-22V400, AC220V/50Hz

167410-22V410, AC220V/50Hz

167600-22V600, AC220V/50Hz

167610-22V610, AC220V/50Hz

H. Related Products



V300A



V300B



BioVac321A

I. Warranty Certificate

We guarantee the perfect functioning of this instrument against defects in material, design, and workmanship, when use under appropriate conditions and in accordance with the instruction manual

For a period of **TWO YEARS** from the date of initial shipment.

This warranty covers all parts and components of the instrument except those normally requiring frequent replacement, such as tubing, gasket, O-rings, etc. We will not be liable for any personal injury, bodily injury, improper maintenance, negligence of accident.

J. Product Liability

Under no circumstances shall Chemvak be liable for indirect, consequential or otherwise special or unrelated damages of any kind.

Chemvak reserves the right to make technical changes without prior notice.

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Web Site: www.chemvak.com

Oil-Free Piston Vacuum Pump

V300DC



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V300DC

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A. Important Notice

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Before setting up and operating the Vacuum Pump, please read these instructions carefully to familiarize with all installation and operation process. Any individual shall be well trained by reading the instructions or by technical people from authorized distributors before operating the instrument.

The instrument shall not be modified or altered in any way. Any modification or alteration will void the warranty, void the regulatory certifications and create potential safety hazard.

We are not responsible for any injury or damage caused by using the instrument for any non-intended purpose, or modifying the instrument by any person who is not authorized.

B. Unpacking

When unpacking, notice if the instrument is in good situation. If not, please contact the distributor.

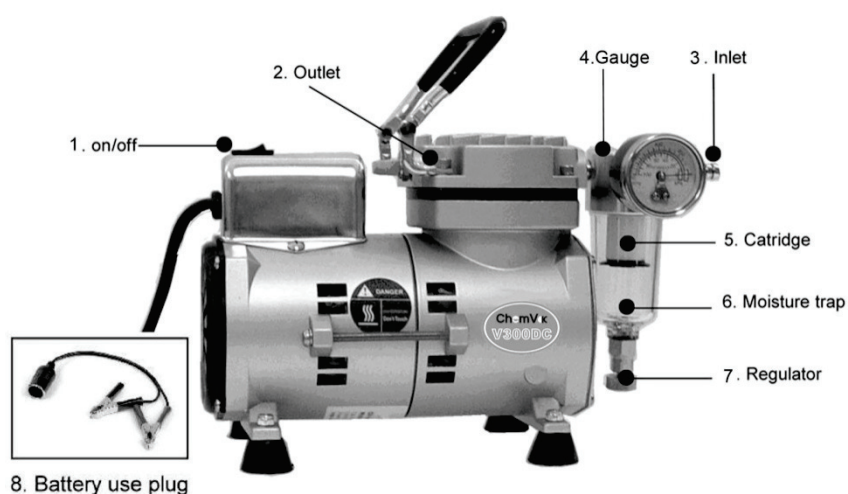
C. Installation

1. Check voltage specified on name-plate on the bottom. Make sure if it matches the line voltage in your location.
2. Install the instrument in a clean, dust-less and ventilated area under 40°C.
3. To enable suction, connect the outlet of pump to the outlet of objective equipment with a high-pressure hose.
4. Use converting kit for Rocker 300DC to enable pressure if demand1

D. Warning

1. The pump is not corrosion-proof. Please do not operate it with corrosive gases directly.
2. When pump is used in water filtration, do not make the liquid level of flask exceed safety level. Failure to comply can result in serious damage to the instrument and void the warranty, If it occurs, please contact the distributor immediately for service.
3. The filter cartridge is used to absorb moisture and dust. Please replace the cartridge to maintain proper pumping efficiency when it is saturated.
4. If the pump does not work when restarted during operation, release the vacuum and turn-on again. Otherwise may result overloading and damage the motor.
5. This instrument has a thermal switch that automatically shuts-off when it becomes overheated or lack of voltage.
6. Do not touch the pump during working or just after use as motor is hot. (70~80°C)
7. Do not use any lubricant, which may damage the instrument.
8. Use the instrument in a dry, clean well-ventilated area.
9. Never spray flammable or toxic materials.
10. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a competent person in order to avoid hazard.

