





## Company Overview

ROCKER is a Taiwan-based leading manufacturer specialized in the development, manufacturing and sales of laboratory filtration equipments > heating control devices etc mainly used in the fields of food, water testing, microbiology, molecular biology and purification of various materials. Besides being awarded ISO 9001: 2008 certificate, our main products are of CE or CSA approved quality and have obtained multiple patents in recent years. Thanks to which ROCKER are proud of having built up an ever-growing sales network covering over 50 countries worldwide and becoming the world's leading brand in lab filtration apparatus.



## Company Philosophy

### Passion

Enthusiasm to succeed at everything we do

### Innovation

Creating new ways to solve challenges

### Integrity

Consistently providing solutions according to our values

### Insight

Full understanding of what the customer and user requires

ROCKER Scientific Co., Ltd.

President

William Horng, Jan. 2018

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# LABORATORY PUMP

Oil Free Vacuum Pump

Rocker 300/300DC

Rocker 400/410

Rocker 800/801/810/811

Rocker 430

Rocker 300C

Lafil 300/400

Lafil 300C

Chemical Resistant Vacuum Pump

Chemker 300/400

Chemker 410/411

Rotary Vane Vacuum Pump

Tanker 150/215/230

Accessories

Oil Free Compressor

Rocker 320/420

Rocker 440

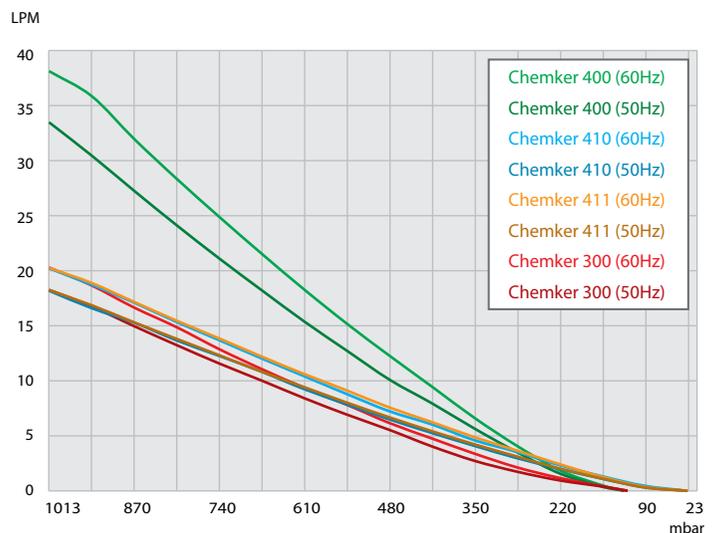
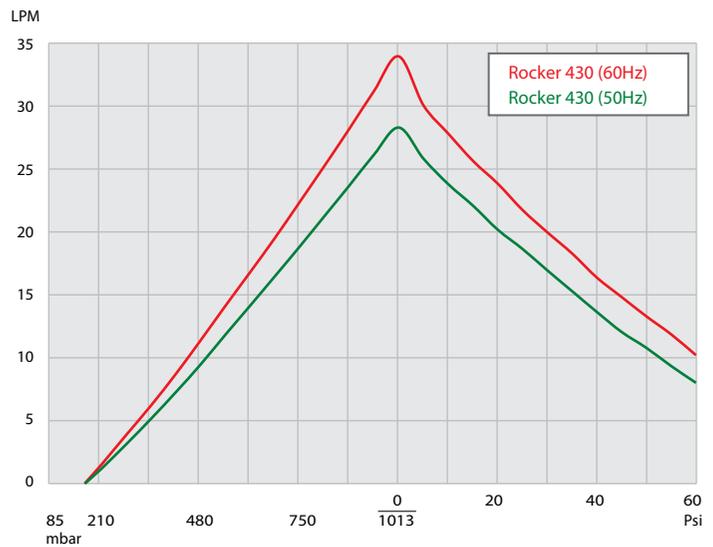
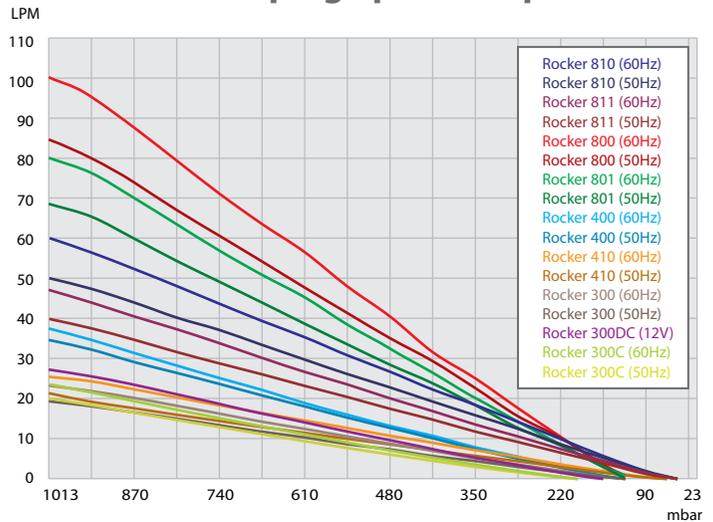
# Oil Free Vacuum Pump Guide

Oil Free Vacuum Pump	
	<b>Rocker 300</b> Max. vacuum : 106 mbar Max. flow rate : 23 (20) l/min
	<b>Rocker 300DC</b> Max. vacuum : 146 mbar Max. flow rate : 25 l/min
	<b>Rocker 400</b> Max. vacuum : 106 mbar Max. flow rate : 37 (34) l/min
	<b>Rocker 410</b> Max. vacuum : 33 mbar Max. flow rate : 23 (20) l/min
	<b>Rocker 800</b> Max. vacuum : 120 mbar Max. flow rate : 100 (84) l/min
	<b>Rocker 801</b> Max. vacuum : 120 mbar Max. flow rate : 80 (68) l/min
	<b>Rocker 810</b> Max. vacuum : 33 mbar Max. flow rate : 60 (50) l/min
	<b>Rocker 811</b> Max. vacuum : 33 mbar Max. flow rate : 48 (40) l/min
	<b>Rocker 430</b> Max. vacuum : 173 mbar Max. flow rate : 34 (28) l/min Max. pressure : 80 psi

PTFE Coated Chemical Resistant Vacuum Pump	
	<b>Rocker 300C</b> Max. vacuum : 173 mbar Max. flow rate : 23 (20) l/min

Chemical Resistant Vacuum Pump	
	<b>Chemker 300</b> Max. vacuum : 120 mbar Max. flow rate : 20 (18) l/min
	<b>Chemker 400</b> Max. vacuum : 120 mbar Max. flow rate : 38 (33) l/min
	<b>Chemker 410</b> Max. vacuum : 13 mbar Max. flow rate : 20 (18) l/min
	<b>Chemker 411</b> Max. vacuum : 13 mbar Max. flow rate : 20 (18) l/min

Pumping Speed Graph



\*\* The value in ( ) is the max. flow rate at 50Hz

# Oil Free Vacuum Pump



## Features

### ➤ No air pollution, maintenance free

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

### ➤ Prote™ overflow protection

Rocker series pumps are equipped with Prote™ overflow protection which can prevent a large amount of liquid from being sucked into the pump.

### ➤ Moisture trap with filter cartridge

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

### ➤ Vacuum regulator

Rocker series pumps are equipped with vacuum regulator to adjust vacuum.

### ➤ Thermal protection device

Every motor of Rocker 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 certification

- CE certification
- CSA certification
- IP 30 protection (Rocker 300)
- RoHS certification (Rocker 300)

### ➤ Two-Year Warranty

## Applications

- Vacuum filtration
- Suspended solid test
- Microbiological test
- Air sampling

## Ordering Information

### 167300-11(22)

Rocker 300, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 167330-00

Rocker 300DC, DC Power Vacuum Pump (DC12V)



## Specification

Model	Rocker 300		Rocker 300DC
Voltage / Freq.	110V/60Hz	220V/50Hz	DC 12V
Max. power (W)	65	60	35
Max. current (A)	0.7	0.3	3
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 146 mbar (26 inHg)
Max. flow rate	23 l/min	20 l/min	25 l/min
Moisture Trap / Vacuum Regulator	Yes		Yes
Overflow protection	Yes		Yes
Motor rotation speed	1750 RPM	1450 RPM	1800 RPM
Horse power	1/8 HP		1/8 HP
Noise level	50 dB		50 dB
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)
Net weight	4.1 Kg		3.5 Kg
Dimension (LxWxH)	26.8 x 13.5 x 20.4 cm		27.2 x 12.1x 16.5 cm

# Oil Free Vacuum Pump



## Features

### ➤ No air pollution, maintenance free

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

### ➤ Prote™ overflow protection

Rocker series pumps are equipped with Prote™ overflow protection which can prevent a large amount of liquid from being sucked into the pump.

### ➤ Moisture trap with filter cartridge

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

### ➤ Vacuum regulator

Rocker series pumps are equipped with vacuum regulator to adjust vacuum.

### ➤ Thermal protection device

Every motor of Rocker 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 certification

CE certification  
CSA certification  
IP 30 protection  
RoHS certification

### ➤ Two-Year Warranty

## Applications

- Suspended solid test
- Vacuum filtration
- Microbiological test
- Air sampling

## Ordering Information

### 167400-11(22)

Rocker 400, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 167410-11(22)

Rocker 410, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Rocker 400



Rocker 410

## Specification

Model	Rocker 400		Rocker 410	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	100	80	100	80
Max. current (A)	1.0	0.4	1.0	0.4
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 33 mbar (29 inHg)	
Max. flow rate	37 l/min	34 l/min	23 l/min	20 l/min
Moisture Trap / Vacuum Regulator	Yes		Yes	
Overflow protection	Yes		Yes	
Motor rotation speed	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/6 HP		1/6 HP	
Noise level	52 dB		52 dB	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Net weight	5.2 Kg		5.2 Kg	
Dimension (LxWxH)	31.0 x 13.5 x 20.4 cm		31.0 x 13.5 x 20.4 cm	

# Oil Free Vacuum Pump



## Features

- **No air pollution, maintenance free**  
 Rocker series pumps are driven by piston, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.
- **Vacuum regulator**  
 Rocker series pumps are equipped with vacuum regulator to adjust vacuum.
- **Thermal protection device**  
 Every motor of Rocker 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.
- **Moisture trap with filter cartridge**  
 Rocker 801 pump is equipped with filter cartridge in air inlet to filter particle and moisture to prolong the life of pump.
- **International certification**  
 CE certification
- **Two-Year Warranty**



**Rocker 800**



**Rocker 801**

## Applications

- Vacuum filtration
- Vacuum drying / oven / defoaming
- Suspended solid test
- Microbiological test
- Air sampling

## Ordering Information

### 167800-11(22)

Rocker 800, Vacuum Pump  
 AC110V, 60Hz (AC220V, 50Hz)

### 167801-11(22)

Rocker 801, Vacuum Pump  
 AC110V, 60Hz (AC220V, 50Hz)

## Specification

Model	Rocker 800		Rocker 801	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	220	200	220	200
Max. current (A)	2	0.9	2	0.9
Max. vacuum	Ultimate 120 mbar (26 inHg )		Ultimate 120 mbar (26 inHg)	
Max. flow rate	100 l/min	80 l/min	80 l/min	68 l/min
Vacuum Regulator	Yes		Yes	
Moisture Trap / Vacuum Regulator	-		Yes	
Motor rotation speed	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/3 HP		1/3 HP	
Noise level	68 dB		68 dB	
Hose barb	3/8 inch (10 mm)		5/16 inch (8 mm)	
Net weight	7.6 Kg		7.9 Kg	
Dimension (LxWxH)	34.5 x 17.5 x 20.0 cm		34.5 x 17.5 x 20.0 cm	

# Oil Free Vacuum Pump



## Features

### ➤ No air pollution, maintenance free

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

### ➤ Vacuum regulator

Rocker series pumps are equipped with vacuum regulator to adjust vacuum.

### ➤ Thermal protection device

Every motor of Rocker 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.

### ➤ Moisture trap with filter cartridge

Rocker 811 pump is equipped with filter cartridge in air inlet to filter particle and moisture to prolong the life of pump.

### ➤ International certification

CE certification

### ➤ Two-Year Warranty



Rocker 810



Rocker 811

## Applications

- Vacuum filtration
- Vacuum drying / oven / defoaming
- Suspended solid test
- Microbiological test
- Air sampling

## Ordering Information

### 167810-11(22)

Rocker 810, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 167811-11(22)

Rocker 811, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

## Specification

Model	Rocker 810		Rocker 811	
	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	220	200	220	200
Max. current (A)	2	0.9	2	0.9
Max. vacuum	Ultimate 33 mbar (29 inHg)		Ultimate 33 mbar (29 inHg)	
Max. flow rate	60 l/min	50 l/min	48 l/min	40 l/min
Vacuum Regulator	Yes		Yes	
Moisture Trap / Vacuum Regulator	-		Yes	
Motor rotation speed	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/3 HP		1/3 HP	
Noise level	68 dB		68 dB	
Hose barb	3/8 inch (10 mm)		5/16 inch (8 mm)	
Net weight	7.6 Kg		7.9 Kg	
Dimension (LxWxH)	34.5 x 17.5 x 20.0 cm		34.5 x 17.5 x 20.0 cm	

# Oil Free Vacuum/Pressure Pump



## Features

### ➤ No air pollution, maintenance free

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

### ➤ Prote™ overflow protection

Rocker 430 pump is equipped with Prote™ overflow protection which can prevent a large amount of liquid from being sucked into the pump.

### ➤ Moisture trap with filter cartridge

Rocker 430 pump is equipped with filter cartridge in air inlet and outlet to filter particle and moisture to prolong the life of pump.

### ➤ Vacuum and pressure regulators

Rocker 430 pump is equipped with vacuum and pressure regulators to adjust vacuum and pressure.

### ➤ Thermal protection device

Every motor of Rocker 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 certification

CE certification  
IP 30 protection  
RoHS certification

### ➤ Two-Year Warranty

## Applications

- Vacuum filtration
- Microbiological test
- Suspended solid test
- Air sampling
- Pressure filtration

## Ordering Information

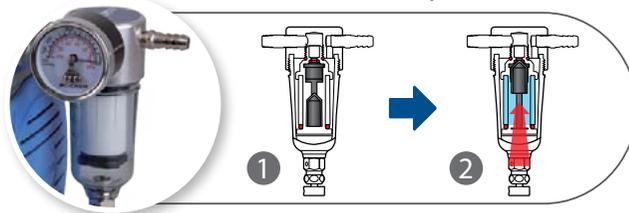
**167430-11(22)**

Rocker 430, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Rocker 430

### Prote™ overflow protection



## Specification

Model	Rocker 430	
Voltage / Freq.	110V/60Hz	220V/50Hz
Max. power (W)	147	125
Max. current (A)	1.5	0.6
Max. vacuum	Ultimate 173 mbar (25 inHg)	
Max. pressure	80 psi	
Max. flow rate	34 l/min	28 l/min
Vacuum regulator	Yes	
Pressure regulator	Yes	
Overflow protection	Yes	
Motor rotation speed	1750 RPM	1450 RPM
Horse power	1/6 HP	
Noise level	52 dB	
Hose barb	5/16 inch (8 mm)	
Net weight	5.5 Kg	
Dimension (LxWxH)	24.7x23.5x20.4 cm	

# PTFE Coated Chemical Resistant Vacuum Pump

## Features

### ➤ No air pollution, maintenance free

Rocker 300C vacuum pump is driven by diaphragm, without the need of lubricant, regular oil changes and maintenance with no oil pollution.

### ➤ Good chemical resistance

The diaphragm and chamber of Rocker 300C are coated with PTFE and the SS316 valve all can offer good resistance to a wide range of corrosive gases.

### ➤ Thermal protection device

Every motor of Rocker 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 certification

CE certification  
IP 30 protection  
RoHS certification

### ➤ Ono-Year Warranty

## Applications

- Solvent purification
- Solid-Phase Extraction (SPE)
- Vacuum filtration

## Ordering Information

### 189300-11(22)

Rocker 300C, PTFE Coated Chemical Resistant Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Rocker 300C

## Specification

Model	Rocker 300C	
Voltage / Freq.	110V/60Hz	220V/50Hz
Max. power (W)	65	60
Max. current (A)	0.7	0.3
Max. vacuum	Ultimate 173 mbar (25 inHg )	
Max. flow rate	23 l/min	20 l/min
Moisture Trap / Vacuum Regulator	Yes	
Overflow protection	-	
Motor rotation speed	1750 RPM	1450 RPM
Horse power	1/8 HP	
Noise level	50 dB	
Hose barb	5/16 inch (8 mm)	
Net weight	4.1 Kg	
Dimension (LxWxH)	28.5x13.5x20.4 cm	

# Oil Free Vacuum Pump



## Features

### Compact and safe operation

Lafil 300 and Lafil 400 are unique filtration system by combining vacuum source with filtration ware. Its compact design saves much bench space than the traditional ones. With a fence-like platform design, it can prevent user's negligence from tipping over the waste bottle.

### No air pollution, maintenance free

Lafil 300 and Lafil 400 pumps are driven by piston, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.

### Thermal protection device

Every motor of Lafil 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 certification

CE certification  
IP 30 protection

### Two-Year Warranty

## Applications

- ▶ Vacuum filtration
- ▶ Microbiological test
- ▶ Suspended solid test
- ▶ Air sampling

## Ordering Information

### 197300-11(22)

Lafil 300, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 197400-11(22)

Lafil 400, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Lafil 300



Lafil 400

## Specification

Model	Lafil 300		Lafil 400	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	65	60	100	80
Max. current (A)	0.7	0.3	1.0	0.4
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 33 mbar (29 inHg )	
Max. flow rate	23 l/min	20 l/min	23 l/min	20 l/min
Vacuum Regulator	Yes		Yes	
Overflow protection	-		-	
Motor rotation speed	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/8 HP		1/6 HP	
Noise level	50 dB		52 dB	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Net weight	5.9 Kg		7.0 Kg	
Dimension (LxWxH)	35x24.3x29 cm		35x24.3x29 cm	

# PTFE Coated Chemical Resistant Vacuum Pump

## Features

### ▶ Compact and safe operation

Lafil 300C is a unique filtration system by combining vacuum source with filtration ware. Its compact design saves much bench space than the traditional ones. With a fence-like platform design, it can prevent user's negligence from tipping over the waste bottle.

### ▶ No air pollution, maintenance free

Lafil 300C pump is driven by diaphragm, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.

