

INSTRUCTION MANUAL

Vacuum Filtration System

Model No.

WaterVac 100 / 200

WaterVac 100 / 200 - MS

WaterVac 100 / 200 - MB

WaterVac 101 / 201 - MB

Tech support



ROCKER

Please read this instruction manual before using this product.

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1. Important Notice

This instrument is designed for laboratory usage only. Please read this manual carefully before installing and operating. The instrument shall not be modified in any way. Any modification will void the warranty and may result in potential hazard. We are not responsible for any injury or damage caused by any non-intended purposes and modifying the instrument without authorization.

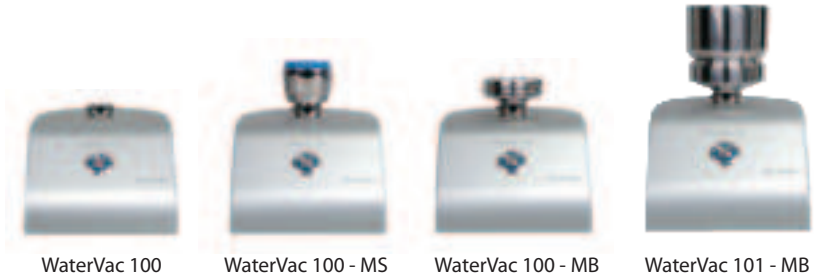
1. Check the voltage specified on the name plate and ensure it matches the line voltage in your location.
2. Install the instrument in a clean, dust-less and ventilated area under 40°C.
3. Never use the instrument with any corrosive, chemical, flammable or toxic material.
4. Do not pump any solution without filtration, please use this instrument with filtration apparatus, manifold and membrane to prevent clogging.
5. Never operate this instrument in a circulated, closed system.
6. Please clean and maintain this instrument according to this manual after every use to ensure maximum efficiency.
7. In case of any issues with instrument, please contact the manufacturer or your service agent for assistance. Do NOT disassemble it improperly.
8. Please discard packing materials according to local regulations.
9. Visit the official website and refer to the latest product guide for more information.
10. Operating condition
 - (a) Ambient temperature: 5~ 40 °C
 - (b) Relative humidity: 80% RH Max.
 - (c) Power supply: 100-240V~, 50/60Hz
 - (d) Altitude: up to 2000 m
 - (e) Pollution degree: II
 - (f) Indoor use

**** Before operation, please ensure tube is not bent, plugged, or squeezed to avoid poor drainage or any potential damage.***

2. Unpacking

Please check if the package is complete without any damage before unpacking. When unpacking, please make sure you have all accessories that indicated on the list. If there is any problem, please keep the serial number along with packing case and contact your local distributor immediately for assistance.

(1) WaterVac 100, Vacuum Filtration System



Model	Main Unit	Stopper Adaptor	SF Adaptor	Funnel
WaterVac 100	WaterVac 100	-	-	-
WaterVac 100 - MS		V	-	-
WaterVac 100 - MB		-	V	-
WaterVac 101 - MB		-	V	100 mL * 1

Model	Standard Package Includes:
WaterVac 100	WaterVac 100, Vacuum Filtration System
	Power Adaptor
	Accessory Kit (Allen key, O-rings, Silicone tube)
	Instruction Manual

(2) WaterVac 200, Vacuum Filtration System



WaterVac 200



WaterVac 200 - MS



WaterVac 200 - MB



WaterVac 201 - MB

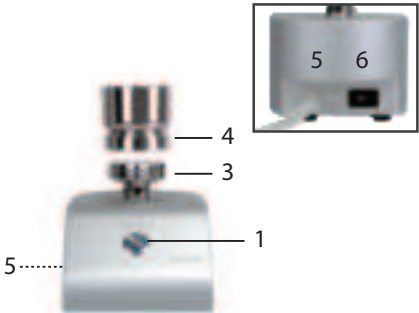
Model	Main Unit	Stopper Adaptor	SF Adaptor	Funnel
WaterVac 200	WaterVac 200	-	-	-
WaterVac 200 - MS		V	-	-
WaterVac 200 - MB		-	V	-
WaterVac 201 - MB		-	V	100 mL * 2

Model	Standard Package Includes:
WaterVac 200	WaterVac 200, Vacuum Filtration System
	Power Adaptor
	Accessory Kit (Allen key, O-rings, Silicone tube)
	Instruction Manual

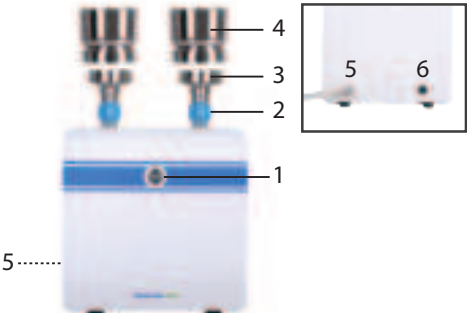
3. Main Part Diagram

(1) Main Part Diagram

WaterVac 101 - MB



WaterVac 201 - MB



Item	Designation	Item	Designation
1	Power Switch	4	SF Stainless Steel Funnel*
2	Control Valve	5	Liquid Outlet
3	Funnel Adaptor	6	DC Socket

* ROCKER SF funnel(s) is only included in WaterVac 101 / 201 - MB models.

