

 **인재과학사**
INJAE SCIENCE CO.

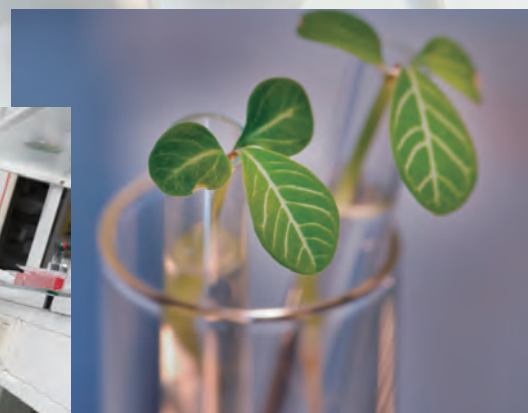
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Laboratory Filtration
Laboratory Pump
Life Sciences / Water Test



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, Sep. 2016

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LABORATORY PUMP


Oil Free Vacuum Pump
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 Accessories
 Oil Free Compressor
 Rocker 320/420
 Rocker 440

Oil Free Vacuum Pump Guide





Oil Free Vacuum Pump

	Rocker 300 Max. vacuum : - 680 mmHg Max. flow rate : 23 (20) l/min
	Rocker 300DC Max. vacuum : - 650 mmHg Max. flow rate : 25 l/min
	Rocker 400 Max. vacuum : - 680 mmHg Max. flow rate : 37 (34) l/min
	Rocker 410 Max. vacuum : - 735 mmHg Max. flow rate : 23 (20) l/min
	Rocker 800 Max. vacuum : - 670 mmHg Max. flow rate : 100 (84) l/min
	Rocker 801 Max. vacuum : - 670 mmHg Max. flow rate : 80 (68) l/min
	Rocker 810 Max. vacuum : - 735 mmHg Max. flow rate : 60 (50) l/min
	Rocker 811 Max. vacuum : - 735 mmHg Max. flow rate : 48 (40) l/min
	Rocker 430 Max. vacuum : - 630 mmHg Max. flow rate : 34 (28) l/min Max. pressure : 80 psi