### ▶ Good chemical resistance

The diaphragm and chamber of Lafil 300C are coated with PTFE and the SS316 valve all can offer good resistance to a wide range of corrosive gases.

### ▶ Thermal protection device

Every motor of Lafil 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 certification

CE certification  
IP 30 protection

### ▶ One-Year Warranty

## Applications

- ▶ Solvent purification
- ▶ Solid-Phase Extraction (SPE)
- ▶ Vacuum filtration

## Ordering Information

**197330-11(22)**

Lafil 300C, PTFE Coated Chemical Resistant Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



## Specification

Model	Lafil 300C	
Voltage / Freq.	110V/60Hz	220V/50Hz
Max. power (W)	65	60
Max. current (A)	0.7	0.3
Max. vacuum	Ultimate 173 mbar (25 inHg)	
Max. flow rate	23 l/min	20 l/min
Vacuum Regulator	Yes	
Overflow protection	-	
Motor rotation speed	1750 RPM	1450 RPM
Horse power	1/8 HP	
Noise level	50 dB	
Hose barb	5/16 inch (8 mm)	
Net weight	5.9 Kg	
Dimension (LxWxH)	35x24.3x29 cm	

# Chemical Resistant Vacuum Pump

## Features

### High chemical resistant

All wetted parts of Chemker series pump are made of PTFE material which can resist most of corrosive gases.

### No air pollution, maintenance free

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

### Quiet and low vibration

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

### Thermal protection device

Every motor of Chemker 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 certification

CE certification

### One-Year Warranty

## Applications

- Vacuum filtration
- Gel electrophoresis
- Solid-Phase Extraction (SPE)
- Solvent purification

## Ordering Information

### 169300-11(22)

Chemker 300, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 169400-11(22)

Chemker 400, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Chemker 300



Chemker 400

## Specification

Model	Chemker 300		Chemker 400	
	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	70	60	90	90
Max. current (A)	0.8	0.32	1.1	0.5
Max. vacuum	Ultimate 120 mbar (26 inHg)		Ultimate 120 mbar (26 inHg)	
Max. flow rate	20 l/min	18 l/min	38 l/min	33 l/min
Motor rotation speed	1700 RPM	1450 RPM	1700 RPM	1450 RPM
Horse power	1/8 HP		1/6 HP	
Noise level	50 dB		52 dB	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Net weight	5.0 Kg		7.0 Kg	
Dimension (LxWxH)	20.3x11.2x20.9 cm		26.7x11.2x18.1 cm	

# Chemical Resistant Vacuum Pump

## Features

### ➤ High chemical resistant

All wetted parts of Chemker series pump are made of PTFE material which can resist most of corrosive gases.

### ➤ No air pollution, maintenance free

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

### ➤ Quiet and low vibration

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

### ➤ Thermal protection device

Every motor of Chemker 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 certification

CE certification

### ➤ One-Year Warranty

## Applications

- Vacuum filtration
- Rotary evaporator
- Solid-Phase Extraction (SPE)
- Gel electrophoresis
- Solvent purification

## Ordering Information

### 169410-11(22)

Chemker 410, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 169411-11(22)

Chemker 411, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



\* Glass Moisture Trap / Vacuum Regulator doesn't include filter cartridge

## Specification

Model	Chemker 410		Chemker 411	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	90	90	90	90
Max. current (A)	1.2	0.5	1.2	0.5
Max. vacuum	Ultimate 13 mbar (30 inHg)		Ultimate 13 mbar (30 inHg)	
Max. flow rate	20 l/min	18 l/min	20 l/min	18 l/min
Motor rotation speed	1700 RPM	1450 RPM	1700 RPM	1450 RPM
Horse power	1/6 HP		1/6 HP	
Noise level	52 dB		52 dB	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Net weight	7.0 Kg		7.4 Kg	
Dimension (LxWxH)	26.2x14.8x18.2 cm		26.2x23.6x19.3 cm	
Glass Vapor Trap / Vacuum Regulator	—		Yes	

# Rotary Vane Vacuum Pump

## Features

### High vacuum, high flow rate

Tanker series pumps are driven by rotary vane, with high flow, vacuum can reach over 0.13mbar. Suitable for the laboratory that needs high / medium volume and vacuum for experiment.

### Quiet and low vibration

Tanker series pumps feature low noise level, low vibration and long product life.

### Thermal protection device

Every motor of Tanker 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 certification

CE certification

### One-Year Warranty

## Applications

- Vacuum filtration
- Vacuum drying / oven / defoaming
- Various vacuum applications

## Ordering Information

### 187130-11(22)

Tanker 130, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 187150-11(22)

Tanker 150, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 187215-11(22)

Tanker 215, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 187230-11(22)

Tanker 230, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)

### 187100-30 Exhaust Filter

### 187100-25 Oil mist outlet

### 187100-05 Lubricant (500ml / PK)



Tanker SC Lubricant

**Tanker Series**



### Exhaust filter (optional)

Exhaust filter with stainless steel housing can be used to prevent oil mist from being sprayed into the room and keep laboratory clean.



### Oil mist outlet (optional)

It is used to exhaust the oil mist out of a room by connecting an optional hose barb (Thread 1/8 PT ) and a proper tube.

## Specification

Model	Tanker 150		Tanker 215		Tanker 230	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	375	375	250	250	375	375
Max. current (A)	6.5	3	4.2	2.5	6.5	3
Max. vacuum Torr (mbar)	0.1 (0.13)		0.05 (0.066)		0.05 (0.066)	
Max. flow rate L/min (CFM)	142 (5)	127 (4.5)	42 (1.5)	36 (1.3)	85 (3)	70 (2.5)
Motor rotation (RPM) speed	1725	1440	1725	1440	1725	1440
Horse power	1/2 HP		1/3 HP		1/2 HP	
Hose barb	3/8 inch (10 mm)		3/8 inch (10 mm)		3/8 inch (10 mm)	
Noise level	52 dB		52 dB		52 dB	
Net weight	13 Kg		11.4 Kg		14 Kg	
Dimension (LxMxH)	33.5x12.5x37.5 cm		31.5x12.0x36 cm		33.5x12.5x37.5 cm	

# Pump Accessories

## Hose Barb



Cat. No. :	167300-20	167300-21	167300-63	167300-23	167300-24	187100-32	187100-31	187100-34
Barb:	3/8 inch	5/16 inch	1/4 inch	3/16 inch	1/8 inch	1/2 inch	3/8 inch	1/4 inch
	10 mm	8 mm	6 mm	5 mm	3 mm	12 mm	10 mm	6 mm
Thread:	1/8 PT	1/4 SAE	1/4 SAE	1/4 SAE				

## Moisture Trap / Pressure Regulator



167320-06  
For Rocker  
320/420

167440-06  
For Rocker 440

## Vapor Trap / Vacuum Regulator



169311-06 (Glass)  
For Chemker  
300/400/410

169300-06 (PC)  
For Chemker  
300/400/410

## Glass Vapor Trap



189300-06  
For Rocker 300C

169301-06  
For Chemker  
300/400/410

## Moisture Trap / Vacuum Regulator



167301-06 (PC)  
For Rocker  
300/400/410/430

## Moisture Trap / Vacuum Regulator



167801-06 (PC)  
For Rocker  
801/811

## Filter Cartridge



167301-07  
For Rocker 300/400/  
410/430 ( with Prote™  
overflow protection)  
Material : PE  
Pore size : 20µm

167801-07  
For Rocker 801/811  
( without Prote™  
overflow protection)  
Material : PE  
Pore size : 20µm

## Air Outlet ( Copper Muffler )



167300-42  
For Rocker  
300/400/410/430

167600-42  
For Rocker  
800/801/810/811

## Silicone Tube



167200-38  
Inner diameter: 6 mm  
Outer diameter: 12 mm  
Length: 1m

## Chemical Resistant Hose Barb



169300-20  
5/16 inch  
8 mm  
1/4 NPS

# Oil Free Compressor



## Features

### ➤ No pollution, maintenance free

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

### ➤ Quiet and low vibration

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

### ➤ Thermal protection device

Every motor of Rocker 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.

### ➤ Air outlet filter device

Every Rocker series compressor is equipped with filter cartridge in air outlet to filter particle, moisture and supply clean air.

### ➤ International certification

CE certification  
CSA certification  
IP 30 protection  
RoHS certification

### ➤ Two-Year Warranty

## Applications

- Aeration
- Pressure filtration

## Ordering Information

### 167320-11(22)

Rocker 320, Compressor  
AC110V, 60Hz (AC220V, 50Hz)

### 167420-11(22)

Rocker 420, Compressor  
AC110V, 60Hz (AC220V, 50Hz)



Rocker 320



Rocker 420

## Specification

Model	Rocker 320		Rocker 420	
	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	90	85	147	125
Max. current (A)	0.9	0.4	1.5	0.6
Max. pressure (w/o moisture trap)	80 psi		80 psi	
Max. pressure (w. moisture trap)	80 psi		80 psi	
Max. flow rate	14 l/min	12 l/min	27 l/min	25 l/min
Moisture trap	Yes		Yes	
Motor rotation speed	1700 RPM	1400 RPM	1700 RPM	1400 RPM
Horse power	1/8 HP		1/6 HP	
Noise level	50 dB		52 dB	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Net weight	4.1 Kg		5.2 Kg	
Dimension (LxWxH)	27.2x 13.6x16.5 cm		29.8x14.3x17.2 cm	

# Air Supply System



## Features

- **No pollution, maintenance free**

Rocker series pumps are driven by piston, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.
- **Quiet and low vibration**

Driven direct by motor with no additional belt-driven transmission; the quality of vibration-proof assembly makes Rokcer series pumps run at the lowest noise level among all other equivalent pumps.
- **Thermal protection device**

Every motor of Rocker 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.
- **Air outlet filter device**

Every Rocker series compressor is equipped with filter cartridge in air outlet to filter particle, moisture and supply clean air.
- **International certification**

CE certification  
CSA certification  
IP 30 protection  
RoHS certification

➤ **Two-Year Warranty**

## Applications

- Fermenter
- Bioreactor
- Gas Chromatograph

## Ordering Information

**167440-11(22)**

Rocker 440, Air Supply System  
AC110V, 60Hz (AC220V, 50Hz)



**Rocker 440**

\* The capacity of air tank made of SS304 stainless steel, is 2.5liters.

## Specification

Model		Rocker 440					
Voltage / Freq.		110V/60Hz			220V/50Hz		
Max. power (W)		147			125		
Max. current (A)		1.5			0.6		
Pressure range		40 - 60 psi			40 - 60 psi		
Motor rotation speed		1700 RPM			1400 RPM		
Max. flow rate (without air tank)		27 l/min			25 l/min		
Max. flow rate with air tank	20 psi	0-15 sec. 40 l/min	15-30 sec. Decreasing	after 30 sec. 27 l/min	0-15 sec. 40 l/min	15-30 sec. Decreasing	after 30 sec. 25 l/min
	40 psi	0-10 sec. 52 l/min	10-25 sec. Decreasing	after 25 sec. 27 l/min	0-10 sec. 50 l/min	10-25 sec. Decreasing	after 25 sec. 25 l/min
	60 psi	0-8 sec. 65 l/min	8-22 sec. Decreasing	after 22 sec. 27 l/min	0-8 sec. 60 l/min	8-22 sec. Decreasing	after 22 sec. 25 l/min
Moisture trap		Yes			Yes		
Horse power		1/6 HP			1/6 HP		
Noise level		52 dB			52 dB		
Hose barb		Quick coupling			Quick coupling		
Net weight		8.4 Kg			8.4 Kg		
Dimension (LxWxH)		29.3x31.1x25.1 cm			29.3x31.1x25.1 cm		

PS: The pressure can be changed to 60-80 psi

# LABORATORY FILTRATION

Filtration Apparatus Selection Guide

Filtration Apparatus

MF 3 / MF 3a / MF 5 / MF 5a

LF 3 / LF 3a / LF 5 / LF 5a

Stainless Steel Funnel

LF 30 / MF 31

VF 2 / VF 11 / LF 32 / LF 33

VF 5 / VF 8 / VF 6 / VF 7

VF 3 / VF 10 / VF 12 / VF 15

Filtration System

Rocker 300 - LF 30 / Rocker 300 - MF 31

Rocker 300C - VF 12 / Chemker300 - VF 12

Lafil 300C - VF 12

Lafil 300 - LF 30 / Lafil 300 - LF 32

Lafil 400 - LF 30 / Lafil 400 - LF 32

Manifold

MutilVac 310-MS / MutilVac 610-MS

MutilVac 300-MS / MutilVac 600-MS

MutilVac 300-MB / MutilVac 600-MB

MutilVac 301-MB / MutilVac 601-MB

MutilVac 310-MS-T / MutilVac 610-MS-T

MutilVac 300-MB-T / MutilVac 600-MB-T

Filtration System

WaterVac 100-MS / WaterVac 100-MB

# Filtration Apparatus Selection Guide

PES	Stainless Steel SS316	Glass
 <p><b>MF 30</b> P.22</p> <p><b>LF 30</b> P.23</p>  <p><b>MF 31</b> P.22</p>	 <p><b>LF 32</b> P.23</p>  <p><b>VF 2</b> P.24</p>	 <p><b>VF 5</b> P.25</p>  <p><b>VF 8</b> P.25</p>
Magnetic filter holder		
 <p><b>MF 3</b> P.19</p> <p><b>MF 3a</b> P.19</p>  <p><b>MF 5</b> P.19</p> <p><b>MF 5a</b> P.19</p>	 <p><b>VF 11</b> P.24</p>	 <p><b>VF 3</b> P.27</p> <p><b>VF 6</b> P.26</p>
PES filter holder	SS filter holder	
 <p><b>LF 3</b> P.20</p> <p><b>LF 3a</b> P.20</p>  <p><b>LF 5</b> P.20</p> <p><b>LF 5a</b> P.20</p>	 <p><b>100ml</b> P.21</p> <p><b>300ml</b> P.21</p> <p><b>500ml</b> P.21</p>	 <p><b>VF 7</b> P.26</p> <p><b>VF 10</b> P.27</p>  <p><b>VF 12</b> P.28</p> <p><b>VF 15</b> P.28</p>

\*PES : Polyethersulfone

# 47 mm PES Magnetic Filter Holder

(Polyethersulfone)



## Features

- Compatible with various kinds of bottle, vacuum flask with or without side arm to collect filtrate directly.
- Strong magnetic seal allows one-handed operation, prevents possible twisting and tearing of the membrane.
- Membrane guide on the base helps position membrane easily.
- PES (Polyether sulfone) construction, resistant to a wide range of chemicals and high temperature, sturdy and unbreakable.
- MF magnetic filter holder was awarded the United States (US 9.452.373B1), Taiwan (I551337) and China (ZL 2015 2 0050109.6) invention patent.
- International environmental declaration: RoHS certification

## Specifications

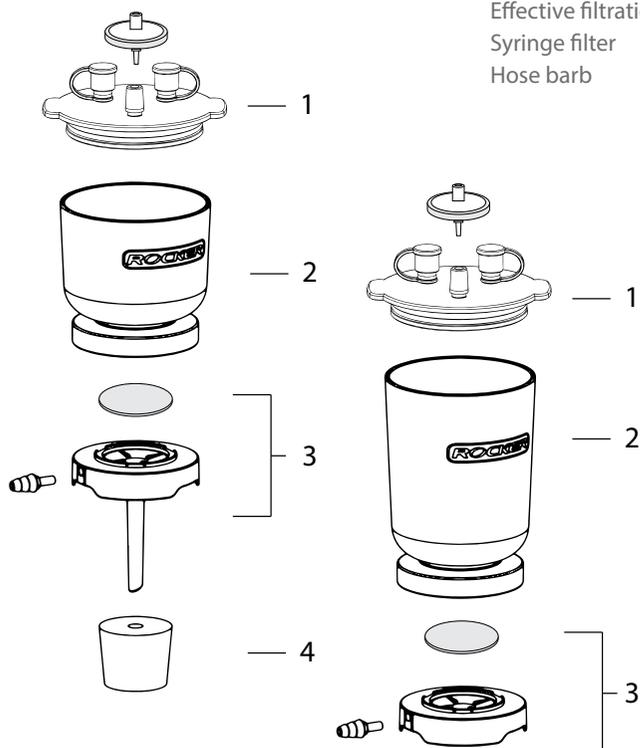
Material	MF 3 / MF 5	MF 3a / MF 5a
Funnel	PES	PES
Support base	PES	PES
Membrane support	PES	PES
Funnel lid	PP	PP
Hose barb	PES	PES
Syringe filter	PTFE	PTFE

## Specifications

Funnel capacity	300 ml / 500 ml	300 ml / 500 ml
Filter diameter	47 mm	47 mm
Effective filtration area	13.1 cm <sup>2</sup>	13.1 cm <sup>2</sup>
Syringe filter	25 mm, 0.2 μm	25 mm, 0.2 μm
Hose barb	4-8 mm	4-8 mm

## Ordering Information

MF 3, 47 mm PES Magnetic Filter Holder (300ml)	200300-01
MF 5, 47 mm PES Magnetic Filter Holder (500ml)	200500-01
1 PP lid kit	200300-36
2 PES magnetic funnel, 300ml	200300-30
2 PES magnetic funnel, 500ml	200500-30
3 PES magnetic support base	200300-32
4 Silicone stopper (No.8)	167110-16
MF 3a, 47 mm PES Magnetic Filter Holder (300ml)	200310-01
MF 5a, 47 mm PES Magnetic Filter Holder (500ml)	200510-01
1 PP lid kit	200300-36
2 PES magnetic funnel, 300ml	200300-30
2 PES magnetic funnel, 500ml	200500-30
3 PES magnetic support base (short)	200310-32



MF 3 / 5

MF 3a / 5a

# 47 mm PES Filter Holder

(Polyethersulfone)



## Features

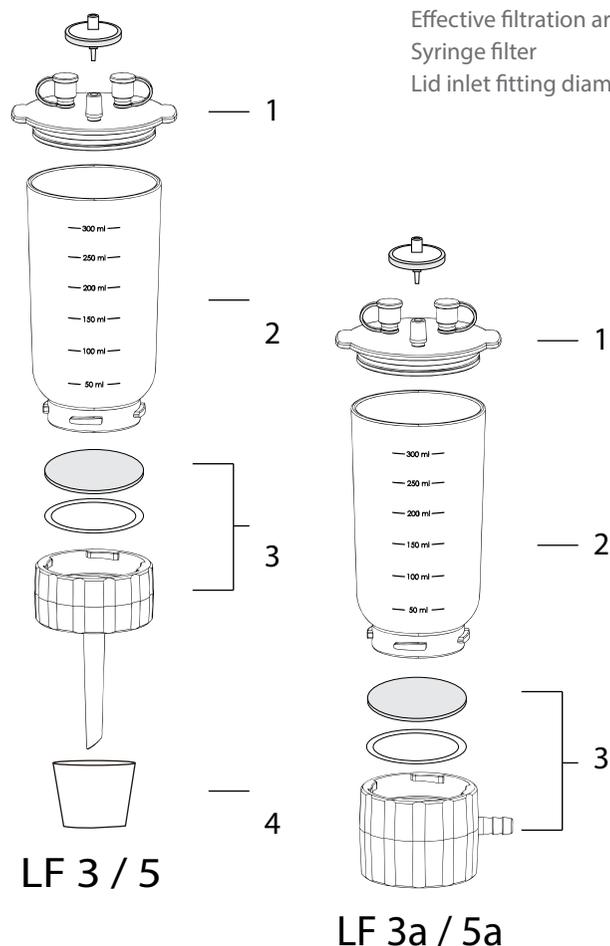
- ◆ Spin-lock connection (M381450) facilitates fast and stable installation without clamp.
- ◆ PES structure offers excellent smash, high temperature (180°C) resistance and autoclavable.
- ◆ Groove design on membrane support facilitates filtration speed.
- ◆ Reusable, friendly to the earth and save your money.
- ◆ Funnel graduated in 50ml increments for easy measurement.
- ◆ LF 3/5 equips with No. 8 stopper that allows it to fit other receiver flasks.
- ◆ LF 3a/5a is available to fit different tissue bottle.