(2) Parts Material List

Model	Material contacts with filtrates
WaterVac 100	SS316, FKM, Silicone, PP, PA66
WaterVac 200	SS316, FKM, Silicone, PP, PPS

4. Installation and Operation

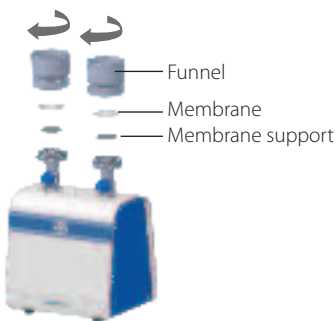
(1) Installation

The installation process for WaterVac 100 and WaterVac 200 are identical; therefore, the illustrations take WaterVac 200 as an example.

Model with Stopper Adaptor



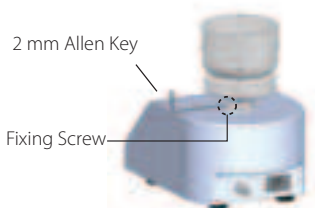
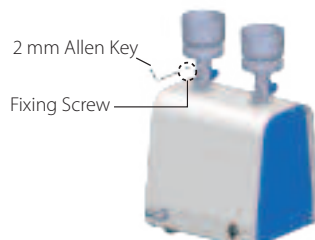
Model with SF Adaptor



- The filter holder(s), funnel(s) and membrane(s) are not included in the package.

How to change the funnel adaptor(s) and remove the membrane support

1. Loosen the fixing screw on the rear of control valve (2) by allen key (2 mm).
2. Unscrew the funnel adaptor (3) by turning it counterclockwise, then invert the adaptor to remove the membrane support.
3. Replace it with the desired funnel adaptor and lock it back in a clockwise direction.
4. Tighten the fixing screw to prevent the funnel adaptor from loosening.

WaterVac 100 - MS	WaterVac 200 - MB
 2 mm Allen Key Fixing Screw	 2 mm Allen Key Fixing Screw

Installation of Various Filter Holder and Funnel						
	1		2		3	4
Compatible Filter Holder & Funnel						
Funnel Adaptor						
	190100-10	190200-10	190200-20		190100-73	190100-74
WaterVac 100	V	N/A	V		V	V
WaterVac 200	N/A	V	V		V	V
Description	1. No. 8 Stopper Funnel Adaptor - Compatible with various kinds of filter holders with No. 8 silicone stopper, such as plastic and stainless steel filter holder and most disposable filter holders.					
	2. ROCKER SF Funnel Adaptor - Left: Fitting to ROCKER SF 100 / 300 / 500 mL funnel. - Right: Fitting to PALL Sentino® 4870 (100 mL), 4871 (250 mL) plastic funnel.					
	3. SS316 Adaptor for Millipore Disposable Funnel - Fitting to Millipore, Microfil® disposable plastic funnel 100 / 250 mL (MIHAWG100 / MIHAWG250).					
	4. SS316 Adaptor for Sartorius Disposable Funnel - Fitting to Sartorius, Microsart® disposable plastic funnel 100 / 250 mL (16A07—10----N / 16A07—25----N).					

* An optional SS316 hose barb adaptor (Cat. No.190100-76) is available for connecting silicone tubes with an inner diameter of 4~8 mm (ID4~ID8).

(2) Operation

- A. Make sure the desired funnel adaptor (3) is screwed into main unit properly. Tighten fixing screw with allen key (2mm) to prevent support base from rotation.
- Various kinds of funnel adaptors are available for various applications. (Refer to P.6)
- B. Connect a long tube to liquid outlet (5) and put the other side of tube into sink or a container to drain and collect the waste liquid.
- Make sure the diameter of silicone tube is in accordance with main unit.

Model	Hose Barb Diameter	Recommended Silicone Tube
WaterVac 100	ID6 (6 mm)	φ 4 x 8 mm (199100-68)
WaterVac 200	ID8 (8 mm)	φ 8 x 14 mm (180300-68)

- C. Connect the power adaptor to both power source and DC socket (6) of main unit.
- D. Connect the desired filter holder to funnel adaptor (3) and install the appropriate membrane in filter holder or funnel.
- Various filter holders, such as plastic and disposable filter holder, could be connected to WaterVac 100 / 200 - MS by No.8 silicone stopper.
- E. Switch on the pump by pressing the power switch (1) to start the filtration.
- WaterVac 200: Make sure all control valves (2) are off  before use and rotate them counterclockwise to vertical position  to start filtration.
- F. Switch off the pump by pressing the power switch (1) again once filtration is finished.
- WaterVac 200: Stop filtration by either switch off the pump or close the control valves (2).
- G. Please pump the pure water to clean the tubing after every use to prevent any dirty is left over. Keep pumping the air for at least 2 minutes to eliminate the liquid.