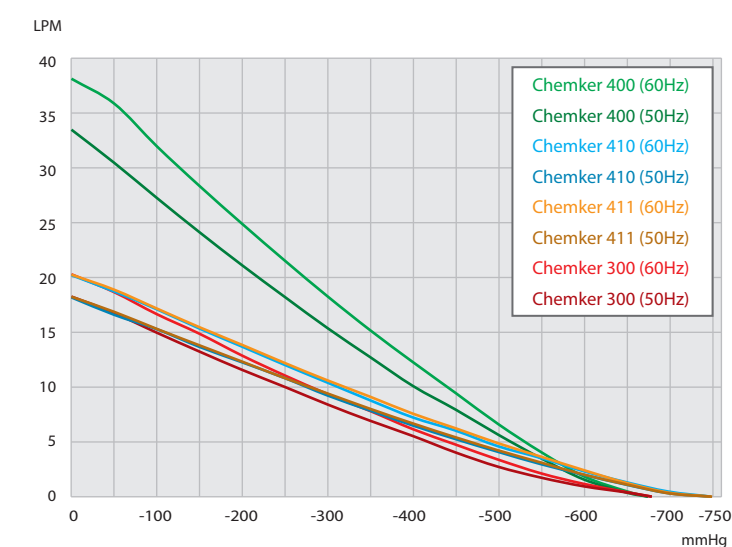
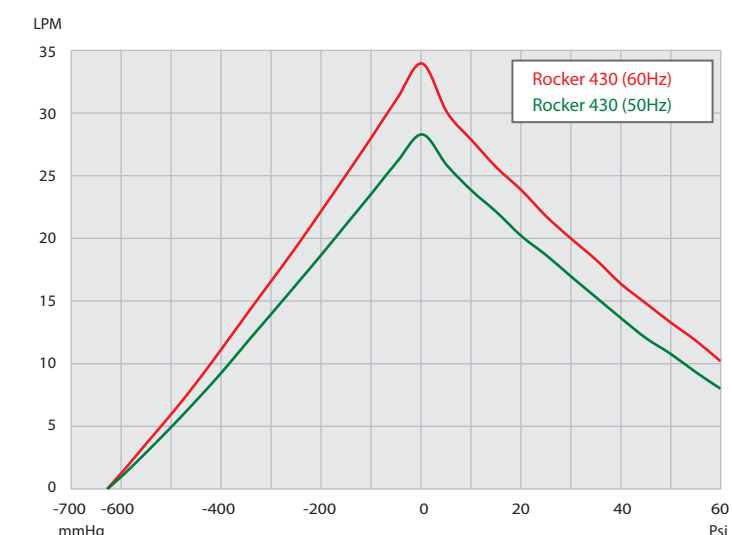
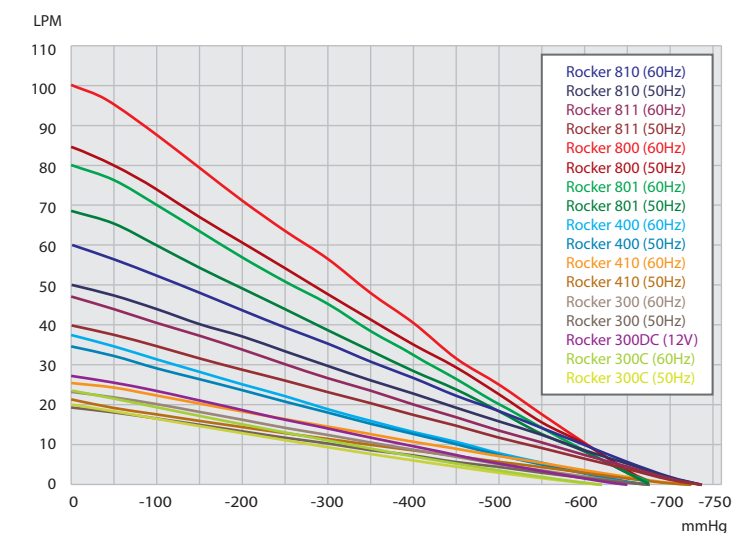
PTFE Coated Chemical Resistant Vacuum Pump

	Rocker 300C Max. vacuum : - 630 mmHg Max. flow rate : 23 (20) l/min
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Chemical Resistant Vacuum Pump

	Chemker 300 Max. vacuum : - 670 mmHg Max. flow rate : 20 (18) l/min
	Chemker 400 Max. vacuum : - 670 mmHg Max. flow rate : 38 (33) l/min
	Chemker 410 Max. vacuum : - 750 mmHg Max. flow rate : 20 (18) l/min
	Chemker 411 Max. vacuum : - 750 mmHg Max. flow rate : 20 (18) l/min

Pumping Speed Graph



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

Oil Free Vacuum Pump

Two-Year Warranty

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 safety certification**
CE certification
CSA certification
IP 30 protection (Rocker 300)

Applications

- Filtration for microbiology test
- Air sampling
- Suspended solid test
- Vacuum filtration

Ordering Information

167300-11(22)
Rocker 300, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)

167330-00
Rocker 300DC, DC Power Vacuum Pump (DC12V)



Rocker 300



Rocker 300DC

Specification

Model	Rocker 300		Rocker 300DC
Voltage	110V/60Hz	220V/50Hz	DC 12V
Max. power (W)	65	60	35
Max. current (A)	0.7	0.3	3
Max. vacuum	- 680 mmHg		- 650 mmHg
Max. flow rate	23 l/min	20 l/min	25 l/min
Moisture Trap / Vacuum Regulator	Yes		Yes
Overflow protection	Yes		Yes
Motor rotation	1750 RPM	1450 RPM	1800 RPM
Horse power	1/8 HP		1/8 HP
Noise level	50 dB		50 dB
Port thread	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

PS: 1 mmHg ≅ 0.1333 kPa ≅ 1.333 mbar , 1 l/min ≅ 0.035CFM

Oil Free Vacuum Pump

Two-Year Warranty

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 safety certification**
CE certification
CSA certification
IP 30 protection (Rocker 400/410)

Applications

- Filtration for microbiology test
- Air sampling
- Suspended solid test
- Vacuum filtration