## Specifications

Material	LF 3 / LF 5	LF 3a / LF 5a
Funnel	PES	PES
Support base	PC	PC
Membrane support	PP	PP
Funnel lid	PP	PP
Cap of lid	Silicone	Silicone
Syringe filter	PTFE	PTFE

## Specifications

Funnel capacity	300 ml / 500 ml	300 ml / 500 ml
Filter diameter	47 mm / 50 mm	47 mm / 50 mm
Effective filtration area	12.5 cm <sup>2</sup>	12.5 cm <sup>2</sup>
Syringe filter	25 mm, 0.2 μm	25 mm, 0.2 μm
Lid inlet fitting diameter	7 mm	7 mm



## Ordering Information

LF 3, 47 mm PES Filter Holder (300ml)	197000-01
LF 5, 47 mm PES Filter Holder (500ml)	197000-06
1 LF 3, PP lid kit	197000-36
PP lid kit	200300-36
2 PES funnel, 300 ml	197000-34
PES funnel, 500 ml	197000-56
3 PC support base	197000-35
4 Silicone stopper (No. 8)	167110-16
LF 3a, 47 mm PES Filter Holder (300ml)	197000-02
LF 5a, 47 mm PES Filter Holder (500ml)	197000-07
1 LF 3, PP lid kit	197000-36
PP lid kit	200300-36
2 PES funnel, 300 ml	197000-34
PES funnel, 500 ml	197000-56
3 Storage bottle adaptor	197000-38

# 47 mm Stainless Steel Filter Holder



## Features

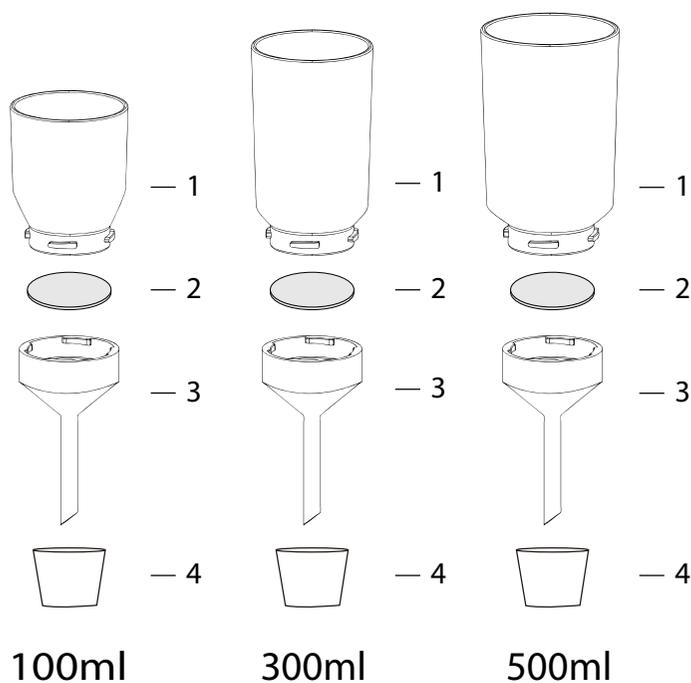
- Spin-lock connection facilitates fast and stable installation without clamp.
- Stainless steel funnel offers excellent chemical resistance and can be fastly sterilized by flame.
- Funnel lid is optional.

## Specifications

Material	100ml	300ml	500ml
Funnel	SS316	SS316	SS316
Support base	SS316	SS316	SS316
Membrane support	SS316	SS316	SS316
Funnel lid	SS316	SS316	SS316

## Specifications

Funnel capacity	100 ml	300 ml	500 ml
Filter diameter	47 mm / 50 mm	47 mm / 50 mm	47 mm / 50 mm
Effective filtration area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
SS membrane pore size	70 um	70 um	70 um



## Ordering Information

### 100 ml, 47 mm Stainless Steel Filter Holder 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 (No.8)	167110-16

### 300 ml, 47 mm Stainless Steel Filter Holder 167103-30

1	Stainless steel funnel, 300 ml	167103-63
2	Stainless steel support screen	167100-31
3	Stainless steel support base	167103-60
4	Silicone stopper (No.8)	167110-16

### 500 ml, 47 mm Stainless Steel Filter Holder 167103-50

1	Stainless steel funnel, 500 ml	167103-65
2	Stainless steel support screen	167100-31
3	Stainless steel support base	167103-60
4	Silicone stopper (No.8)	167110-16

### Stainless Steel Lid

100 ml Stainless steel lid	167103-11
300 ml Stainless steel lid	167103-13
500 ml Stainless steel lid	167103-15

# 47 mm Filtration Apparatus



MF 30



MF 31

## Features

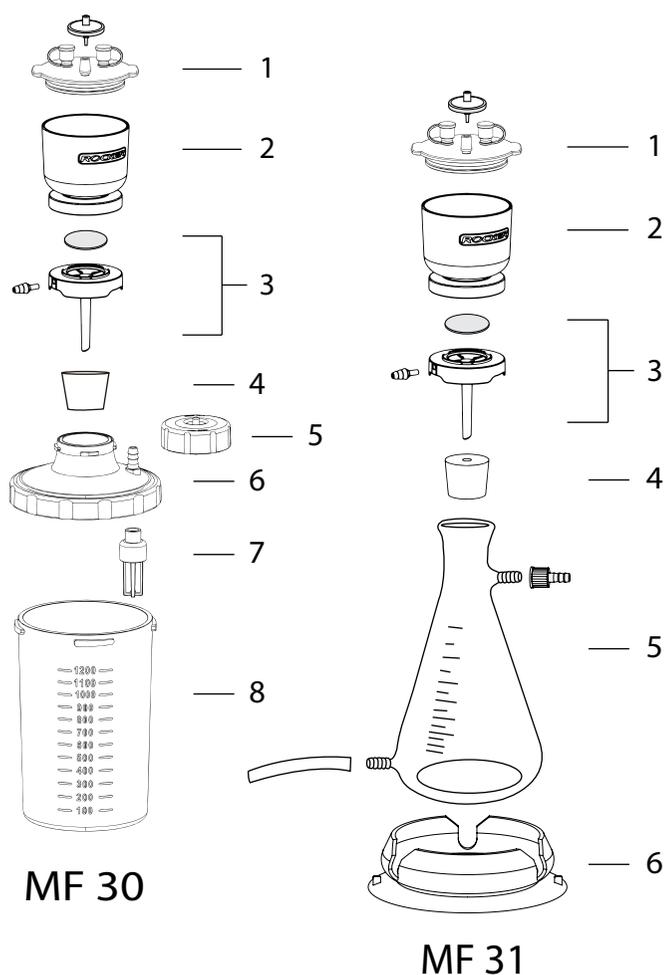
- ◆ Strong magnetic seal (I5551337) allows one-handed operation
- ◆ Excellent smash, high temperature resistance and autoclavable.
- ◆ Funnel graduated in 50ml, receiver in 100ml increments for easy measurement.
- ◆ MF 30 built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.

## Specifications

Material	MF 30	MF 31
Funnel	PES	PES
Support base	PES	PES
Membrane support	PES	PES
Syringe filter	PTFE	PTFE
Receiver flask	PC	Borosilicate glass
Drain hose	—	Rubber (non-autoclavable)

## Specifications

Funnel capacity	300 ml	300 ml
Flask capacity	1200 ml	1000 ml
Filter diameter	47 mm	47 mm
Effective filtration area	13.1 cm <sup>2</sup>	13.1 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)
Syringe filter	25 mm, 0.2 μm	25 mm, 0.2 μm
Drain device	—	Yes
Overflow protection	Yes	—



MF 30

MF 31

## Ordering Information

MF 30, 47 mm Filtration Set 200320-30

MF 3, Magnetic filter holder (300ml) (1+2+3+4) 200300-01

1	PP lid kit for magnetic funnel	200300-36
2	PES magnetic funnel, 300ml	200300-30
3	PES magnetic support base	200300-32
4	Silicone stopper (No.16)	167110-17

PC waste bottle with cover, 1200 ml (5+6+7+8) 197000-11-PC

5	Black PP cap	197000-40
6	PC cover	197000-32-PC
7	Overflow protection	197000-39
8	PC bottle, 1200 ml	197000-31-PC

MF 31, 47 mm Filtration Set 200320-31

MF 3, Magnetic filter holder (300ml) (1+2+3+4) 200300-01

1	PP lid kit for magnetic funnel	200300-36
2	PES magnetic funnel, 300ml	200300-30
3	PES magnetic support base	200300-32
4	Silicone stopper (No.8)	167110-16

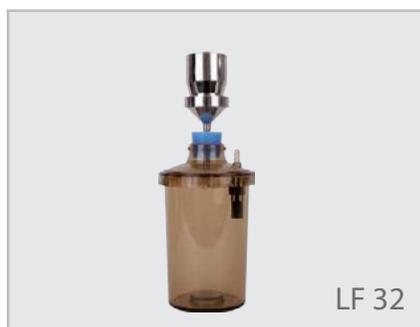
Receiver flask with drain, 1000 ml (with screwthread connector) 167300-08

Silicone fixing sucker 167200-45

# 47 mm Stainless Steel Filtration Apparatus



LF 30



LF 32

## Features

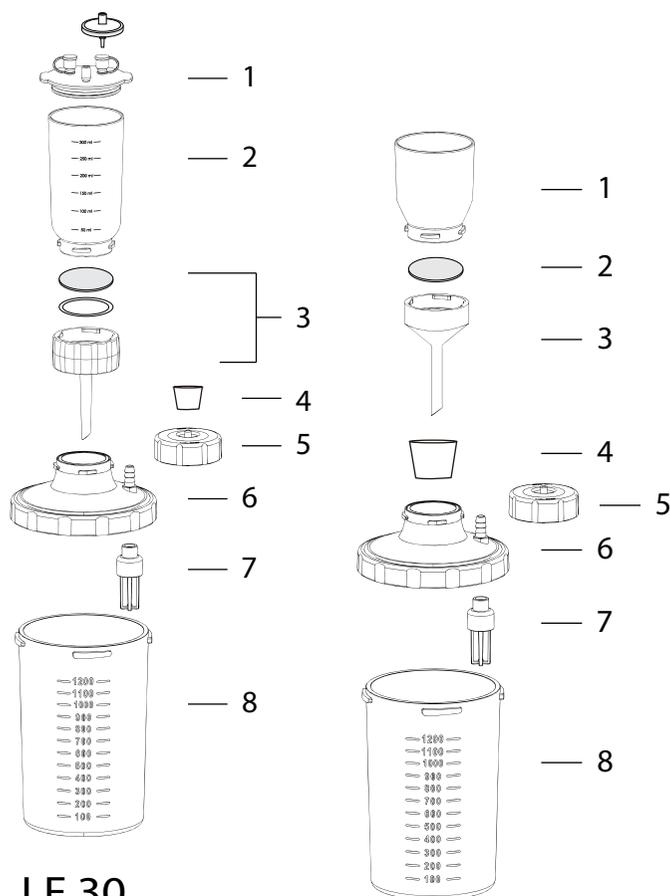
- ◆ Spin-lock connection (M381450) facilitates fast and stable installation without clamp.
- ◆ Stainless steel funnel offers excellent chemical resistance and can be fastly sterilized by flame.
- ◆ Built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.

## Specifications

Material	LF 30	LF 32
Funnel	PES	SS316
Support base	PC	SS316
Membrane support	PP	SS316
Waste bottle	PC	PC
Syringe filter	PTFE	-

## Specifications

Funnel capacity	300 ml	100 ml
Flask capacity	1200 ml	1200 ml
Filter diameter	47 mm / 50 mm	47 mm / 50 mm
Effective filtration area	12.5 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Hose barb	5/16 in. (8 mm)	5/16 inch (8 mm)
Syringe filter	25 mm, 0.2 μm	-



LF 30

LF 32

## Ordering Information

LF 30, 47 mm Filtration Set	197010-30
LF 3, PES filter holder (300 ml) (1+2+3+4)	197000-01
1 PP lid kit	197000-36
2 PES funnel, 300 ml	197000-34
3 PC support base	197000-35
4 Silicone stopper (No.16)	167110-17
PC waste bottle with cover, 1200 ml (5+6+7+8)	197000-11-PC
5 Black PP cap	197000-40
6 PC cover	197000-32-PC
7 Overflow protection	197000-39
8 PC bottle, 1200 ml	197000-31-PC
LF 32, 47 mm Stainless Steel Filtration Set	197010-32
100 ml 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 (No.16)	167110-17
PC waste bottle with cover, 1200 ml (5+6+7+8)	197000-11-PC
5 Black PP cap	197000-40
6 PC cover	197000-32-PC
7 Overflow protection	197000-39
8 PC bottle, 1200 ml	197000-31-PC

# 47 mm Stainless Steel Filtration Apparatus



VF2



VF11

## Applications

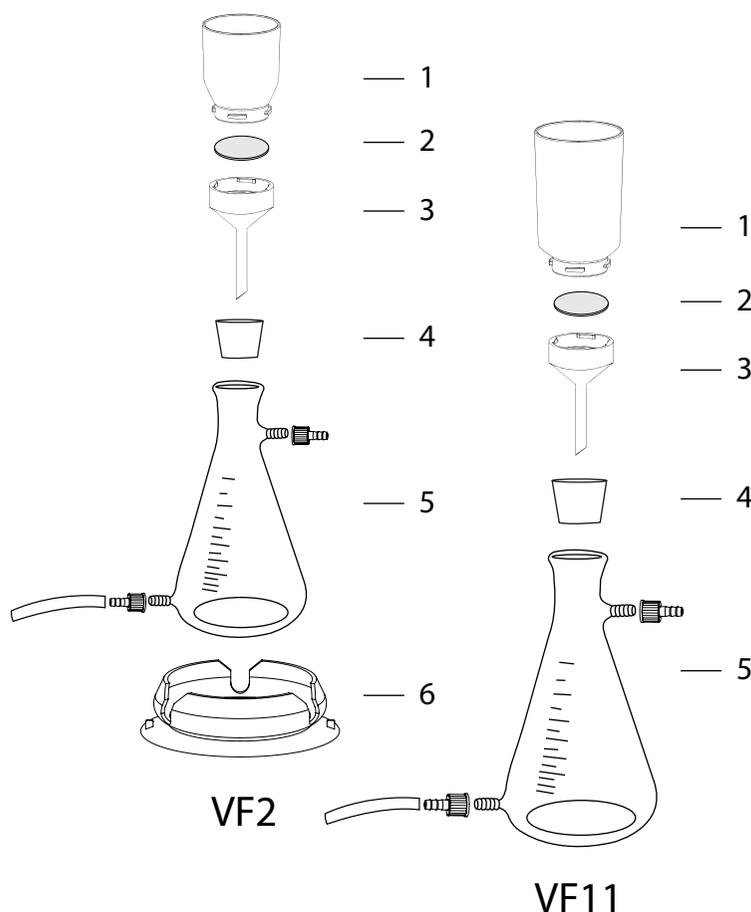
For filtration requiring the fast sterilization such as microbiological test or use for purification of corrosive liquid, solvent etc.

## Specifications

Material	VF2	VF11
Funnel	SS316	SS316
Support base	SS316	SS316
Membrane support	SS316	SS316
Stopper	Silicone rubber (No.8)	Silicone rubber (No.18)
Receiver flask	Borosilicate glass	Borosilicate glass
Drain hose	Rubber (non-autoclavable)	Rubber (non-autoclavable)

## Specifications

Funnel capacity	100 ml	500 ml
Flask capacity	1000 ml	2000 ml
Filter diameter	47 mm / 50 mm	47 mm / 50 mm
Effective filtration area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)
Funnel graduation	50 ml / 100 ml	300 ml / 500 ml



## Ordering Information

<b>VF2, 47 mm Stainless Steel Filtration Set</b>		<b>167200-02</b>
100 ml 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 (No.8)	167110-16
5	Receiver flask with drain, 1000 ml (with screwthread connector)	167300-08
6	Silicone fixing sucker	167200-45
<b>VF11, 47 mm Stainless Steel Filtration Set</b>		<b>167200-11</b>
500 ml Stainless steel filter holder (1+2+3+4)		167103-50
1	Stainless steel funnel, 500 ml	167103-65
2	Stainless steel support screen	167100-31
3	Stainless steel support base	167103-60
4	Silicone stopper (No.18)	167110-18
5	Receiver flask with drain, 2000 ml (with screwthread connector)	167200-13

# 25 mm Microanalysis Glass Filtration Apparatus



VF5



VF8

## Applications

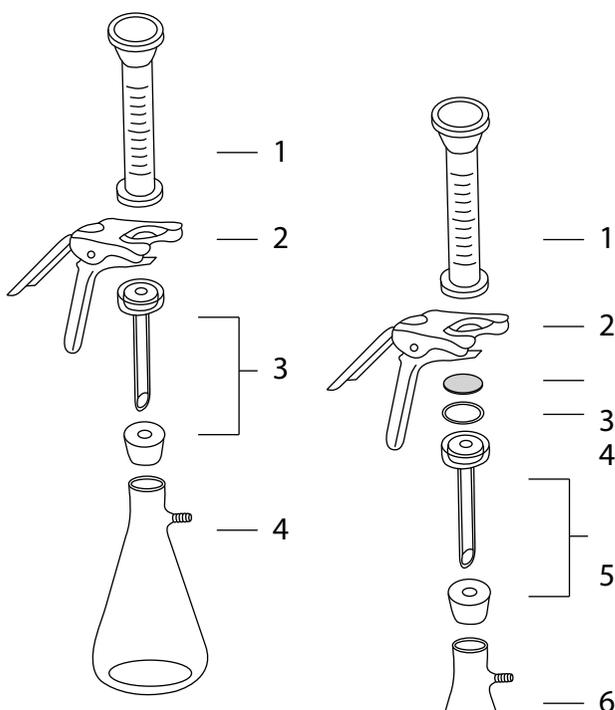
Ideal for small volume vacuum filtration for biological or particulate contamination analysis.