E. Operation



Please refer to the scheme of pump system shown as above before operations.

To use car power supply:

1. Switch on the electric power of car.
2. Use the included plug of power supply and plug into cigarette lighter socket that are found in most automobiles.
3. Turn on pump switch ①
4. Pump starts.

Caution: always turn off the pump switch before removing plug of power supply from cigarette lighter socket when stopping operation to avoid short-circuiting pump.

To use battery power supply:

1. Use the plug cover ⑧ and plug into the plug of power supply of car.
2. Clamp the black charging clip on the negative !⊖C! battery terminal
3. Clamp the red charging clip on the positive ! + battery terminal.
4. Turn on pump switch.
5. Pump starts.

Caution: Always check the actual symbols on the battery to ensure which terminals are positive “+” or negative “-”. Make sure to off the pump switch before removing the black or red charging clip from the battery terminal when stopping operation to avoid short-circuiting pump.

To use with water filtration:

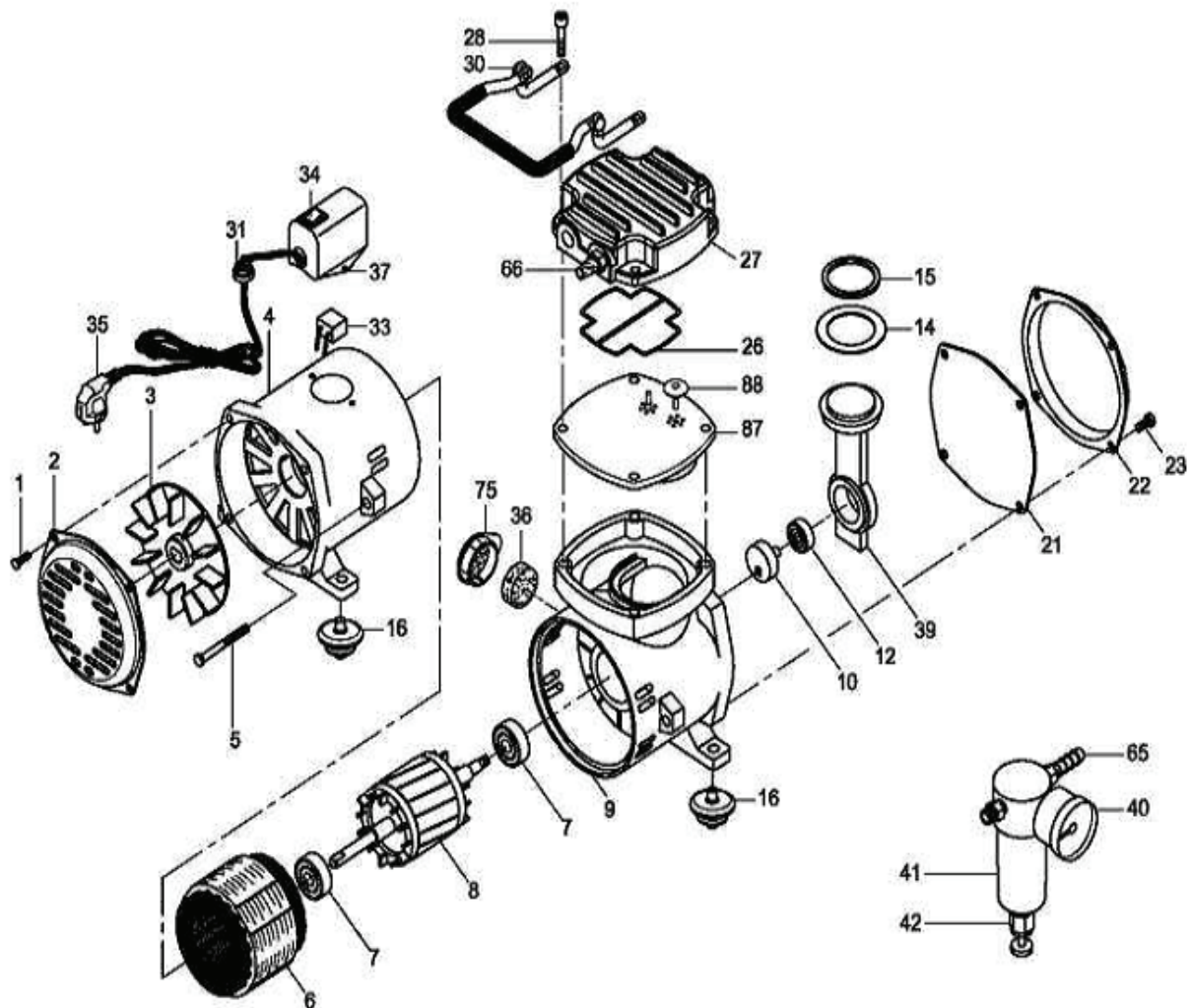
1. Once all tubes are connected, the pumping function can be activated after pressing on/off ① button.
2. To setup vacuum, adjust the regulator. ⑦