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	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	- 680 mmHg		- 735 mmHg	
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	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/6 HP		1/6 HP	
Noise level	52 dB		52 dB	
Port thread	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	

PS: 1 mmHg ≅ 0.1333 kPa ≅ 1.333 mbar , 1 l/min ≅ 0.035CFM

Oil Free Vacuum Pump

Two-Year Warranty

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 801 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 801 pump is 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 safety certification**
CE certification

Applications

- Filtration for microbiology test
- Air sampling
- Suspended solid test
- Vacuum filtration

Ordering Information

167800-11(22)
Rocker 800, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)

167801-11(22)
Rocker 801, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)



Rocker 800

Rocker 801

Specification

Model	Rocker 800		Rocker 801	
Voltage	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	- 670 mmHg		- 670 mmHg	
Max. flow rate	100 l/min	80 l/min	80 l/min	68 l/min
Vacuum Regulator	Yes		Yes	
Overflow protection	No		Yes	
Motor rotation	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/3 HP		1/3 HP	
Noise level	68 dB		68 dB	
Port thread	3/8 inch (10 mm)		3/8 inch (10 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	

PS: 1 mmHg ≅ 0.1333 kPa ≅ 1.333 mbar , 1 l/min ≅ 0.035CFM

Oil Free Vacuum Pump

Two-Year Warranty

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 811 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 811 pump is 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 safety certification**
CE certification

Applications

- Filtration for microbiology test
- Air sampling
- Suspended solid test
- Vacuum filtration

Ordering Information

167810-11(22)
Rocker 810, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)

167811-11(22)
Rocker 811, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)



Rocker 810

Rocker 811

Specification

Model	Rocker 810		Rocker 811	
Voltage	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	- 735 mmHg		- 735 mmHg	
Max. flow rate	60 l/min	50 l/min	48 l/min	40 l/min
Vacuum Regulator	Yes		Yes	
Overflow protection	No		Yes	
Motor rotation	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Horse power	1/3 HP		1/3 HP	
Noise level	68 dB		68 dB	
Port thread	3/8 inch (10 mm)		3/8 inch (10 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	

PS: 1 mmHg ≅ 0.1333 kPa ≅ 1.333 mbar , 1 l/min ≅ 0.035CFM

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 safety certification**
CE certification

Applications

- Filtration for microbiology test
- Air sampling
- Suspended solid test
- Vacuum filtration

Ordering Information

167430-11(22)
Rocker 430, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)

Two-Year Warranty



Specification

Model	Rocker 430	
Voltage	110V/60Hz	220V/50Hz
Max. power (W)	147	125
Max. current (A)	1.5	0.6
Max. vacuum	- 630 mmHg	
Max. pressure	80 psi	
Max. flow rate	34 l/min	28 l/min
Vacuum Regulator	Yes	
Pressure Regulator	Yes	
Overflow protection	Yes	
Motor rotation	1750 RPM	1450 RPM
Horse power	1/6 HP	
Noise level	52 dB	
Port thread	5/16 inch (8 mm)	
Net weight	5.5 Kg	
Dimension (LxWxH)	24.7x23.5x20.4 cm	

PS: 1 mmHg ≈ 0.1333 kPa ≈ 1.333 mbar , 1 l/min ≈ 0.035CFM

PTFE Coated Chemical Resistant Vacuum Pump

Features

- **No air pollution, maintenance free**
Rocker 300C vacuum pumps are driven by diaphragm, without the need of lubricant, regular oil changes and maintenance with no oil pollution.
- **Good chemical resistance**
The diaphragm chamber of Rocker 300C coated with PTFE and the SS # 316 valve plate 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 safety certification**
CE certification

Applications

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

Ordering Information

189300-11(22)
Rocker 300C, PTFE Coated Chemical
Resistant Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)



Specification

Model	Rocker 300C	
Voltage	110V/60Hz	220V/50Hz
Max. power (W)	65	60
Max. current (A)	0.7	0.3
Max. vacuum	- 630 mmHg	
Max. flow rate	23 l/min	20 l/min
Moisture Trap / Vacuum Regulator	Yes	
Overflow protection	No	
Motor rotation	1750 RPM	1450 RPM
Horse power	1/8 HP	
Noise level	50 dB	
Port thread	5/16 inch (8 mm)	
Net weight	4.1 Kg	
Dimension (LxWxH)	28.5x13.5x20.4 cm	