## Specifications

Material	VF5	VF8
Funnel	Borosilicate glass	Borosilicate glass
Support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	SS screen with PTFE gasket
Clamp	Aluminum	Aluminum
Stopper	Silicone rubber (No.5)	Silicone rubber (No.5)
Receiver flask	Borosilicate glass	Borosilicate glass

## Specifications

Funnel capacity	15 ml	15 ml
Flask capacity	125 ml	125 ml
Filter diameter	25 mm	25 mm
Effective filtration area	2.2 cm <sup>2</sup>	2.2 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)



VF5

VF8

## Ordering Information

VF5, 25mm Microanalysis Glass Filtration Set 167200-05

15 ml Glass filter holder (1+2+3) 167120-32

1	Glass funnel, 15 ml	167220-15
2	Aluminum clamp	167240-05
3	Sintered glass support base (Including No.5 silicone stopper)	167230-04

4	Receiver flask, 125 ml	167250-05
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VF8, 25 mm Microanalysis Glass Filtration Set 167200-08

15 ml Glass filter holder (1+2+3+4+5) 167120-34

1	Glass funnel, 15 ml	167220-15
2	Aluminum clamp	167240-05
3	SS support screen	167230-32
4	PTFE gasket	167230-42
5	Glass support base (Including No.5 silicone stopper)	167230-08

6	Receiver flask, 125 ml	167250-05
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# 47 mm Glass Filtration Apparatus



VF6



VF7

## Applications

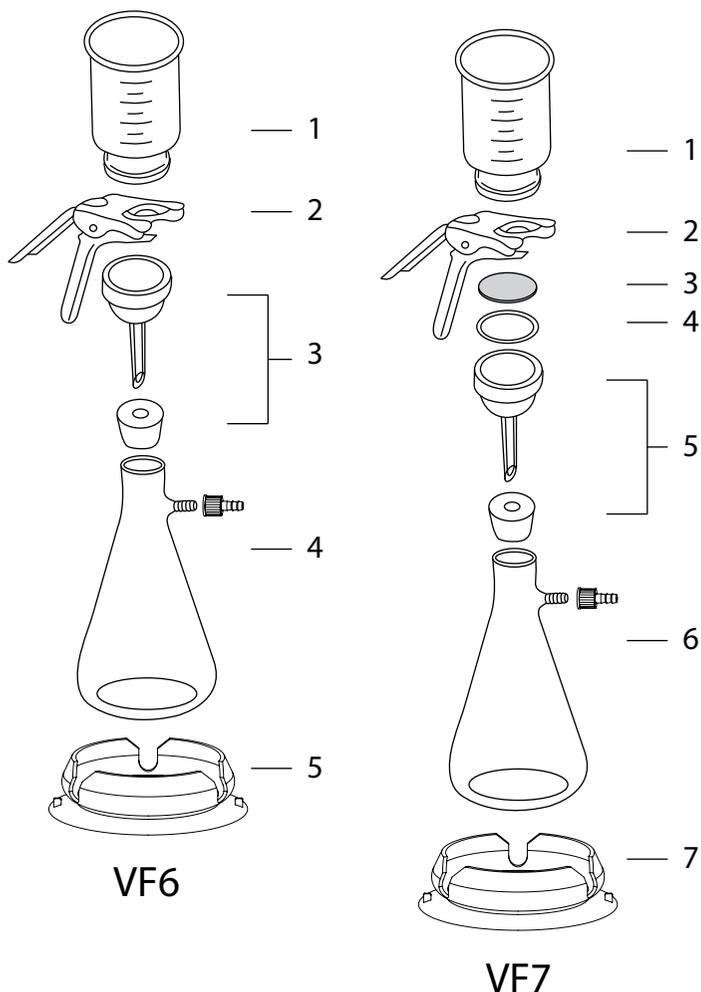
Ideal for solvent purification and general filtration for microbiology, suspended solid analysis etc.

## Specifications

Material	VF6	VF7
Funnel	Borosilicate glass	Borosilicate glass
Support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	SS screen with PTFE gasket
Clamp	Aluminum	Aluminum
Stopper	Silicone rubber (No.8)	Silicone rubber (No.8)
Receiver flask	Borosilicate glass	Borosilicate glass

## Specifications

Funnel capacity	300 ml	300 ml
Flask capacity	1000 ml	1000 ml
Filter diameter	47 mm	47 mm
Effective filtration area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)



## Ordering Information

<b>VF6, 47 mm Glass Filtration Set</b>		<b>167200-06</b>
300 ml Glass filter holder (1+2+3)		167120-31
1	Glass funnel, 300 ml	167210-03
2	Aluminum clamp	167240-01
3	Sintered glass support base (Including No.8 silicone stopper)	167230-03
4	Receiver flask, 1000 ml (with screwthread connector)	167250-03
5	Silicone fixing sucker	167200-45
<b>VF7, 47 mm Glass Filtration Set</b>		<b>167200-07</b>
300 ml Glass filter holder (1+2+3+4+5)		167120-33
1	Glass funnel, 300 ml	167210-03
2	Aluminum clamp	167240-01
3	SS support screen	167230-31
4	PTFE gasket	167230-41
5	Glass support base (Including No.8 silicone stopper)	167230-07
6	Receiver flask, 1000 ml (with screwthread connector)	167250-03
7	Silicone fixing sucker	167200-45

# 47 mm, 90 mm Glass Filtration Apparatus



VF3



VF10

## Applications

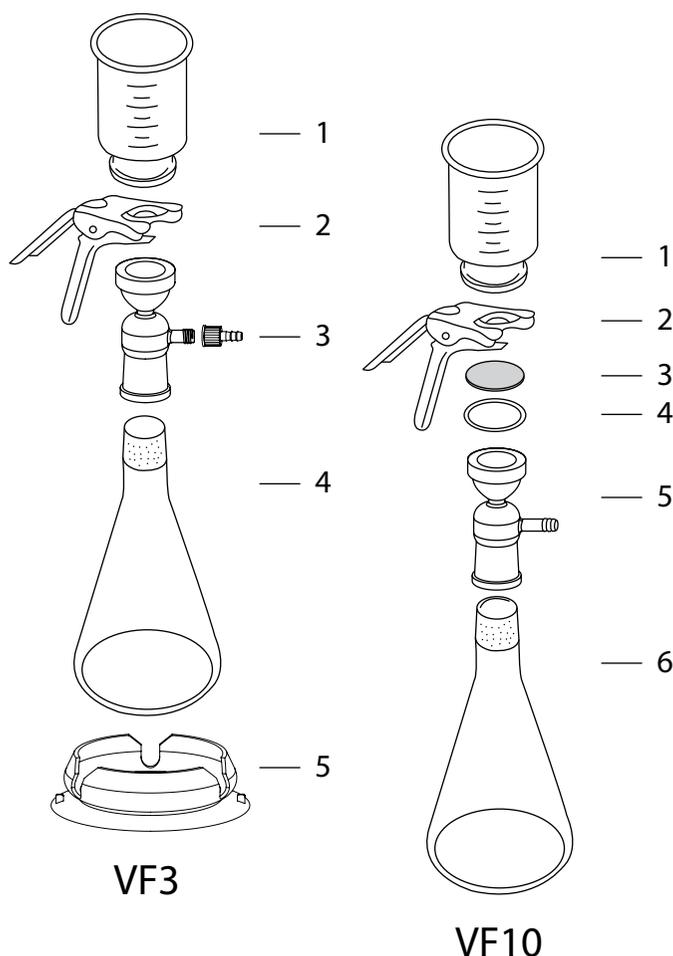
Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC and GC analysis.

## Specifications

Material	VF3	VF10
Funnel	Borosilicate glass	Borosilicate glass
Support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	Metal coating PTFE
Clamp	Aluminum	Aluminum
Receiver flask	Borosilicate glass	Borosilicate glass

## Specifications

Funnel capacity	300 ml	1000 ml
Flask capacity	1000 ml	4000 ml
Filter diameter	47 mm	90 mm
Effective filtration area	9.6 cm <sup>2</sup>	40.6 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)



VF3

VF10

## Ordering Information

<b>VF3, 47 mm Glass Filtration Set</b>		<b>167200-03</b>
300 ml Glass filter holder (1+2+3)		167120-30
1	Glass funnel, 300 ml	167210-03
2	Aluminum clamp	167240-01
3	Sintered glass support base w/ tubulated cap (with screwthread connector)	167230-01
4	Ground joint flask, 1000 ml	167250-01
5	Silicone fixing sucker	167200-45
<b>VF10, 90 mm Glass Filtration Set</b>		<b>167200-10</b>
1000 ml Glass filter holder (1+2+3+4+5)		167120-35
1	Glass funnel, 1000 ml	167210-10
2	Aluminum clamp	167240-02
3	PTFE coating support screen	167230-33
4	PTFE gasket	167230-43
5	Glass support base w/ tubulated cap	167230-09
6	Ground joint flask, 4000 ml	167250-06

# 47 mm, 90 mm Glass Filtration Apparatus



VF12



VF15

## Features

- Unique filtration adaptor design can be connected with GL45 storage bottle.
- VF12 / VF15 can filtrate and store solution directly in GL45 storage bottle without the need of being transferred from the filtering flask.

## Applications

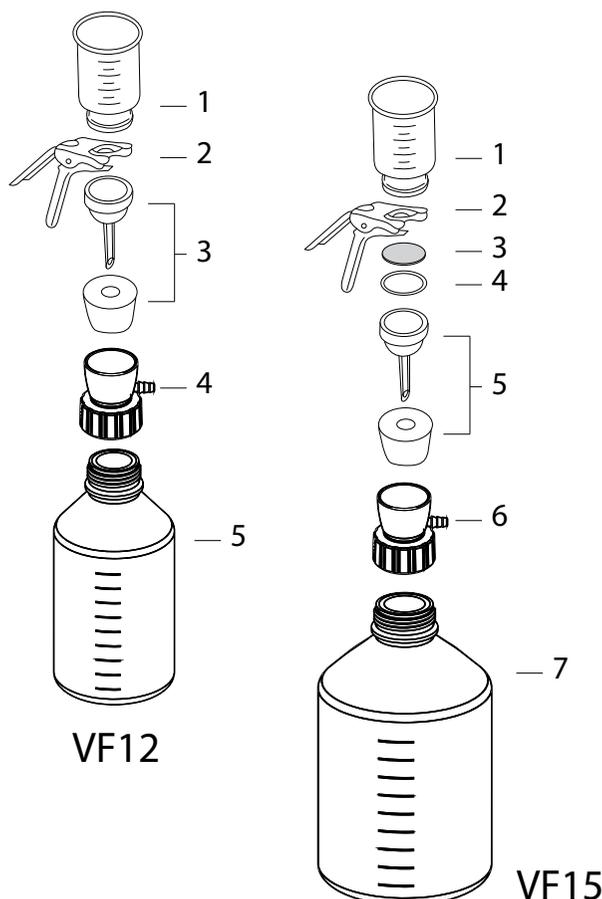
Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC and GC analysis.

## Specifications

Material	VF12	VF15
Funnel	Borosilicate glass	Borosilicate glass
Support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	Metal coating PTFE
Clamp	Aluminum	Aluminum
Filtration Adaptor	PP (Autoclavable)	PP (Autoclavable)
Storage Bottle	Borosilicate glass	Borosilicate glass

## Specifications

Funnel capacity	300 ml	1000ml
Flask capacity	1000 ml	5000 ml
Filter diameter	47 mm	90 mm
Effective filtration area	9.6 cm <sup>2</sup>	40.6 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)



## Ordering Information

VF12, 47 mm Glass Filtration Set 167200-12

300 ml Glass filter holder (1+2+3) 167120-31

1	Glass funnel, 300 ml	167210-03
2	Aluminum clamp	167240-01
3	Sintered glass support base	167230-03

4	Filtration Adaptor for GL45 Bottle	197000-65
5	1000ml Storage Bottle	197000-59

VF15, 90 mm Glass Filtration Set 167200-15

1000 ml Glass filter holder (1+2+3) 167120-37

1	Glass funnel, 1000 ml	167210-10
2	Aluminum clamp	167240-02
3	PTFE coating support screen	167230-33
4	PTFE gasket	167230-43
5	Glass support base (Including No.8 silicone stopper)	167230-10

6	Filtration Adaptor for GL45 Bottle	197000-65
7	5000ml Storage Bottle	197000-55

# Vacuum Filtration System



## Features

- **No air pollution, maintenance free**

Rocker series pumps are piston-driven, no need of lubricant, regular oil changes and maintenance; with no oil pollution.
- **The patented spin-lock design**

Rocker 300 - LF 30 filter holder can be connected with waste bottle by patented spin-lock connection (M381450) giving a fast and stable installation without clamp.
- **The patented magnetic design**

Rocker 300 - MF 31 strong magnetic seal (I551337) allows one-handed operation, prevents possible twisting and tearing of the membrane.
- **Overflow protection**

Rocker 300 - LF 30 waste bottle comes with a built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.
- **International certification**

  - CE certification
  - CSA certification
  - IP30 protection
  - RoHS certification
- **Two-Year Warranty**



## Applications

- Suspended solid test
- Vacuum Filtration

## Ordering Information

### 167305-11(22)

Rocker 300 - LF 30, Vacuum Filtration System, complete set includes :

- \* Rocker 300, Vacuum Pump
- \* LF 30, Filtration Set
- \* Silicone Tube (1m)

### 167311-11(22)

Rocker 300 - MF 31, Vacuum Filtration System, complete set includes :

- \* Rocker 300, Vacuum Pump
- \* MF 31, Filtration Set
- \* Silicone Tube (1m)

## Specification

Model	Rocker 300 - LF 30		Rocker 300 - MF 31	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. flow rate	23 l/min	20 l/min	23 l/min	20 l/min
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 106 mbar (27 inHg)	
Capacity (Funnel / Waste bottle)	300 ml / 1200 ml		300 ml / 1000 ml	
Filter diameter	47 mm / 50 mm		47 mm	
Effective filtration area	12.5 cm <sup>2</sup>		13.1 cm <sup>2</sup>	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Part	Material		Material	
Filter funnel	PES		PES	
Funnel support base	PC		PES	
Membrane support	PP		PES	
Waste bottle	PC		Borosilicate glass	
Funnel lid	PP		PP	
Overflow protection	PP		-	

# Vacuum Filtration System

## Features

- ❖ **No air pollution, maintenance free**

Rocker 300C vacuum pump is driven by diaphragm, no need of lubricant, regular oil changes and maintenance; with no oil pollution.
- ❖ **Good chemical resistance**

Rocker 300C / Chemker 300 / Lafil 300C -VF12 systems all can offer good resistance to a wide range of corrosive gases.
- ❖ **Preventing cross-contamination by one-step filtration**

VF 12 can filtrate and store solution directly in GL45 storage bottle without the need of being transferred from the filtering flask.
- ❖ **Suitable for all GL45 storage bottle**

Unique filtration adaptor design can connect with GL45 storage bottle (1000ml, 2000ml, 5000ml...etc.)
- ❖ **International certification**

CE certification
- ❖ **One-Year Warranty**

## Applications

- ❖ Solvent purification
- ❖ Solid-Phase Extraction (SPE)
- ❖ Vacuum filtration

## Ordering Information

### 189302-11(22)

Rocker 300C - VF 12, Vacuum Filtration System, complete set includes :  
 \* Rocker 300C, Vacuum Pump  
 \* VF 12, Filtration Set  
 \* Silicone Tube (1m)

### 169302-11(22)

Chemker 300 - VF 12, Vacuum Filtration System, complete set includes :  
 \* Chemker 300, Vacuum Pump  
 \* VF 12, Filtration Set  
 \* Silicone Tube (1m)

### 197331-11(22)

Lafil 300C - VF 12, Vacuum Filtration System, complete set includes :  
 \* Lafil 300C, Vacuum Pump  
 \* VF 12, Filtration Set  
 \* Silicone Tube (1m)



## Specification

Model	Rocker 300C - VF12		Chemker 300 - VF12		Lafil 300C - VF12	
	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. flow rate	23 l/min	20 l/min	20 l/min	18 l/min	23 l/min	20 l/min
Max. vacuum	Ultimate 173 mbar (25 inHg)		Ultimate 106 mbar (26 inHg)		Ultimate 173 mbar (25 inHg)	
Capacity (Funnel / Waste bottle)	300 ml / 1000 ml		300 ml / 1000 ml		300 ml / 1000 ml	
Filter diameter	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>	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)		5/16 inch (8 mm)	
Part	Material		Material		Material	
Funnel	Borosilicate glass		Borosilicate glass		Borosilicate glass	
Membrane support	Sintered glass		Sintered glass		Sintered glass	
Clamp	Aluminum		Aluminum		Aluminum	
Filtration adaptor	PP		PP		PP	
Stopper	Silicone (No.8)		Silicone (No.8)		Silicone (No.8)	
Storage bottle	Borosilicate glass		Borosilicate glass		Borosilicate glass	

# Vacuum Filtration System



## Features

### Compact and safe operation

Lafil 300 series is a unique filtration system by combining vacuum source with filtration ware. Its compact design can save much bench space than the traditional ones. With a fence-like platform design, it can prevent user's negligence from tipping over the waste bottle.

### The patented spin-lock design

The filter holder can be connected with waste bottle by patented spin-lock connection giving a fast and stable installation without clamp.

### Overflow protection

Waste bottle comes with a built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.