Warning: when pump is used in water filtration, please be noted, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.

To replace filter cartridge

1. First, remove the moisture trap ⑥ by rotating it counterclockwise. Second, remove the cartridge in the same way and then replace it with new one.
2. Pour the water out of the moisture trap when it is filled with water.

F. Parts List



INDE X	DESCRIPTIO N	QUA N	INDE X	DESCRIPTIO N	QUA N	INDE X	DESCRIPTIO N	QUA N
1	Set screw	4	21	Paper pad	1	40	Pressure gauge	1
2	Fan cover	1	22	Front body lid	1	41	Moisture trap	1
3	Cooling Fan	1	23	Set screw	4	42	Drain valve	1
4	Rear Body	1	26	O-ring	1	65	Tier connector	1
5	Set screw	2	27	Cylinder head	1	66	Air filter(air outlet)	1
6	Stationary motor	1	28	Set screw	4	75	Filter cover	1
7	Bearing	2	30	Handle	1	87	PPS cylinder block	1
8	Rotary motor	1	31	Cable protector	1	88	Rubber valve plate	2
9	Front body	1	33	Condenser	1			
10	Counter weight	1	34	On/off Switch	1			
12	Bearing	1	35	Plug	1			
14	Compression ring	1	36	Air Intake filter	1			
15	Lock plate	1	37	Condenser cover	1			
16	Rubber stand	4	39	Connecting Rod	1			

G. Ordering Information

167330-00 V300DC Vacuum pump, DC 12V

167300-06 Moisture trap

167300-07 Filter cartridge

167320-30 converting kit for V300DC to enable pressure

167300-08 Magnetic suction flask set (167300-13 with bottom plate)

167100-18 Gelman 4242 funnel

167100-20 Gelman A/E#61631 glass fiber filter, ϕ 47mm

H. Warranty Certificate

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For a period of **TWO YEARS** from the date of initial shipment.