PS: 1 mmHg ≈ 0.1333 kPa ≈ 1.333 mbar , 1 l/min ≈ 0.035CFM

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 vibration-proof assembly makes Chemker series 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 safety certification**
CE certification

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	
Voltage	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	- 670 mmHg		- 670 mmHg	
Max. flow rate	20 l/min	18 l/min	38 l/min	33 l/min
Motor rotation	1700 RPM	1450 RPM	1700 RPM	1450 RPM
Horse power	1/8 HP		1/6 HP	
Noise level	50 dB		50 dB	
Port thread	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	

PS: 1 mmHg ≅ 0.1333 kPa ≅ 1.333 mbar , 1 l/min ≅ 0.035CFM

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 vibration-proof assembly makes Chemker series 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 safety certification**
CE certification

Applications

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



Chemker 410



Chemker 411

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

Specification

Model	Chemker 410		Chemker 411	
Voltage	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	- 750 mmHg		- 750 mmHg	
Max. flow rate	20 l/min	18 l/min	20 l/min	18 l/min
Motor rotation	1700 RPM	1450 RPM	1700 RPM	1450 RPM
Horse power	1/6 HP		1/6 HP	
Noise level	50 dB		50 dB	
Port thread	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	—		Yes	
Glass Vapor Trap / Vacuum Regulator	—		Yes	

PS: 1 mmHg ≅ 0.1333 kPa ≅ 1.333 mbar , 1 l/min ≅ 0.035CFM

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 0.1 Torr. 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 safety certification**
CE certification

Applications

- Vacuum filtration
- Vacuum drying
- Vacuum oven
- 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)



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 130		Tanker 150		Tanker 215		Tanker 230	
Power	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. power (W)	250	250	375	375	250	250	375	375
Max. current (A)	4.2	2.5	6.5	3	4.2	2.5	6.5	3
Max. vacuum (Torr)	0.1		0.1		0.05		0.05	
Max. flow CFM (L/min)	3 (85)	2.5 (70)	5 (142)	4.5 (127)	1.5 (42)	1.3 (36)	3 (85)	2.5 (70)
Motor rotation (RPM)	1725	1440	1725	1440	1725	1440	1725	1440
Horse power	1/3 HP		1/2 HP		1/3 HP		1/2 HP	
Port thread	3/8 inch (9.5 mm)		3/8 inch (9.5 mm)		3/8 inch (9.5 mm)		3/8 inch (9.5 mm)	
Noise level	52 dB		52 dB		52 dB		52 dB	
Net weight	9.6 Kg		13 Kg		11.4 Kg		14 Kg	
Dimension (LxMxH)	31.5x12.0x36 cm		33.5x12.5x37.5 cm		31.5x12.0x36 cm		33.5x12.5x37.5 cm	

PS: 1 mmHg = 0.1333 kPa = 1.333 mbar , 1 l/min = 0.035CFM

Pump Accessories



Oil Free Compressor

Two-Year Warranty

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 vibration-proof assembly makes Rokcer series 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 safety certification**
CE certification
CSA certification

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	
Voltage	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)	100 psi		100 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	1700 RPM	1400 RPM	1700 RPM	1400 RPM
Horse power	1/8 HP		1/6 HP	
Noise level	50 dB		52 dB	
Port thread	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	

PS: 1 l/min ≅ 0.035 CFM, 1 psi ≅ 0.0698 bar ≅ 0.07 kg/cm²

Air Supply System

Two-Year Warranty

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 vibration-proof assembly makes Rokcer series 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 safety certification**
CE certification
CSA certification

Applications

- Fermenter
- Bioreactor
- Gas Chromatograph

Ordering Information

167440-11(22)
Rocker 440, Air Supply System
AC110V, 60Hz (AC220V, 50Hz)



Rocker 440

* Air tank capacity of 2.5 liters, made of SUS304 stainless steel.