### Autoclavable and shatterproof

Waste bottle and filter holder are made of engineering plastics and SS316 stainless steel which are shatterproof, high temperature resistance and autoclavable.

### International certification

CE certification

### Two-Year Warranty

## Applications

- ▶ Vacuum filtration
- ▶ Suspended solid test
- ▶ Microbiological test

## Ordering Information

### 197301-11(22)

Lafil 300 - LF 30, Vacuum Filtration System, AC110V, 60Hz (AC220V, 50Hz)

### 197302-11(22)

Lafil 300 - LF 32, Vacuum Filtration System, AC110V, 60Hz (AC220V, 50Hz)

### 197300-11(22)

Lafil 300, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Lafil 300 - LF 30



Lafil 300 - LF 32

## Specification

Model	Lafil 300 - LF 30		Lafil 300 - LF 32	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	65	60	65	60
Max. current (A)	0.7	0.3	0.7	0.3
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 106 mbar (27 inHg)	
Max. flow rate	23 l/min	20 l/min	23 l/min	20 l/min
Motor rotation speed	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Dimension (LxWxH)	33.5 x 23 x 45 cm		33.5 x 23 x 40 cm	
Part	Material		Material	
Funnel	PE5 ( 300 ml, 47 mm / 50 mm )		SS316 ( 100 ml, 47 mm / 50 mm )	
Waste bottle	PC ( 1200 ml )		PC ( 1200 ml )	
Membrane support	PP ( for $\Phi$ 47 mm / $\Phi$ 50 mm membrane )		SS316 ( for $\Phi$ 47 mm / $\Phi$ 50 mm membrane )	
Funnel lid	PP ( Containing PTFE syringe filter, ) 25 mm, 0.2 $\mu$ m		—	
Overflow protection	PP		PP	

# Vacuum Filtration System



## Features

### ❖ Compact and safe operation

Lafil 400 series is a unique filtration system by combining vacuum source with filtration ware. Its compact design can save much bench space than the traditional ones. With a fence-like platform design, it can prevent user's negligence from tipping over the waste bottle.

### ❖ The patented spin-lock design

The filter holder can be connected with waste bottle by patented spin-lock connection giving a fast and stable installation without clamp.

### ❖ Overflow protection

Waste bottle comes with a built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.

### ❖ Autoclavable and shatterproof

Waste bottle and filter holder are made of engineering plastics and SS316 stainless steel which are shatterproof, high temperature resistance and autoclavable.

### ❖ International certification

CE certification

### ❖ Two-Year Warranty

## Applications

- ❖ Vacuum filtration
- ❖ Suspended solid test
- ❖ Microbiological test

## Ordering Information

### 197401-11(22)

Lafil 400 - LF 30, Vacuum Filtration System, AC110V, 60Hz (AC220V, 50Hz)

### 197402-11(22)

Lafil 400 - LF 32, Vacuum Filtration System, AC110V, 60Hz (AC220V, 50Hz)

### 197400-11(22)

Lafil 400, Vacuum Pump  
AC110V, 60Hz (AC220V, 50Hz)



Lafil 400 - LF 30



Lafil 400 - LF 32

## Specification

Model	Lafil 400 - LF 30		Lafil 400 - LF 32	
	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	100	80	100	80
Max. current (A)	1.0	0.4	1.0	0.4
Max. vacuum	Ultimate 33 mbar (29 inHg)		Ultimate 33 mbar (29 inHg)	
Max. flow rate	23 l/min	20 l/min	23 l/min	20 l/min
Motor rotation speed	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Dimension (LxWxH)	33.5 x 23 x 45 cm		33.5 x 23 x 40 cm	
Part	Material		Material	
Funnel	PES ( 300 ml, 47 mm / 50 mm )		SS316 ( 100 ml, 47 mm / 50 mm )	
Waste bottle	PC ( 1200 ml )		PC ( 1200 ml )	
Membrane support	PP ( for Ø47 mm / Ø50 mm membrane )		SS316 ( for Ø47 mm / Ø50 mm membrane )	
Funnel lid	PP ( Containing PTFE syringe filter, ) 25 mm, 0.2 µm		—	
Overflow protection	PP		PP	

# Aluminum Multi-Branch Manifold



## Features

- **Light and handy aluminum design**  
All parts of MultiVac 310/610 manifold are made of aluminum which is light, cost-effective and autoclavable.
- **Quick-Fit hose barb**  
Detachable hose barb can be connected to either side of the manifold quickly towards the vacuum source.
- **Individual control valve**  
Each branch permits individual control.
- **Compatible with different sizes of filter holders**  
MultiVac 310/610-MS manifold includes No.8 silicone stoppers which can accept various types of filter holders at option.
- **Two-Year Warranty**

## Applications

- Microbiological test
- Filtration for suspended solid test
- General laboratory filtration

## Ordering Information

### 180310-01

MultiVac 310-MS, 3 Places Aluminum Manifold with No. 8 stopper x 3

### 180610-01

MultiVac 610-MS, 6 Places Aluminum Manifold with No. 8 stopper x 6

### 200300-01

MF 3, 300ml Magnetic Filter Holder with lid kit

### 167110-16

No.8 Silicone Stopper



## Specification

Model	MultiVac 310-MS	MultiVac 610-MS
Number of branch	3	6
Filter diameter	Optional	Optional
Funnel capacity	Optional	Optional
Effective filtration area	Optional	Optional
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)
Dimension (LxWxH)	48 x 13 x 16 cm	85x 13 x 16 cm
Part	Material	Material
Body	Aluminum	Aluminum
Control valve	Aluminum	Aluminum
Handle	Aluminum	Aluminum
Hose barb	Aluminum	Aluminum

# Stainless Steel Multi-Branch Manifold



## Features

### Quick-assembly and disassembly

Each component can be easily removed for cleaning and autoclaving. All wetted parts of MultiVac 300/600 manifold are made of SS316 stainless steel, which has a better chemical resistance.

### Convertible funnel adaptor

Convertible funnel adaptor design allows user to fit the desired funnel (reusable or disposable) easily.

### Innovative vent valve design

An adjustable vent valve integrated with the pipe can eliminate water hammer phenomenon and help drain out residual waste water.

### Quick-Fit hose barb

Detachable hose barb can be connected to either side of the manifold quickly towards the vacuum source.

### Individual control valve

Each branch permits individual control.

### Compatible with different sizes of filter holders

MultiVac 300/600-MS manifold includes No.8 silicone stoppers which can accept various types of filter holders at option.

### Two-Year Warranty

## Applications

- Microbiological test
- Chemical experiment
- General laboratory filtration

## Ordering Information

### 180300-01

MultiVac 300-MS, 3 Places SS Manifold with No. 8 stopper funnel adaptor

### 180600-01

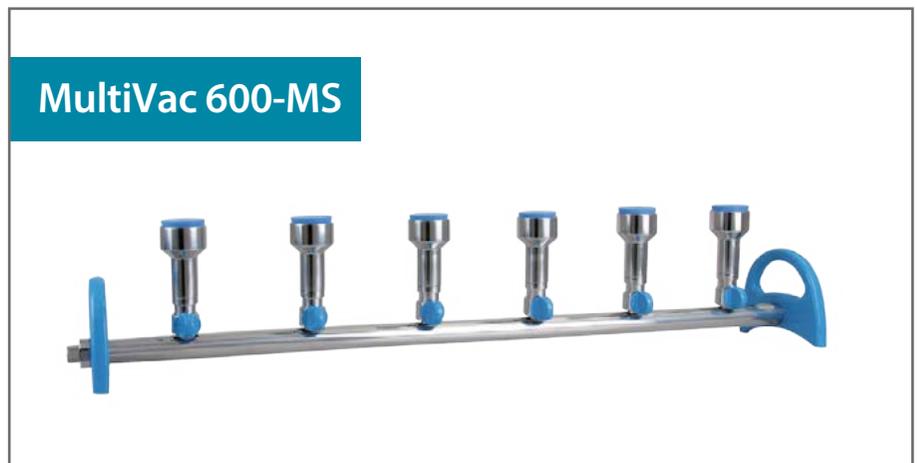
MultiVac 600-MS, 6 Places SS Manifold with No. 8 stopper funnel adaptor

### 200300-01

MF 3, 300ml Magnetic Filter Holder with lid kit

### 167110-16

No.8 Silicone Stopper



## Specification

Model	MultiVac 300-MS	MultiVac 600-MS
Number of branch	3	6
Filter diameter	Optional	Optional
Funnel capacity	Optional	Optional
Effective filtration area	Optional	Optional
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)
Dimension (LxWxH)	48 x 13 x 16 cm	85 x 13 x 16 cm
Part	Material	Material
Body	SS316	SS316
Control valve / Knob	SS316 / Aluminum	SS316 / Aluminum
Funnel support base	SS316	SS316
Handle	Aluminum	Aluminum
Hose barb / vent valve	SS316	SS316

# Stainless Steel Spin-Lock Design Multi-Branch Manifold



## Features

- ❖ **Quick-assembly and disassembly**  
Each component can be easily removed for cleaning and autoclaving. All wetted parts of MultiVac 300/600 manifold are made of SS316 stainless steel, which has a better chemical resistance.
- ❖ **Convertible funnel adaptor**  
Convertible funnel adaptor design allows user to fit the desired funnel (reusable or disposable) easily.
- ❖ **Innovative vent valve design**  
An adjustable vent valve integrated with the pipe can eliminate water hammer phenomenon and help drain out residual waste water.
- ❖ **Quick-Fit hose barb**  
Detachable hose barb can be connected to either side of the manifold quickly towards the vacuum source.
- ❖ **Individual control valve**  
Each branch permits individual control.
- ❖ **Compatible with different sizes of funnels**  
MultiVac 300-MB / 600-MB manifolds can accept Rocker standard SS 100, 300, 500ml funnel at option.
- ❖ **Two-Year Warranty**

## Applications

- ❖ Microbiological test
- ❖ Chemical experiment
- ❖ General laboratory filtration

## Ordering Information

### 180300-02

MultiVac 300-MB, 3 Places SS Manifold with Rocker SS funnel adaptor

### 180600-02

MultiVac 600-MB, 6 Places SS Manifold with Rocker SS funnel adaptor

**167103-61** 100ml SS Funnel

**167103-63** 300ml SS Funnel

**167103-65** 500ml SS Funnel



## Specification

Model	MultiVac 300-MB	MultiVac 600-MB
Number of branch	3	6
Filter diameter	47 mm / 50 mm	47 mm / 50 mm
Funnel capacity	100 ml / 300 ml / 500 ml	100 ml / 300 ml / 500 ml
Effective filtration area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)
Dimension (LxWxH)	48 x 13 x 11 cm	85 x 13 x 11 cm
Part	Material	Material
Body	SS316	SS316
Control valve/Knob	SS316 / Aluminum	SS316 / Aluminum
Funnel support base	SS316	SS316
Membrane support	SS316	SS316
Handle	Aluminum	Aluminum
Hose barb / Vent valve	SS316	SS316

# Stainless Steel Spin-Lock Design Multi-Branch Manifold



## Features

### Quick-assembly and disassembly

Each component can be easily removed for cleaning and autoclaving. All wetted parts of MultiVac 300/600 manifold are made of SS316 stainless steel, which has a better chemical resistance.

### Quick-Fit hose barb

Detachable hose barb can be connected to either side of the manifold quickly towards the vacuum source.

### Innovative vent valve design

An adjustable vent valve integrated with the pipe can eliminate water hammer phenomenon and help drain out residual waste water.

### Individual control valve

Each branch permits individual control.

### Compatible with Rocker standard 100ml funnels

### Two-Year Warranty

## Applications

- Microbiological test
- Chemical experiment
- General laboratory filtration

## Ordering Information

### 180301-02

MultiVac 301-MB, 3 Places SS Manifold with Rocker SS funnel adaptor, 3 of 100ml SS funnel

### 180601-02

MultiVac 601-MB, 6 Places SS Manifold with Rocker SS funnel adaptor, 6 of 100ml SS funnel



## Specification

Model	MultiVac 301-MB	MultiVac 601-MB
Number of branch	3	6
Filter diameter	47mm / 50mm	47mm / 50mm
Funnel capacity	100ml	100ml
Effective filtration area	9.6 cm <sup>2</sup>	9.6 cm <sup>2</sup>
Hose barb	5/16 inch (8 mm)	5/16 inch (8 mm)
Dimension (LxWxH)	48 x 13 x 11 cm	85 x 13 x 11 cm
Part	Material	Material
Body	SS316	SS316
Control valve / Knob	SS316 / Aluminum	SS316 / Aluminum
Funnel support base	SS316	SS316
Membrane support	SS316	SS316
Handle	Aluminum	Aluminum
Hose barb / Vent valve	SS316	SS316

# Vacuum Filtration System



## Features

- **Special design for large number samples**  
MultiVac 310/610-MS-T are economical models for large sample filtration. Each system includes vacuum pump, manifold, waste bottle and filter holders.
- **Light and handy aluminum design**  
The manifold is made of aluminum which is autoclavable, light and cost-effective.
- **Magnetic filter holder is included**  
Magnetic filter holder allows for one-handed operation, and can prevent the membrane from being twisted or torn.
- **4 liter PP waste bottle with drain**  
The large capacity of 4000ml waste bottle with drain offers convenience of collecting and draining waste solution.
- **Individual control valve**  
Each branch permits individual control.
- **Two-Year Warranty**

### MultiVac 310-MS-T



### MultiVac 610-MS-T



## Applications

- Filtration for suspended solid test
- Microbiological test
- General laboratory filtration

## Ordering Information

**180311-11(22)-T**

**180611-11(22)-T**

MultiVac 310/610-MS-T, Vacuum Filtration System, complete set includes :

- \* Rocker 400, Oil Free Vacuum Pump
- \* MultiVac 310/610-MS, 3/6 Places Aluminum Manifold
- \* MF 3, 300ml Magnetic Filter Holder with lid kit (3/6 pcs)
- \* 4000 ml PP Waste Bottle with drain
- \* Silicone Tube (1m x 2pcs)

## Specification

Model	MultiVac 310-MS-T		MultiVac 610-MS-T	
	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. flow rate	37 l/min	34 l/min	37 l/min	34 l/min
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 106 mbar (27 inHg)	
Waste bottle	4000 ml, made of PP with drain		4000 ml, made of PP with drain	
Number of branch	3		6	
Filter diameter	47mm		47mm	
Funnel capacity	300ml		300ml	
Effective filtration area	13.1 cm <sup>2</sup>		13.1 cm <sup>2</sup>	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Manifold Part	Material		Material	
Body	Aluminum		Aluminum	
Control valve/Knob	Aluminum		Aluminum	
Handle	Aluminum		Aluminum	
Hose barb	Aluminum		Aluminum	

# Vacuum Filtration System



## Features

### Special design for microbiological filtration

MultiVac 300/600-MB-T are designed for a large number of samples filtration in microbiological test. Each system includes vacuum pump, manifold, burner, waste bottle and filter.

### Innovative vent valve design

An adjustable vent valve integrated with the pipe can eliminate water hammer phenomenon and help drain out residual waste water.

### Quick-Fit hose barb

Detachable hose barb can be connected to either side of the manifold quickly towards the vacuum source.

### 4 liter PP waste bottle with drain

The large capacity of 4000ml waste bottle with drain offers convenience of collecting and draining waste solution.

### Individual control valve

Each branch permits individual control.

### Two-Year Warranty

## Applications

- Microbiological test
- Chemical experiment
- General laboratory filtration

## Ordering Information

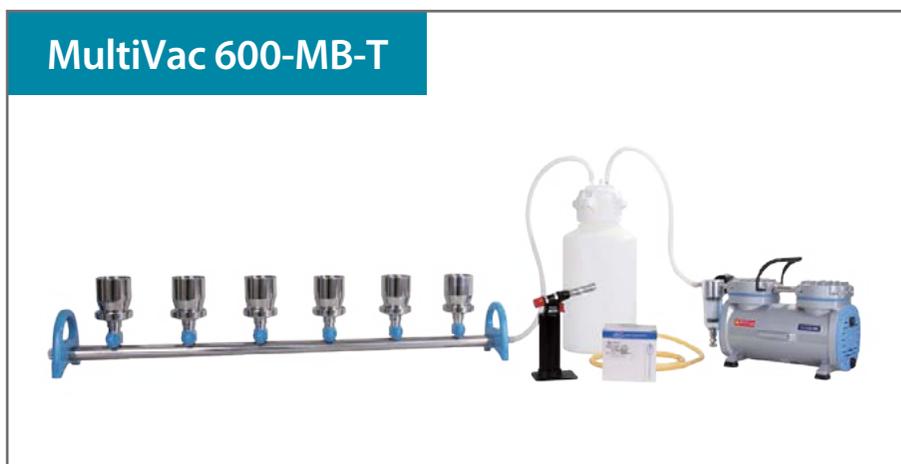
### 180300-11-T (22-T)

### 180600-11-T (22-T)

MultiVac 300/600-MB-T, Vacuum

Filtration System, complete set includes :

- \* Rocker 400, Oil Free Vacuum Pump
- \* MultiVac 300/600-MB, 3/6 Places Stainless Steel Manifold
- \* 3/6 x SS Funnel 100ml
- \* 4000 ml PP Waste Bottle with drain
- \* Dragon 100, Torch Burner
- \* MCE Membrane, 47 mm, 0.45 µm, 200/PK
- \* Silicone Tube (1m x 2pcs)



## Specification

Model	MultiVac 300-MB-T		MultiVac 600-MB-T	
Voltage	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. flow rate	37 l/min	34 l/min	37 l/min	34 l/min
Max. vacuum	Ultimate 106 mbar (27 inHg)		Ultimate 106 mbar (27 inHg)	
Waste bottle	4000 ml, made of PP with drain		4000 ml, made of PP with drain	
Number of branch	3		6	
Filter diameter	47mm / 50mm		47mm / 50mm	
Funnel capacity	100ml		100ml	
Effective filtration area	9.6 cm <sup>2</sup>		9.6 cm <sup>2</sup>	
Hose barb	5/16 inch (8 mm)		5/16 inch (8 mm)	
Manifold Part	Material		Material	
Body	SS316		SS316	
Control valve / Knob	SS316 / Aluminum		SS316 / Aluminum	
Filter funnel/base	SS316		SS316	
Handle	Aluminum		Aluminum	
Hose barb / Vent valve	SS316		SS316	

# How to order?

You can select Combination A, B or C to

**A**

Step 1. Choose the manifold



MultiVac 300-MB  
3 Places Stainless Steel Manifold  
(180300-02)



MultiVac 600-MB  
6 Places Stainless Steel Manifold  
(180600-02)

**B**

Step 1. Choose the manifold



MultiVac 300-MS  
3 Places Stainless Steel Manifold  
(180300-01)



MultiVac 600-MS  
6 Places Stainless Steel Manifold  
(180600-01)



Step 2. Choose the SS funnel



Rocker, 100ml  
Stainless Steel Funnel  
(167103-61)



Rocker, 300ml  
Stainless Steel Funnel  
(167103-63)



Rocker, 500ml  
Stainless Steel Funnel  
(167103-65)



Stainless Steel Cover  
for 100ml funnel  
(167103-11)



Stainless Steel Cover  
for 300ml funnel  
(167103-13)



Stainless Steel Cover  
for 500ml funnel  
(167103-15)



Step 2. Choose the filter holder



Rocker, 300ml  
MF 3, Magnetic Filter Holder  
(200300-01)



Rocker, 500ml  
MF 5, Magnetic Filter Holder  
(200500-01)



Rocker, 300ml  
VF6, Glass Filter Holder  
(167120-31)

# complete your order

**C**

Step 1. Choose the manifold



MultiVac 300  
3 Places Stainless Steel Manifold Base  
(180300-00)



MultiVac 600  
6 Places Stainless Steel Manifold Base  
(180600-00)



Step 2. Choose the disposable funnel and adaptor



Sartorius, 100ml  
disposable plastic funnel  
(16A07)



Millipore, 100ml / 250ml  
Microfil, disposable plastic funnel  
(MIACFD101 / MIACFD201)



Pall, 100ml / 250ml  
disposable plastic funnel  
(4870 / 4871)

+



SS316 Adaptor for Sartorius  
disposable plastic funnel  
(190100-74)

+



SS316 Adaptor for Millipore  
disposable plastic funnel  
(190100-73)

+

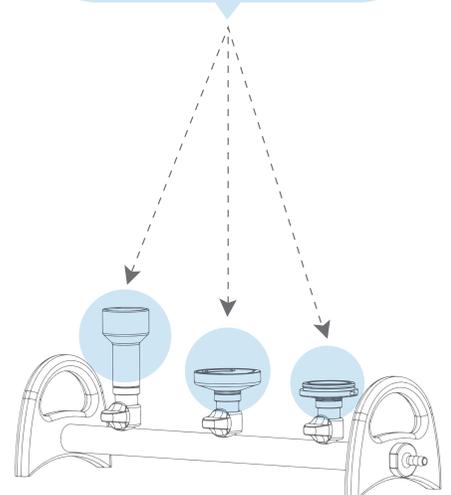


SS316 Adaptor for Pall  
disposable plastic funnel  
(190100-75)

\* SS316 adaptor is only available for above-mentioned disposable funnels.