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I. Product Liability

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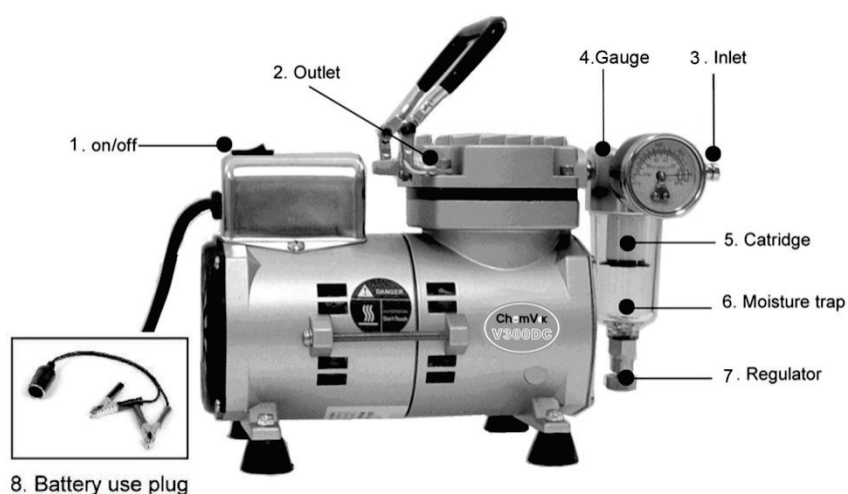
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Caution: Always check the actual symbols on the battery to ensure which terminals are positive “+” or negative “-”. Make sure to off the pump switch before removing the black or red charging clip from the battery terminal when stopping operation to avoid short-circuiting pump.

To use with water filtration:

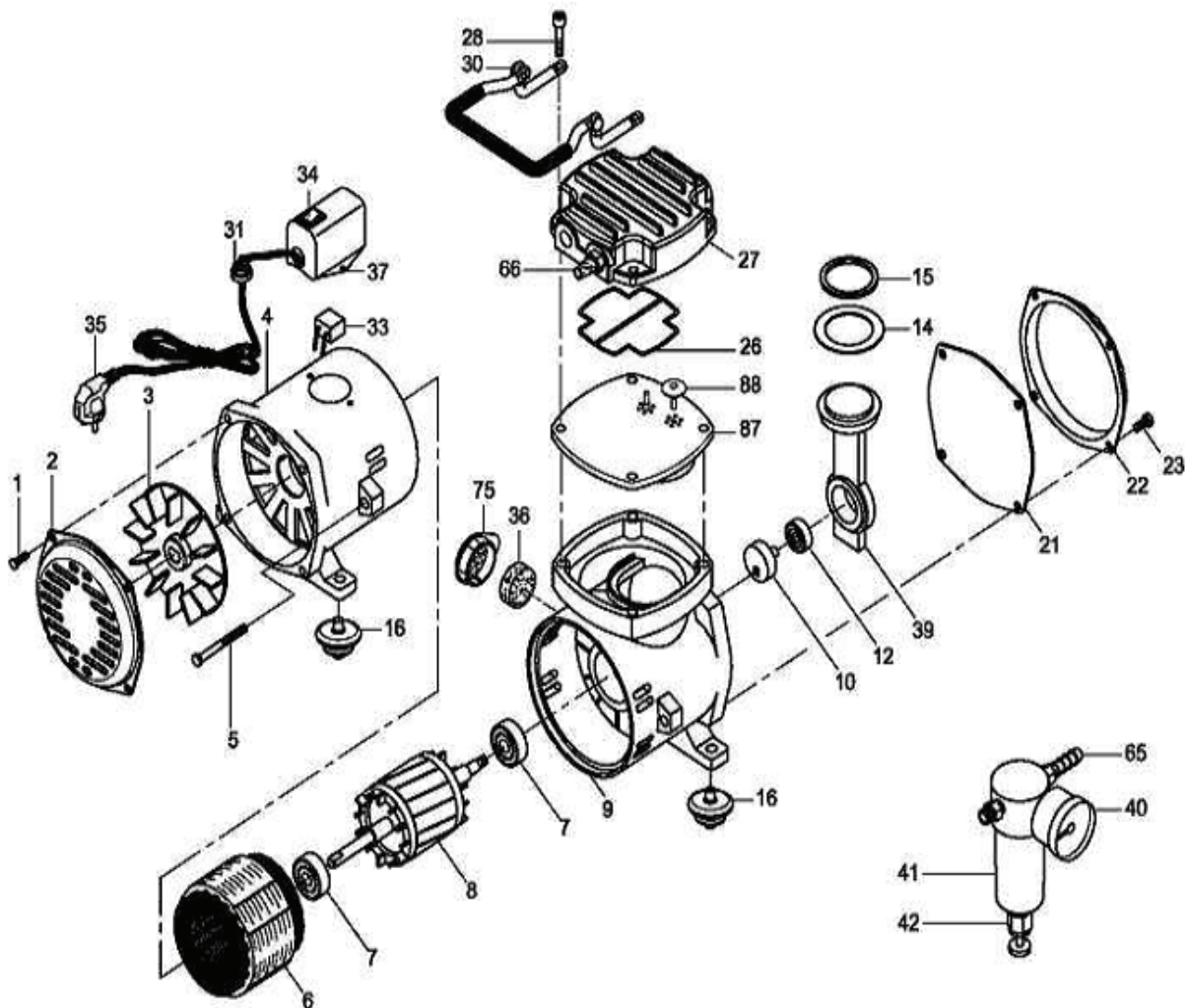
1. Once all tubes are connected, the pumping function can be activated after pressing on/off ① button.
2. To setup vacuum, adjust the regulator. ⑦