*** Warning:**

- (1) Do NOT use cable tie or any similar items to secure its outlet and silicone tube together to prevent any bursting and potential damage to the instrument.**
- (2) Do NOT bend silicone tube or squeeze it to avoid poor drainage and potential damage.**
- (3) Do NOT pump dirty or impure solution without filtration to avoid clogging or damaging.**

5. Maintenance

1. The main unit is not autoclavable. Please clean the surface by pure water or 75% ethanol.
2. Please pump the pure water to clean the tubing after every use to prevent any dirty is left over. Keep pumping the air for at least 2 minutes to eliminate the liquid.
3. Stainless steel funnels, support base and membrane support can be fast sterilized by flame or autoclaved (121°C, 1 bar, 20 min).
4. Valve plate(s), O-ring(s), silicone tube(s) and diaphragm are consumables, it is recommended to replace it on a yearly basis or as needed to ensure good operation.

O-ring(s)		
	Funnel Adaptor	Control Valve
		
WaterVac 100	V	N/A
WaterVac 200	V	V

6. Troubleshooting

Problem	Reason and Solution
Failed to start	- Loose plug → Reconnect plug to power supply. - Switch is broken → Contact distributor for assistance.
Poor vacuum	- O-ring of funnel adaptor is broken → Replace the O-ring. - Outlet is blocked → Clean or stretch the outlet tube. - Internal wiring loose → Contact distributor for assistance.
Low filtration speed	- O-ring of funnel adaptor is broken → Replace the O-ring. - Connection between filtration apparatus is not sealed → Reconnect to ensure they're tightly sealed. - Control valve(s) is not open → Open it properly. - Unsuitable membrane → Change an appropriate membrane. - Membrane is blocked → Replace a new membrane. - Silicone tube is bent too much → Replace silicone tube - Internal wiring loose → Contact distributor for assistance.
Poor vacuum	Contact distributor for assistance.

Ordering Information

190100-01(02)	WaterVac 100, Vacuum Filtration System, AC100-240V adaptor, US plug (EU plug)
190110-01(02)	WaterVac 100 - MS, Vacuum Filtration System with No. 8 stopper funnel adaptor, AC100-240V adaptor, US plug (EU plug)
190120-01(02)	WaterVac 100 - MB, Vacuum Filtration System with ROCKER SF funnel adaptor, AC100-240V adaptor, US plug (EU plug)
190121-01(02)	WaterVac 101 - MB, Vacuum Filtration System with ROCKER SF funnel adaptor, SF funnel 100 mL x 1 pc, AC100-240V adaptor, US plug (EU plug)
190200-01(02)	WaterVac 200, Vacuum Filtration System, AC100-240V adaptor, US plug (EU plug)
190210-01(02)	WaterVac 200 - MS, Vacuum Filtration System with No. 8 stopper funnel adaptor, AC100-240V adaptor, US plug (EU plug)
190220-01(02)	WaterVac 200 - MB, Vacuum Filtration System with ROCKER SF funnel adaptor, AC100-240V adaptor, US plug (EU plug)
190221-01(02)	WaterVac 201 - MB, Vacuum Filtration System with ROCKER SF funnel adaptor, SF funnel 100 mL x 2 pcs, AC100-240V adaptor, US plug (EU plug)
190100-62	WaterVac 100 repair kit
181200-62	WaterVac 200, 60W diaphragm liquid pump repair kit
190100-10	Silicone stopper funnel adaptor_short for WaterVac 100
190200-10	Silicone stopper funnel adaptor_middle for WaterVac 200
190200-20	SS316 Adaptor for ROCKER SF funnel and Pall 4870 / 4871 plastic funnel
190100-73	SS316 Adaptor for Millipore MIHAWG100 / MIHAWG250 plastic funnel
190100-74	SS316 Adaptor for Sartorius 16A07 plastic funnel
190100-76	SS316 Hose barb adaptor for silicone tube, ID4 ~ ID8
180100-31	Stainless steel support screen for SF funnel adaptor
167100-31	Stainless steel support screen for Millipore / Sartorius funnel adaptor
180100-01/03/05	SF Stainless steel funnel 100 mL / 300 mL / 500 mL
180100-11	Stainless steel funnel lid for SF 100 mL funnel
180100-13	Stainless steel funnel lid for SF 300 mL / 500 mL funnel
200300-01(-P)	MF 3 (Pro), Magnetic Filter Holder (300 mL)
200500-01(-P)	MF 5 (Pro), Magnetic Filter Holder (500 mL)
180300-68	Silicone tube, Ø 8 x 14 mm, 200 cm
167200-38	Silicone tube, Ø 6 x 12 mm, 100 cm

199100-68	Silicone tube, Ø 4.2 x 8 mm, 200 cm
177100-00	Dragon 100, Torch Burner
167200-47	4000 mL Heavy Duty PP Vacuum Bottle
167200-48	4000 mL Heavy Duty PP Vacuum Bottle with drain
167100-20	PALL A/E glass fiber membrane filter, 47 mm, 1 µm, 100/PK
167100-52-1	Whatman ME 25 (MCE) membrane, 47 mm, 0.45 µm, 100/PK

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