## Customized Design

We can offer customized adaptor for your funnel



# WaterVac100 Vacuum Filtration System



## Features

### Save 70% bench space

The compact design of WaterVac 100 vacuum filtration system can save much workbench space by simplifying procedure and tools needed in membrane filtration method.

### Improve operation time

Direct drainage design saves a lot of time to empty waste liquid and make the filtration more efficient

### Versatile

Replaceable funnel adaptor design makes WaterVac 100 compatible with various kinds of filter holder.

### Easy Operation

Simply put membrane on filter holder and push on/off button to start filtration easily.

### One-Year Warranty



WaterVac 100-MS



Improve operation time



Compatible with various kinds of funnel adaptor and filter holder

## Applications

- Microbiological Filtration
- Suspended solid test
- General filtration without the need of collecting filtrate.

## Ordering Information

### 190100-01(02)

WaterVac 100, Vacuum Filtration System with 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)

## Specification

Model	WaterVac 100 - MS
Voltage / Freq.	DC 12V, 1.5A
Max. flow rate	2.2 l/min (air) / 0.5 l/min (liquid)
Max. vacuum	Ultimate 293 mbar (21 inHg)
Weight	1.16 kg
Effective filtration area	Optional
Dimension (LxWxH)	170 x 120 x 96 mm
Suppose base	Silicone stopper
Part	Material
Housing	SS304
Valve	EPDM (Ethylene Propylene Diene Monomer)
Diaphragm	EPDM (Ethylene Propylene Diene Monomer)
Hose barb	SS316
O-ring	FKM
Tube	Silicone , Ø4x8mm, 2m

# WaterVac100 Vacuum Filtration System



## Features

### ❖ Save 70% bench space

The compact design of WaterVac 100 vacuum filtration system can save much workbench space by simplifying procedure and tools needed in membrane filtration method.

### ❖ Improve operation time

Direct drainage design saves a lot of time to empty waste liquid and make the filtration more efficient

### ❖ Compatible with Rocker SS funnel

WaterVac 100-MB can accept Rocker standard SS100, 300, 500ml funnel at option.

### ❖ SS316 funnel

SS funnel is made of SS316 stainless steel which offers excellent chemical resistance.

### ❖ One-Year Warranty

## Applications

- ❖ Microbiological filtration
- ❖ Suspended solid test
- ❖ General filtration without the need of collecting filtrate.

## Ordering Information

### 190100-01(02)

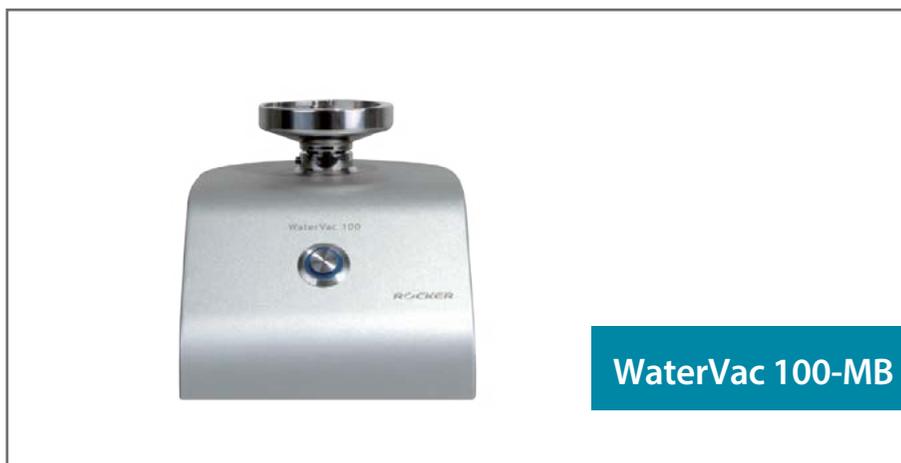
WaterVac 100, Vacuum Filtration System with AC100-240V adaptor, US plug(EU plug)

### 190120-01(02)

WaterVac 100-MB, Vacuum Filtration System with Rocker SS funnel adaptor, AC100-240V adaptor, US plug(EU plug)

### 190121-01(02)

WaterVac 101-MB, Vacuum Filtration System with Rocker SS funnel adaptor, 100ml SS funnel, AC100-240V adaptor, US plug (EU plug)



WaterVac 100-MB



WaterVac 101-MB

## Specification

Model	WaterVac 100 - MB	WaterVac 101 - MB
Voltage / Freq.	DC 12V, 1.5A	
Max. flow rate	2.2 l/min (air) / 0.5 l/min (liquid)	
Max. vacuum	Ultimate 293 mbar (21 inHg)	
Weight	1.16 kg	
Effective filtration area	Optional	9.6 cm <sup>2</sup>
Dimension (LxWxH)	170 x 120 x 96 mm	
Suppose base	Spin-Lock design	Spin-Lock design with 100ml S.S. cup
Part	Material	
Housing	SS304	
Valve	EPDM (Ethylene Propylene Diene Monomer)	
Diaphragm	EPDM (Ethylene Propylene Diene Monomer)	
Hose barb	SS316	
O-ring	FKM	
Tube	Silicone , Ø4x8mm, 2m	

# How to order?

## You can select Combination A, B or C to

**A**



WaterVac 100-MB  
Vacuum Filtration System  
(190120-01/02) (U.S. plug / EU plug)

**B**



WaterVac 100-MS  
Vacuum Filtration System  
(190110-01/02) (U.S. plug / EU plug)



Rocker, 100ml  
Stainless Steel Funnel  
(167103-61)



Rocker, 300ml  
Stainless Steel Funnel  
(167103-63)



Rocker, 500ml  
Stainless Steel Funnel  
(167103-65)



Stainless Steel Cover  
for 100ml funnel  
(167103-11)



Stainless Steel Cover  
for 300ml funnel  
(167103-13)



Stainless Steel Cover  
for 500ml funnel  
(167103-15)



Rocker, 300ml  
MF 3, Magnetic Filter Holder  
(200300-01)



Rocker, 500ml  
MF 5, Magnetic Filter Holder  
(200500-01)

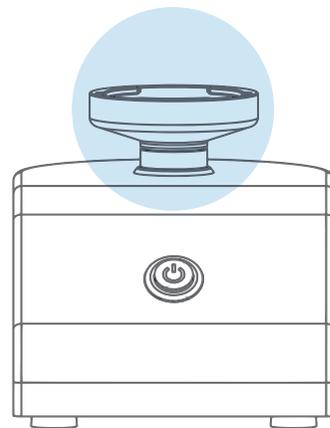
# complete your order



WaterVac 100  
Vacuum Filtration System  
(190100-01/02) (U.S. plug / EU plug)

## Customized Design

We can offer customized adaptor for your funnel



Sartorius, 100ml  
disposable plastic funnel  
(16A07)



SS316 Adaptor for Sartorius  
disposable plastic funnel  
(190100-74)



Millipore, 100ml / 250ml  
Microfil, disposable plastic funnel  
(MIACFD101 / MIACFD201)



SS316 Adaptor for Millipore  
disposable plastic funnel  
(190100-73)



Pall, 100ml / 250ml  
disposable plastic funnel  
(4870 / 4871)



SS316 Adaptor for Pall  
disposable plastic funnel  
(190100-75)



Silicone Tube  
Ø4.2-8 mm, 200cm  
(199100-68)



SS316 Hose barb  
for silicone tube (Ø4-8mm)  
(190100-76)

\* SS316 adaptor is only available for above-mentioned disposable funnels.

# Waste Bottle Accessories



## PES Waste Bottle

Specification 1200 ml waste bottle

Catalog number	197000-11
Hose barb	5/16 in. (8 mm)
Graduated increment	100 ml
Overflow protection	Yes
Cap with suction fitting	Yes
Autoclavable	Yes



## PC Waste Bottle

Specification 1200 ml waste bottle

Catalog number	197000-11-PC
Hose barb	5/16 in. (8 mm)
Graduated increment	100 ml
Overflow protection	Yes
Cap with suction fitting	Yes
Autoclavable	Yes



## Storage Bottle with GL45 Suction Cap

Specification	500ml storage bottle with GL45 suction cap	1000ml storage bottle with GL45 suction cap	Suction cap for GL45 bottle
Catalog number	197000-60-500	197000-60-1000	197000-60
Hose barb	3/16 in. (5 mm)	3/16 in. (5 mm)	3/16 in. (5 mm)
Material	-	-	PP (Autoclavable)



## Receiver Flask (with Drain & Silicone Fixing Sucker)

Specification 1000ml receiver flask

Catalog number	167100-15
Hose barb	5/16 in. (8 mm)
Graduated increment	100 ml
Drain	Yes
Stopper	No.8 (option)
Silicone fixing sucker	Yes



## PP Waste Bottle

Specification	4000ml waste bottle	4000ml waste bottle with drain
Catalog number	167200-47	167200-48
Hose barb	1/4 in. (6 mm)	1/4 in. (6 mm)
Graduated increment	500 ml	500 ml
Overflow protection	Yes	Yes
Drain	-	Yes
Autoclavable	Yes	Yes

\* PES : Polyethersulfone, PC : Polycarbonate, PP : Polypropylene

# Waste Bottle Accessories



## HDPE Waste Bottle

Specification	2000ml waste bottle	4000ml waste bottle
Catalog number	167200-51	167200-46
Hose barb	1/4 in. (6 mm)	1/4 in. (6 mm)
Graduated increment	500 ml	500 ml
Overflow protection	-	Yes
Material of cover	PP	PP



## PP Funnel Lid

Specification	For LF3 /3a	For LF 5/5a, MF 3/3a/5/5a
Catalog number	197000-36	200300-36
Syringe filter	Ø25 mm, 0.2 µm	Ø25 mm, 0.2 µm
Material of body	PP	PP
Material of cap	Silicone	Silicone
Material of Syringe filter	PTFE	PTFE



## Syringe Filters

Specification	Syringe filter	Small disc filter	Large disc filter
Catalog number	194225-01	167200-35	167200-36
Brand	Pall	Pall	Pall
Filter diameter/ pore size	25 mm / 0.2 µm	35 mm / 0.2 µm	50 mm / 0.2 µm
Shell diameter	30 mm	45 mm	72 mm
Material of filter	PTFE	PTFE	PTFE
Material of shell	PP	PP	PP



## Membrane Filters

Specification	Glass fiber filter	MCE membrane
Catalog number	167100-20	167100-52
Brand	Pall	Pall
Filter diameter	47 mm	47 mm
Pore size	1 µm	0.45 µm
Material of filter	Glass fiber	MCE
Package	100/PK	200/PK



## Silicone Fixing Sucker (167200-45)

Specification	Material
Suitable for 1000ml flask size	Silicone

\* PES : Polyethersulfone, PC : Polycarbonate, PP : Polypropylene

# LIFE SCIENCES

BioSuction  
BioDolphin  
Lafil 100  
Lafil 300 / 400 Plus  
Lafil 300 / 400 - BioDolphin  
BioVac 225 Plus / 240 Plus  
Accessory  
ELISA Washer  
BioWasher 200  
Micro Plate Vacuum Manifold  
WelVac 200/210  
Lab Burner  
Dragon 100/200/220  
Dragon 300/320  
Dry Bath  
Sahara 310/320  
Colony Counter  
Galaxy 330

# BioDolphin Suction Kit



## Features

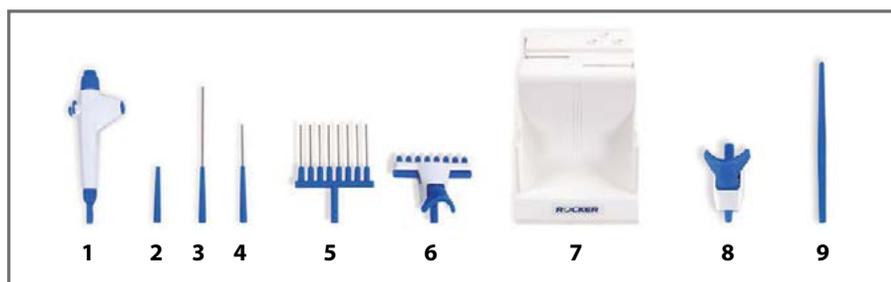
- ❖ **User-friendly lock switch design**  
BioDolphin's ergonomic handle and friendly designed lock switch can keep continuous suction without pressing button all the time.
- ❖ **Single-handed tip ejection**  
The innovative tip ejection design enables tip ejection by single hand easily.
- ❖ **Quick fitting change**  
Quick connection coupling between fitting and handle can make any fittings replaced quickly.
- ❖ **Multi-functional storage rack**  
Exclusive designed rack can accommodate all the fittings in order. A built-in liquid collection tray can receive liquid residue dripping from the fittings.
- ❖ **Autoclavable**  
The complete kit except rack are made of POM and stainless steel material available for autoclave.
- ❖ **Two-Year Warranty**

## Applications

- ❖ Cell culture aspiration
- ❖ Laboratory waste suction

## Ordering Information

**199100-00** BioDolphin-LB Suction Kit



### Standard accessory :

- 1. 199100-30** Handle
- 2. 199100-46** 1-channel tip adaptor (50mm)
- 3. 199100-48** 1-channel SS adaptor (80mm)
- 4. 199100-47** 1-channel SS adaptor (40mm)
- 5. 199100-49** 8-channel SS adaptor (40mm)
- 6. 199100-50** 8-channel tip adaptor with ejector
- 7. 199100-61-1** Rack
- 8. 199100-75** 1-channel tip adaptor with ejector
- 9. 199100-76** 1-channel tip adaptor (150mm)

### Specification

Model	BioDolphin
Operation	Press to suck
Hose barb	3/16 inch (5 mm)
Dimension (LxWxH)	15.0 x 15.2 x 14.5 cm
Part	Material
Handle	POM
1-channel tip adaptor (50, 150mm)	POM
1-channel/8-channel tip adaptor with ejector	POM
1-channel/8-channel SS adaptor	POM and SS 304
Rack	ABS

# Portable Suction System



## Features

### ➤ A dual-function system for suction and filtration

The innovative dual-function design allows to suck washing solution from cell culture dishes, microplates and to purify media from cell culture by disposable or reusable funnels in just one system.

### ➤ Ideal for operation in laminar flow

Lafil 100's compact size and built-in vacuum pump allow for work in laminar flow. Anti-UV cloth cover is optional.

### ➤ Autoclavable

All supplied fittings are made of POM material available for autoclave.