Warning: when pump is used in water filtration, please be noted, never let the liquid level of flask exceed safety level. Failure to comply could result in serious damage to the pump and void the warranty. If it occurs, please contact the distributor immediately for service.

To replace filter cartridge

1. First, remove the moisture trap ⑥ by rotating it counterclockwise. Second, remove the cartridge in the same way and then replace it with new one.
2. Pour the water out of the moisture trap when it is filled with water.

F. Parts List



INDE X	DESCRIPTIO N	QUA N	INDE X	DESCRIPTIO N	QUA N	INDE X	DESCRIPTIO N	QUA N
1	Set screw	4	21	Paper pad	1	40	Pressure gauge	1
2	Fan cover	1	22	Front body lid	1	41	Moisture trap	1
3	Cooling Fan	1	23	Set screw	4	42	Drain valve	1
4	Rear Body	1	26	O-ring	1	65	Tier connector	1
5	Set screw	2	27	Cylinder head	1	66	Air filter(air outlet)	1
6	Stationary motor	1	28	Set screw	4	75	Filter cover	1
7	Bearing	2	30	Handle	1	87	PPS cylinder block	1
8	Rotary motor	1	31	Cable protector	1	88	Rubber valve plate	2
9	Front body	1	33	Condenser	1			
10	Counter weight	1	34	On/off Switch	1			
12	Bearing	1	35	Plug	1			
14	Compression ring	1	36	Air Intake filter	1			
15	Lock plate	1	37	Condenser cover	1			
16	Rubber stand	4	39	Connecting Rod	1			

G. Ordering Information

167330-00 V300DC Vacuum pump, DC 12V

167300-06 Moisture trap

167300-07 Filter cartridge

167320-30 converting kit for V300DC to enable pressure

167300-08 Magnetic suction flask set (167300-13 with bottom plate)

167100-18 Gelman 4242 funnel

167100-20 Gelman A/E#61631 glass fiber filter, ϕ 47mm

H. Warranty Certificate

We guarantee the perfect functioning of this instrument against defects in material, design, and workmanship, when use under appropriate conditions and in accordance with the instruction manual

For a period of **TWO YEARS** from the date of initial shipment.

This warranty covers all parts and components of the instrument except those normally requiring frequent replacement, such as tubing, gasket, O-rings, etc. We will not be liable for any personal injury, bodily injury, improper maintenance, negligence of accident.

I. Product Liability

Under no circumstances shall Chemvak be liable for indirect, consequential or otherwise special or unrelated damages of any kind.

Chemvak reserves the right to make technical changes without prior notice.

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Web Site: www.chemvak.com