### ➤ International certification

CE certification

### ➤ One-Year Warranty

## Applications

- Cell culture aspiration
- Laboratory waste suction

## Ordering Information

### 197100-01(02)

Lafil 100, Portable Suction System with AC100-240V adaptor, US plug (EU plug) complete set includes,

- \* Lafil 100 suction pump
- \* 1-channel tip adaptor with ejector
- \* 8-channel tip adaptor with ejector
- \* Handle
- \* 500ml Storage Bottle with suction cap
- \* PTFE Syringe filters
- \* Silicone tube

### 197100-03

Lafil 100, Portable Suction System built-in battery with AC100-240V adaptor, US plug

### 197000-02

LF 3a, 300ml PES Filter Holder with lid kit

### 197000-07

LF 5a, 500ml PES Filter Holder with lid kit



Lafil 100

Patent: M429771



Lafil 100 + LF 3a

Lafil 100 with LF 3a, 300ml PES filter holder with lid kit



Lafil 100 + LF 5a

Lafil 100 with LF 5a, 500ml PES filter holder with lid kit



# Suction System Accessories



## Storage Bottle with GL45 Suction Cap

Specification	500ml storage bottle with GL45 suction cap	1000ml storage bottle with GL45 suction cap	Suction cap for GL45 bottle
Catalog number	197000-60-500	197000-60-1000	197000-60
Hose barb	3/16 in. (5 mm)	3/16 in. (5 mm)	3/16 in. (5 mm)
Material	-	-	PP (Autoclavable)



## Anti-UV Cloth Cover

Used to protect main unit from UV light in laminar flow

### Specification

Catalog number	197100-48
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## Membrane Filters

Specification	PES Membrane	PES Membrane
Catalog number	201PAL60301	201PAL60173
Brand	Pall	Pall
Filter diameter	47mm	47mm
Pore size	0.22 µm	0.45 µm
Material of filter	PES	PES
Package	100/PK	100/PK

## Specification

Model	Lafil 100	Model	LF 3a/5a
Max. vacuum	Ultimate 347 mbar (20 inHg)	Capacity	300ml / 500ml
Max. flow rate	4.0 L/min	Part	Material
Motor	DC brushless motor	Funnel lid	PES
Power Adaptor	DC 12V / AC 100 - 240V	Lid	PP
Net weight	1.3 kg	Membrane support	PP
Dimension (LxWxH)	26.5 x 13 x 21 cm		
Part	Material		
Case	ABS		
Handle	POM		
1-channel/8-channel tip adaptor with ejector	POM		
Suction cap for GL45 bottle	PP		

# Portable Suction System



## Features

- ❖ **Oil-free vacuum pump**  
No lubricant required, maintenance free, low noise and durable.
- ❖ **Overflow protection**  
Waste bottle comes with a built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.
- ❖ **Autoclavable**  
Waste bottle and all supplied fitting parts are autoclavable.
- ❖ **Durable and space saving**  
ABS made case is durable and compact design can accommodate all filtration devices tidy to save user's space.
- ❖ **International certification**  
CE certification
- ❖ **Two-Year Warranty**

## Applications

- ❖ Cell culture aspiration
- ❖ Laboratory waste suction

## Ordering Information

### 197305-11(22)

Lafil300 Plus, Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)

### 197303-11(22)

Lafil 300 - BioDolphin ,  
Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)



## Specification

Model	Lafil 300 Plus / Lafil 300 - BioDolphin	
Voltage / Freq.	110V/60Hz	220V/50Hz
Max. vacuum	Ultimate 106 mbar (27 inHg)	Ultimate 106 mbar (27 inHg)
Max. flow rate	23 l/min	20 l/min
Hose barb	5/16 inch (8mm)	5/16 inch (8mm)
Thermal protector	Yes	Yes
Pump type	Piston	Piston
Dimension (LxWxH)	33.5 x 23 x 29.5 cm	
Part	Lafil 300 Plus Material	Lafil 300 Plus Material
Suction bottle	PES	PES
Handle	POM	POM
1-channel/8-channel tip adaptor with ejector	POM	POM
1-channel tip adaptor (150mm)	POM	POM

# Portable Suction System



## Features

- ❖ **Oil-free vacuum pump**  
No lubricant required, maintenance free, low noise and durable.
- ❖ **Overflow protection**  
Waste bottle comes with a built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.
- ❖ **Autoclavable**  
Waste bottle and all supplied fitting parts are autoclavable.
- ❖ **Durable and space saving**  
ABS made case is durable and compact design can accommodate all filtration devices tidy to save user's space.
- ❖ **International certification**  
CE certification
- ❖ **Two-Year Warranty**

## Applications

- ❖ Cell culture aspiration
- ❖ Laboratory waste suction

## Ordering Information

### 197405-11(22)

Lafil 400 Plus, Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)

### 197403-11(22)

Lafil 400 - BioDolphin ,  
Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)



## Specification

Model	Lafil 400 Plus / Lafil 400 - BioDolphin	
Voltage	110V/60Hz	220V/50Hz
Max. vacuum	Ultimate 33 mbar (29 inHg)	Ultimate 33 mbar (29 inHg)
Max. flow rate	23 l/min	20 l/min
Hose barb	5/16 inch (8mm)	5/16 inch (8mm)
Thermal protector	Yes	Yes
Pump type	Piston	Piston
Dimension (LxWxH)	33.5 x 23 x 29.5 cm	
Part	Lafil 400 Plus Material	Lafil 400 Plus Material
Suction bottle	PES	PES
Handle	POM	POM
1-channel/8-channel tip adaptor with ejector	POM	POM
1-channel tip adaptor (150mm)	POM	POM

# Portable Suction System

## Features

❖ **Oil-free vacuum pump**

No lubricant required, maintenance free, low noise and durable.

❖ **Overflow protection**

Waste bottle comes with a built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.

❖ **Autoclavable**

Waste bottle and all supplied fitting parts are autoclavable.

❖ **International certification**

CE certification

❖ **One-Year Warranty**

## Applications

❖ Cell culture aspiration

❖ Laboratory waste suction

## Ordering Information

**167227-11(22)**

BioVac 225 Plus, Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)

**167225-11(22)**

BioVac 225, Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)

**167241-11(22)**

BioVac 240 Plus, Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)

**167240-11(22)**

BioVac 240, Portable Suction System  
AC110V, 60Hz (AC220V, 50Hz)



## Specification

Model	BioVac 225 Plus		BioVac 240 Plus	
Voltage / Freq.	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. vacuum	Ultimate 146 mbar (26 inHg)		Ultimate 53 mbar (28 inHg)	
Max. flow rate	25 l/min	23 l/min	40 l/min	38 l/min
Hose barb	3/16 inch (5 mm)	3/16 inch (5 mm)	3/16 inch (5 mm)	3/16 inch (5 mm)
Thermal protector	Yes	Yes	Yes	Yes
Pump type	Diaphragm	Diaphragm	Piston	Piston
Dimension (LxWxH)	37x15x25 cm		53x24x35 cm	
Part	Material		Material	
Suction bottle	PC (1000ml)		PC (3000ml)	
Handle	POM		POM	
1-channel / 8-channel tip adaptor with ejector	POM		POM	
1-channel tip adaptor (150 mm)	POM		POM	

# Waste Bottle



## PES Waste Bottle

Specification	1200ml waste bottle
Catalog number	197000-11
Hose barb	5/16 in. (8 mm)
Graduated increment	100 ml
Overflow protection	Yes
Cap with suction fitting	Yes
Autoclavable	Yes



## PC Waste Bottle

Specification	1000ml waste bottle
Catalog number	167200-31
Graduated increment	100 ml
Overflow protection	Yes
Hose barb	5/16 in. (8 mm)
Autoclavable	Yes



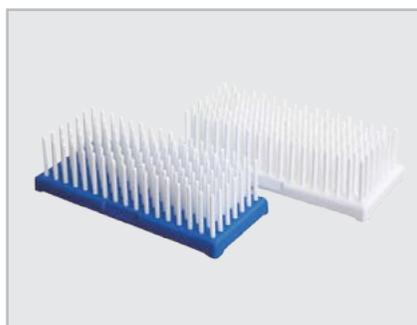
## PC Waste Bottle with Grip

Specification	3000ml waste bottle
Catalog number	167240-33
Graduated increment	200 ml
Overflow protection	Yes
Hose barb	5/16 in. (8 mm)
Autoclavable	Yes



## PP Waste Bottle

Specification	4000ml waste bottle	4000ml waste bottle with drain
Catalog number	167200-47	167200-48
Hose barb	1/4 in. (6 mm)	1/4 in. (6 mm)
Graduated increment	500 ml	500 ml
Overflow protection	Yes	Yes
Drain	-	Yes
Autoclavable	Yes	Yes



## Multi-Function Test Tube Rack

Specification	
Catalog number	197010-36 (White base) 197010-36-1 (Blue base)
Material	PP

\* PES : Polyethersulfone, PC : Polycarbonate, PP : Polypropylene

# Semi-Automatic Microplate Washer (ELISA Washer)

## Features

### ➤ Economical

BioWasher 200 is very ideal for 8-well strip and 96-well microplate washing steps in immunoassay (ELISA) procedure; economic price is especially suitable for laboratories with limited budget.

### ➤ Convenient operation

Unique ergonomic platform can accommodate 8-channel dispenser and accept flexible placement of 96-well microplate in flat or upward-sloping way that can reduce residues more efficient.

### ➤ No cross contamination

There are 2 separate rows of tiny SS tubes in different length on 8-channel dispenser. The shorter row is used to distribute washing solution and the longer row is used to suck waste liquid. The 2-row design can avoid cross contamination.

### ➤ Autoclavable

The main body of 8-channel dispenser is made of PTFE and its tubes are made of SS304. Both are autoclavable and durable.

### ➤ International certification

CE certification

### ➤ One-Year Warranty

## Applications

- ELISA washing procedure
- 96-well microplate washing and dispensing

## Ordering Information

### 196200-11(22)

BioWasher 200, Semi-Automatic Microplate Washer

AC110V, 60Hz (AC220V, 50Hz)

**196811-00** 8-channel Dispenser

**196100-06** Buffer Bottle (2L)

**196100-04** Waste Bottle (2L)

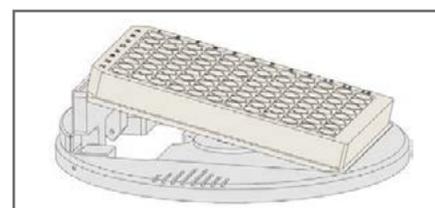
Patent: M411292



BioWasher 200



Flat 96-well microplate



Upward-sloping 96-well microplate

## Specification

Model	BioWasher 200
Max. flow	0.5 l/min, adjustable
Buffer bottle capacity	2 liter
Waste bottle capacity	2 liter
8-channel dispenser dim. (LxWxH)	13.7 x 6.7 x 3.3 cm
8-channel dispenser material	PTFE
Dispensing tube material	SS304
Machine dim. (LxWxH)	20.4 x 24.2 x 13.5 cm
Net weight	4.1 kg

# Microplate Vacuum Manifold



## Features

### ➤ Simplifying operation

WelVac 200 is designed to replace traditional centrifuges with vacuum source to simplify purification process of plasmid DNA, single-stranded DNA, RNA, genomic DNA, viral nucleic acids after ,etc.

### ➤ Time-saving

By connecting manifold to vacuum source, the system can give a rapid continuous separation without dispensing solution, running and stopping centrifuge.

### ➤ Multi-use of one machine

Uniquely designed column adapter board and luer connector make WelVac 200 highly compatible with various kinds of centrifuge tube and 96-well microplate.

### ➤ Two-Year Warranty

## Applications

- DNA Purification
- RNA Purification
- Gel Purification
- PCR Clean Up

## Ordering Information

### 195200-00

WelVac 200, Microplate Vacuum Manifold, complete set includes the following 4 fitting parts:

### 195200-42

Spin Column Adapter Board (24 hole)

### 195200-43

Luer Connector (25/pk)

### 195200-44

Luer Stopper (25/pk)

### 195200-45

Waste Tray

### 195210-11(22)

WelVac 210, Microplate Vacuum Manifold System, AC110V, 60Hz (AC220V, 50Hz), complete set includes:

\*Rocker 300, Vacuum Pump

\*WelVac 200, Microplate Vacuum Manifold

\*Disc Filter

\* Silicone Tube (30cm)

### 197000-12

1200ml Waste Bottle (optional)



## Specification

Model	WelVac 200	Model	WelVac210
Vacuum manifold material	Aluminum	Max. vacuum	Ultimate 106 mbar (27 inHg)
Gasket material	Rubber	Max. flow rate	23 l/min
O-ring material	Rubber	Noise level	50 dB
Column adapter board material	PC (polycarbonate)	Hose barb	5/16 inch(8mm)
Luer connector material	Silicone rubber	Disc filter material	PTFE
Luer stopper material	Silicone rubber	Dis filter specification	Ø35mm, 0.2um
Hose barb	5/16 inch (8 mm)		
Manifold internal dim. (LxWxH)	12.8 x 8.6 x 7.3 cm		
Manifold external dim. (LxWxH)	23.2 x 12.4 x 10.2 cm		
Net weight	2.6 kg		

# Lab Burner

## Features

- Piezo ignition
- Max. temperature: 1300°C
- Adjustable flame
- Refillable butane tank
- International certification  
CE certification
- One-Year Warranty

## Applications

- Sterilizing
- Welding
- Heating
- Cooking

## Ordering Information

### 177100-00

Dragon 100, Torch Burner

### 177200-00

Dragon 200, Lab Burner

### 177220-00

Dragon 220, Lab Burner



## Specification

Model	Dragon 100	Dragon 200	Dragon 220
Max. temperature	1300°C	1300°C	1300°C
Fuel tank capacity	40 g	35 g	35 g
Working time (min)	60 min	60 min	60 min
Safe switch	Yes	Yes	Yes
Dimension (HxWxD)	16.1 x 13.7 x 7.9 cm	9.2 x 11.5 x 7.9 cm	9.4 x 11.5 x 7.8 cm
Net weight	380 g	407 g	425 g

# Electric Sterilizer

## Features

- **No fuel combustion**  
 Dragon 300/320 is used to rapidly sterilize loop, needle and culture tube by electric heating inside the chamber. No spattering of microorganisms and cross contamination through an open flame generated from fuel combustion.
- **Adjustable temperature**  
 Equipped with a powerful heating element enabling Dragon 300/320 to reach up to 850°C fast and the temperature is adjustable.
- **Wide mouth design**  
 Dragon 320's wide mouth design suits the sterilized objects in diameter up to 37mm.
- **Humanized design and convenient operation**  
 Dragon 300/320's heavier base, friendly loop rack and adjustable angle of heating chamber up or down from 45 to 75 degree make them the best mates with laminar flow hood and anaerobic chamber.
- **One-Year Warranty**



Dragon 300



Dragon 320

## Applications

- Culture tube sterilization
- Inoculating loops and needles sterilization

## Ordering Information

**177300-11(22)**

Dragon 300, Electric Sterilizer  
 AC110V, 60Hz (AC220V, 50Hz)

**177320-11(22)**

Dragon 320, Electric Sterilizer  
 AC110V, 60Hz (AC220V, 50Hz)

## Specification

Model	Dragon 300	Dragon 320
Temp. range	R.T. + 20~850°C	R.T. + 20~850°C
Power	180 watt	180 watt
Chamber diameter	16 mm	37 mm
Dimension (HxWxD)	21 x 9 x 17 cm	21.5 x 9 x 19 cm
Net weight	1128 g	1098 g

# Dry Bath

## Features

### Microprocessor control

The built-in unique microprocessor can provide precise temperature control for a variety of biochemical experiments.

### Heating chamber in one piece

Sahara 310/320's heating chamber is made of one-piece aluminum with PTFE coating and can work as a small water bath.

### Various optional heating blocks

Various types of heating block are available for option, mass customization is acceptable.

### One-Year Warranty

## Applications

- ◆ Molecular biology experiment
- ◆ Biochemistry experiment

## Ordering Information

### 179310-11(22)

Sahara 310, Dry Bath (without block)  
AC110V, 60Hz (AC220V, 50Hz)

### 179320-11(22)

Sahara 320, Dry Bath (without block)  
AC110V, 60Hz (AC220V, 50Hz)



Sahara 310/320

## The optional blocks

**179300-01** Block module, 6.4 mm diameter, 0.2 ml, 64 well (or 0.2 ml PCR strip tube for 8 x 8 well) (depth: 17mm)

**179300-02** Block module, 8.2 mm diameter, 0.5 ml, 20 well (depth: 25mm)

**179300-03** Block module, 10.2 mm diameter, 1.5 ml (or 2.0ml), 20 well (depth: 33mm)

**179300-04** Block module, 1.5 ml (or 2.0ml), V-shape tube, 20 well (depth: 33 mm)

**179300-05** Block module, 13 mm diameter, 20 well (depth: 36mm)

**179300-06** Block module, 20 mm diameter, 12 well (depth: 45mm)

**179300-07** Block module, 25 mm diameter, 6 well (depth: 45mm)

**179300-08** Combination block module, 8.2 mm diameter, 0.5 ml x12 well (depth: 25mm); 10.2 mm diameter, 1.5 ml x 12 well (depth: 33mm)

**179300-09** Combination block module, 8.2 mm diameter, 0.5 ml x 30 well (depth: 25mm); 10.2 mm diameter 1.5ml (or 2.0 ml) x 20 well (depth: 33mm)

**179300-10** Block module, 17 mm diameter, for 15 ml centrifuge tube, 12 well (depth: 45mm)

## Specification

Model	Sahara 310	Sahara 320
Capacity	1 block	2 blocks
Temp. range	Ambient + 5 - 150°C	Ambient + 5 - 150°C
Resolution	0.1°C	0.1°C
Accuracy	±0.2°C	±0.2°C
Timer	0~9999 min	0~9999 min
Display	4 1/2" digital LED	4 1/2" digital LED
Machine dim. (mm)	270mm(L)x200mm(W)x80mm(H)	
Block dim. (mm)	104mm(L)x79mm(W)x50mm(H)	
N.W. w/o. block	2.6Kg	2.8Kg
Safety	Cut off at 170°C	Cut off at 170°C

# Colony Counter



## Features

### ❖ 4 panel displays

4 panel display offers convenience of showing the present and previous three count values.

### ❖ Multi-counting average

Galaxy 330 can make average count from multiple counting.

### ❖ Exclusive BACK button

The BACK button offers the convenience of deducting data when over counting.

### ❖ Suitable for Petri-dishes in various diameters

Galaxy 330's adjustable dish holder can accept most Petri-dishes in a wide range of diameters from 90 to 150 mm or 60 mm.

### ❖ Pressure sensor design

Pressure sensor design can allow user to operate with any marking pens. No worry about sample spoiled or contaminated.

### ❖ International certification

CE certification

### ❖ Two-Year Warranty

## Applications

### ❖ Microbiology colony counting

Total bacteria counting

Total coliform counting

## Ordering Information

### 175330-01(02)

Galaxy 330, Colony Counter with AC100-240V adaptor, US plug (EU plug)

### 175331-01(02)

Galaxy 330, Colony Counter with software, AC100-240V adaptor, US plug (EU plug)

### 175330-12

Software Package for Galaxy330 ( Include a 8G USB flash drive and connecting cable )



### Galaxy 330, PC Software (optional)

In addition to recording and tracing data, the Galaxy330 PC software can help user add, delete, search, print out and save data as Excel format (csv file).

## Specification

Model	Galaxy 330
Display	3-digit (0-999) LED display, 4 panels
Magnification	2~3 X
Petri dish diameter	60 mm or 90-150 mm (adjustable)
Memory	100
Average	Yes
Zero reset	Yes
Count back	Yes
Illumination	LED (adjustable)
Pressure sensitivity	Adjustable
Acoustical counting signal	Adjustable
Output	USB
Dimension (LxWxH)	35.1 x 30.2 x 37 cm
Net weight	5.6 kg

# WATER TEST

Suspended Solid Test

Rocker 300 - LF 30 - SS

COD Reactor / Detector

CR 25

CD 200

Portable pH/Cond./Res. Meter

EC-200/210/220/230

Accessory

# Filtration System for Suspended Solid Test



## Features

- **No air pollution, maintenance free**  
 Rocker 300 - LF 30 - SS utilizes piston pump requiring no lubricant and regular maintenance.
- **The patented spin-lock design**  
 The filter holder can be connected with waste bottle by patented spin-lock connection (M381450) giving a fast and stable installation without clamp.
- **Overflow protection**  
 The waste bottle has a built-in overflow protection which keeps the filtrate from overflowing into the pump when waste bottle is full.
- **Ideal package**  
 The complete set of Rocker 300 - LF 30 - SS offers a total solution for suspended solid test.

➤ **Two-Year Warranty**

## Applications

- Suspended Solid Test

## Ordering Information

**167307-11(22)**

Rocker 300 - LF 30 - SS, Vacuum

Filtration System includes,

\* Rocker 300, Vacuum Pump

\* LF 30, Filtration Set

\* Glass Fiber Filter, 47mm, 1 μm , 100/PK

\* Silicone Tube (1m)



## Specification

Model	Rocker 300 - LF 30 - SS	
Voltage / Freq.	110V/60Hz	220V/50Hz
Max. flow rate	23 l/min	20 l/min
Max. vacuum	Ultimate 105 mbar (27 inHg)	
Capacity	Funnel : 300 ml, Waste bottle : 1200 ml	
Filter diameter	47 mm / 50 mm	
Effective filtration area	12.5 cm <sup>2</sup>	
Hose barb	5/16 inch (8 mm)	
Part	Material	
Funnel	PES	
Waste bottle	PC	
Support base	PP	
Funnel lid	PP	
Overflow protection	PP	
Filter	Glass Fiber Discs, 47mm, 1 μm , 100/PK	

# COD Reactor



## Features

### ➤ Compliance with regulations

CR25 COD reactor is used to digest closed reflux COD vial according to ST-COD method (ISO 15705:2002) and can meet USEPA 410.4. It is easier and safer than traditional open reflux titrimetric method.

### ➤ Special COD program

Press start button, the reactor heats up to set temperature and countdown automatically.

Stored program:

- (1) COD: 150°C, 120 min (Standard mode)
- (2) COD2: 165°C, 20 min (Preheated mode)

### ➤ 2 additional user programs

Temperature setting range from 30°C–200°C and timer from 1 – 999 min.

Built-in 2 additional heating program settings available for users to store and execute as needed.

### ➤ Auto shut off and audio alarm

CR25 can stop heating then shut off automatically with audio alarm when every program is completed.

### ➤ International certification

CE certification

### ➤ One-Year Warranty

## Applications

- Waste water test from factories
- Water quality test in lake, pond and river

## Ordering Information

### 179250-11/22

CR 25, COD Reactor

AC110V, 60Hz (AC220V, 50Hz)

### 179250-43

Protective Lid



CR 25



### Protective lid (optional)

Protect users from splattering reagents in case vials are broken during digestion.

## Specification

Model	CR 25
Display	OLED
Temperature range	Fixed 150°C / 120 min (COD program), 165°C / 20 min (COD2 program), 150°C / 30 min (TP program), 105°C / 30 min (TN program), 120°C / 30 min (TPN program), 105°C / 120 min (TOC program) and 30°C–200°C adjustable.
Accuracy	±2°C
Stability	±1°C
Timer	30/60/120 min (via fixed program), 1 – 999 min and infinity
Housing structure	Stainless steel
Number of vials	25 holes for φ16mm vials
Power	AC110V, 60Hz (AC220V, 50Hz), 350Watt
Safety	Anti-heat PTFE plate on the surface of heating block Auto shutoff when block temperature is over 220 deg. C
Dimensions (LxWxH)	30.5 x 19 x 11.5 cm

# COD Detector



VIDEO

## Features

### ➤ Ideal for major brands of reagents

CD 200 detector is equipped with multi-curve in single one unit offering not only built-in standard curve for Hach, Lovibond, Chemetrics reagents but also a simple method to set up standard curves for other brands of reagents.

### ➤ Wide measure range

CD 200 can measure COD value within 3 ranges of 10-150, 100-1500 and 1000-15000 mg/l.

### ➤ Fast detection

CD 200 can detect and save COD value in 3 seconds.

### ➤ Data storage up to 100 records

The built-in memory can store up to 100 records for convenient access.

### ➤ International certification

CE certification

### ➤ One-Year Warranty

## Applications

- Waste water test from factories
- Water quality test in lake, pond and river

## Ordering Information

### 198200-01 (02)

CD200, COD detector, 100~240V adaptor, US plug (EU plug)

### HAC-2125825

HACH COD reagent vial 150 mg/l (25/PK)

### HAC-2125815

HACH COD reagent vial 150 mg/l (150/PK)

### HAC-2125925

HACH COD reagent vial 1500 mg/l (25/PK)

### HAC-2125915

HACH COD reagent vial 1500 mg/l (150/PK)

### HAC-2415925

HACH COD reagent vial 15000 mg/l (25/PK)

**AWE-770110** Pipette (1000-5000ul)

**SSI 5000-50** 5ml Pipette tip (50/PK)



CD 200

## Specification

Model	CD 200
Brands of reagents	HACH, Lovibond, CHEMetrics and 6 user-defined reagent curves
Measure range	10 - 150 mg/l, 100 - 1500 mg/l, 1000 - 15000 mg/l
Display	LCD with backlight
Light source	LED
Working Wavelength	420 nm, 610 nm
Wavelength choosing	Automatic
Detecting time	3 sec
Optical stability	≤ 0.005 Abs / 30min
Storage	100 records
Data information	Concentration, sample number, time
Power Supply	DC 9V battery or power adapter
Dimension (LxWxH)	23.0 x 12.5 x 8.5 cm

# Portable Water Testing Meter



## Features

- Slope display after calibration (EC-210)
- Large LCD display for dual parameters
- Splash-proof housing, IP65
- Low battery indication (except EC-200)
- Automatic or manual temperature compensation
- One-Year Warranty

## Applications

- Domestic water
- Industrial water
- Aquaculture water
- Swimming pool

## Ordering Information

### 168200-01

EC-200 pH meter

### 168210-01

EC-210 pH meter

### 171220-01

EC-220 Cond. meter

### 171230-01

EC-230 Resis. meter

## Specification

Model	EC-200	EC-210	EC-220	EC-230
Parameter	PH/ORP	PH/ORP	Conductivity	Resistivity
Range				
PH	0.00~14.00	0.00~14.00	—	—
ORP (mV)	-1999~1999	-1999~1999	—	—
Conductivity	—	—	0~2000, 200.0 $\mu$ S/cm	—
	—	—	0~2000, 20.00 ms/cm	—
	—	—	Auto Range	—
Resistivity(M $\Omega$ )	—	—	—	1.00~18.2 M $\Omega$
Temperature	—	0.00~99.9 $^{\circ}$ C	0.00~99.9 $^{\circ}$ C	0.00~99.9 $^{\circ}$ C
Accuracy				
PH	0.01 $\pm$ 1digit	0.01 $\pm$ 1digit	—	—
ORP (mV)	1 $\pm$ 1digit	1 $\pm$ 1digit	—	—
Conductivity	—	—	$\pm$ 1% full scale	—
Resistivity(M $\Omega$ )	—	—	—	$\pm$ 1% full scale
Temperature	—	$\pm$ 0.5 $^{\circ}$ C	$\pm$ 0.5 $^{\circ}$ C	$\pm$ 0.5 $^{\circ}$ C
Temp. compensation	Manual	Auto	Auto	Auto
Calibration point	2	2	1	—
Power	DC9V	DC9V	DC9V	DC9V

\* Each unit includes an electrode, standard solution 30ml (Except EC-230), carry case is optional.

# Accessories

## Features

- ❖ High Accuracy:  $\pm 0.01\text{pH}$
- ❖ COA certificate is supplied with each bottle.



## Specification & Ordering Information

pH Electrodes							
Cat. No.	Type	Application	Connector	Internal element	Junction	Size	Cable
168210-13	Glass	General Purpose	BNC	Ag/AgCl	Ceramic	$\phi$ 12x155 mm	1m
168210-16	ATC probe						

pH Buffer		Conductivity Electrode	
Cat. No.	Description	Cat. No.	Description
168700-50	pH 7.00 $\pm$ 0.01 , 500ml	171220-30	Conductivity Electrode, K=1.0, 1 meter (For EC-220)
168400-50	pH 4.01 $\pm$ 0.01 , 500ml		
168100-50	pH 10.01 $\pm$ 0.01 , 500ml		

KCL Buffer		Carry case	
Cat. No.	Description	Cat. No.	Description
168103-50	3M KCL , 500ml	168106-01	Carry case

Resistivity Electrode	
Cat. No.	Description
171230-30	Resistivity Electrode, 1 meter . (For EC-230)

# ULTRASONIC CLEANER

Ultrasonic Cleaner

Soner 203 / 203H

Soner 206 / 206H

Soner 210 / 210H

Soner 220 / 220H

Accessories

Bracket

Basket

# Ultrasonic Cleaner

## Features

- **Degas**

Soner's family are standard with degas function to keep powerful cavitation effect.
- **Industrial transducer**

The Soner's benchtop cleaners adopt high power, rugged industrial transducer, durable and superior.
- **Higher Frequency**

Soner series feature 53 KHz frequency to get more precise cleaning of parts that contaminated in small and hard-to-reach crevices.
- **Stainless Steel construction**

Both tank and housing are constructed of SS304, durable and easy to clean.
- **International certification**

CE certification
- **One-Year Warranty**



Soner203



Soner203H



Soner206



Soner206H

## Applications

- Solvent degas
- Cleaning for cuvette and test tube
- Cleaning for optical lenses and scientific Instruments
- Cleaning for various parts and PCB

## Ordering Information

### 188203-11(22)

Soner 203 Ultrasonic Cleaner  
AC110V, 60Hz (AC220V, 50Hz)

### 188204-11(22)

Soner 203H Ultrasonic Cleaner  
(with heating function)  
AC110V, 60Hz (AC220V, 50Hz)

### 188206-11(22)

Soner 206 Ultrasonic Cleaner  
AC110V, 60Hz (AC220V, 50Hz)

### 188207-11(22)

Soner 206H Ultrasonic Cleaner  
(with heating function)  
AC110V, 60Hz (AC220V, 50Hz)

## Specification

Model	Soner203	Soner203H	Soner206	Soner206H
Frequency	53KHz	53KHz	53KHz	53KHz
Heating	No	Yes (Max. 60°C)	No	Yes (Max. 60°C)
Degas	Yes	Yes	Yes	Yes
Timer (minute)	1-99	1-99	1-99	1-99
Tank size (LxWxD) cm	24x14x10	24x14x10	30x15x15	30x15x15
Overall size (LxWxD) cm	27x16x24	27x16x24	33x18x29	33x18x29
Tank capacity (liter)	3	3	6	6
Housing	SS304	SS304	SS304	SS304
Drain	No	No	No	No
Stainless steel cover	Yes	Yes	Yes	Yes
Ultrasonic power(W)	100	100	180	180
Heating power(W)	No	75	No	150
Degas power(W)	100	100	180	180
Packing size (LxWxD) cm	36.5x27.5x34.5	36.5x27.5x34.5	43.5x28.5x40	43.5x28.5x40
Net weight	4	4.2	5.0	5.6
Gross weight	4.6	4.8	6.0	6.6

\* Each standard package of Soner Series includes stainless steel cover and bracket.

# Ultrasonic Cleaner

## Features

- **Degas**  
Soner's family are standard with degas function to keep powerful cavitation effect.
- **Industrial transducer**  
The Soner's benchtop cleaners adopt high power, rugged industrial transducer, durable and superior.
- **Higher Frequency**  
Soner series feature 53 KHz frequency to get more precise cleaning of parts that contaminated in small and hard-to-reach crevices.
- **Stainless Steel construction**  
Both tank and housing are constructed of SS304, durable and easy to clean.
- **One-Year Warranty**



Soner210



Soner210H



Soner220



Soner220H

## Applications

- Solvent degas
- Cleaning for cuvette and test tube
- Cleaning for optical lenses and scientific Instruments
- Cleaning for various parts and PCB

## Ordering Information

### 188210-11(22)

Soner 210 Ultrasonic Cleaner  
AC110V, 60Hz (AC220V, 50Hz)

### 188211-11(22)

Soner 210H Ultrasonic Cleaner  
(with heating function)  
AC110V, 60Hz (AC220V, 50Hz)

### 188220-11(22)

Soner 220 Ultrasonic Cleaner  
AC110V, 60Hz (AC220V, 50Hz)

### 188221-11(22)

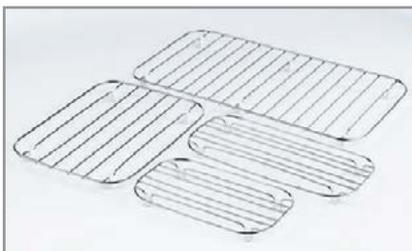
Soner 220H Ultrasonic Cleaner  
(with heating function)  
AC110V, 60Hz (AC220V, 50Hz)

## Specification

Model	Soner210	Soner210H	Soner220	Soner220H
Frequency	53KHz	53KHz	53KHz	53KHz
Heating	No	Yes (Max. 60°C)	No	Yes (Max. 60°C)
Degas	Yes	Yes	Yes	Yes
Timer (minute)	1-99	1-99	1-99	1-99
Tank size (LxWxD) cm	30x24x15	30x24x15	50x30x15	50x30x15
Overall size (LxWxD) cm	36x27x31	36x27x31	57x33x33	57x33x33
Tank capacity (liter)	10	10	20	20
Housing	SS304	SS304	SS304	SS304
Drain	Yes	Yes	Yes	Yes
Stainless steel cover	Yes	Yes	Yes	Yes
Ultrasonic power(W)	200	200	500	500
Heating power(W)	No	270	No	520
Degas power(W)	200	200	500	500
Packing size (LxWxD) cm	43.5x37.5x40	43.5x37.5x40	66.5x43.5x43	66.5x43.5x43
Net weight	6.8	7.0	13.6	13.8
Gross weight	8.4	8.6	15.4	15.6

\* Each standard package of Soner Series includes stainless steel cover and bracket.

# Accessories



## Bracket

Ideal for big parts  
(Standard accessory)



## Basket

Ideal for small parts  
(Optional accessory)



## Beaker positioning cover

Used to position beaker  
for indirect cleaning  
(Optional accessory)

## Ordering Information

- 188203-31** Bracket for Soner 203/203H
- 188206-31** Bracket for Soner 206/206H
- 188210-31** Bracket for Soner 210/210H
- 188220-31** Bracket for Soner 220/220H
- 188203-30** Basket for Soner 203/203H
- 188206-30** Basket for Soner 206/206H
- 188210-30** Basket for Soner 210/210H
- 188220-30** Basket for Soner 220/220H
- 188200-31** Beaker positioning cover (S) for Soner 203/203H/206/206H
- 188200-32** Beaker positioning cover (M) for Soner 210/210H
- 188200-33** Beaker positioning cover (L) for Soner 220/220H

Pressure Conversion Table (Ultimate Vacuum)

psi	atmosphere	mbar	kPa	Kg/cm <sup>2</sup>	oz/in <sup>2</sup>	in. Hg	mmHg (Torr)	in. H <sub>2</sub> O
1	0.068	68.947	6.895	0.07	16	2.036	51.72	27.68
14.7	1	1013.2	101.3	1.033	235.1	29.92	760	406.8
0.0145	0.00098	1	0.1	0.00102	0.2321	0.02953	0.75006	0.40146
0.145	0.01	0.00001	1	0.01	2.321	0.295	7.501	4.015
14.22	0.968	980.664	98.07	1	227.6	28.96	735.6	393.7
0.063	0.004	4.309	0.431	0.004	1	0.127	3.232	1.73
0.491	0.033	33.863	3.386	0.035	7.858	1	25.4	13.6
0.019	0.001	1.333	0.133	0.001	0.309	0.039	1	0.535
0.036	0.002	2.4909	0.249	0.003	0.578	0.074	1.868	1

Flow Rate Table

liter / min	CFM	m <sup>3</sup> / h	liter / sec
1	0.03531	0.06	0.01666
28.316	1	1.69896	0.47193
16.667	0.58857	1	0.27778
60	2.11893	3.6	1

Cubic Measure Table

Milliliter	Liter	U.S. ounce	U.S. pint	U.S. gal
1	0.001	0.033814	0.0021134	0.00026417
1000	1	33.814	2.1134	0.26417
29.574	0.029574	1	0.0625	0.007813
473.176	0.473176	16	1	0.125
3785.4	3.7854	128	8	1

Chemical Resistant of Commonly Used Materials Table

	Weak Acids	Weak Bases	Temperature (°C) (Prolonged use)	Temperature (°C) (Short-term use)	Izod Impact Strength ( kg-cm/cm)	Ultraviolet Ray	Specific Gravity
<b>ABS</b>	E	E	75	100	21	P	1.06
<b>PP</b>	E	E	85	100	20	F	0.92
<b>PC</b>	E	F	130	140	12	F	1.20
<b>POM</b>	P	F	90	110	19.1	P	1.42
<b>Nylon6</b>	G	E	80	120	6	F	1.15
<b>PSU</b>	E	E	160	180	20	F	1.24
<b>PES</b>	E	E	180	220	8.7	F	1.37
<b>PVDF</b>	E	E	105	150	19.6	G	1.78
<b>PTFE</b>	E	E	260	260	16.3	G	2.25

E: Excellent G: Good F: Fairish P: Poor

Sterilization Method

	Autoclavable (121°C, 20min)	Dry (160°C)	Ultraviolet Ray	Gamma Radiatio
<b>ABS</b>	P	P	P	G
<b>PP</b>	F	P	F	P
<b>PC</b>	G	P	F	G
<b>POM</b>	F	P	P	P
<b>Nylon6</b>	G	P	F	F
<b>PSU</b>	E	G	F	G
<b>PES</b>	E	E	F	G
<b>PVDF</b>	G	P	G	G
<b>PTFE</b>	E	E	G	G

E: Excellent G: Good F: Fairish P: Poor

Note : Above information is based on experience to date.

It is intended as a reference for use at your own discretion and risk



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