Specification

Model	Rocker 440						
Voltage	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	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 27 l/min	after 30 sec. 27 l/min	0-15 sec. 40 l/min	15-30 sec. Decreasing 25 l/min	after 30 sec. 25 l/min
	40 psi	0-10 sec. 52 l/min	10-25 sec. Decreasing 27 l/min	after 25 sec. 27 l/min	0-10 sec. 50 l/min	10-25 sec. Decreasing 25 l/min	after 25 sec. 25 l/min
	60 psi	0-8 sec. 65 l/min	8-22 sec. Decreasing 27 l/min	after 22 sec. 27 l/min	0-8 sec. 60 l/min	8-22 sec. Decreasing 25 l/min	after 22 sec. 25 l/min
Moisture trap	Yes			Yes			
Horse power	1/6 HP			1/6 HP			
Noise level	52 dB			52 dB			
Port thread	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 Set Selection Guide

Filtration Glass Set

VF5 / VF8 / VF6 / VF7
VF3 / VF10 / VF 12 / VF2 / VF11
LF 30 / LF 32 / LF 33 / MF 31

Filter Holder

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

Stainless Steel funnel

Filtration System

Lafil 400 - LF 30 / Lafil 400 - LF 32
Lafil 400 - 5a - 500
Rocker 300 - LF 30 / Rocker 300 - MF 31 /
Rocker 300C - VF 12 / Chemker300 - VF 12


Manifold

BioVac 330 / BioVac 320 / 330B
MutilVac 310-MS / MutilVac 310-MS-T
MutilVac 300-MB / MutilVac 300-MB-T
MutilVac 600-MB / MutilVac 600-MB-T

Filtration System

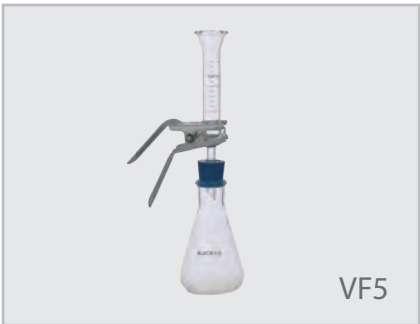
WaterVac 100-MS / WaterVac 100-MB
BioVac 321B / BioVac 321C
BioVac 330B / BioVac 630B

Filtration Set Selection Guide

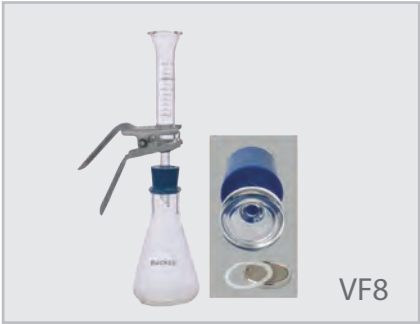
	Φ 25 mm	Φ 47 mm	Φ 90 mm	PES filter holder
PES (Polyethersulfone)		 <p>LF 30 P.23 MF 31 P.23</p>		 <p>LF 3 P.25 LF 3a P.25 LF 5 P.25 LF 5a P.25</p>
Stainless Steel 316		 <p>LF 32 P.22 LF 33 P.22</p>  <p>VF 2 P.21 VF 11 P.21</p>		<h3>Magnetic filter holder</h3>  <p>MF 3 P.26 MF 3a P.26 MF 5 P.26 MF 5a P.26</p>
Glass	 <p>VF 5 P.17 VF 8 P.17</p>	 <p>VF 3 P.19 VF 6 P.18 VF 7 P.18 VF 12 P.20</p>	 <p>VF 10 P.19</p>	<h3>S.S. filter holder</h3>  <p>100ml P.24 300ml P.24 500ml P.24</p>

** Filter holders are used for Φ 47 mm membrane

25 mm Glass Microanalysis Filtration Sets



VF5



VF8

Applications

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

Specifications

Material	VF5	VF8
Filter funnel	Borosilicate glass	Borosilicate glass
Funnel support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	S.S. screen with PTFE seal
Clamp	Anodized aluminum	Anodized 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 ²	2.2 cm ²
I.D. tubing	5/16 inch (8 mm)	5/16 inch (8 mm)

Ordering Information

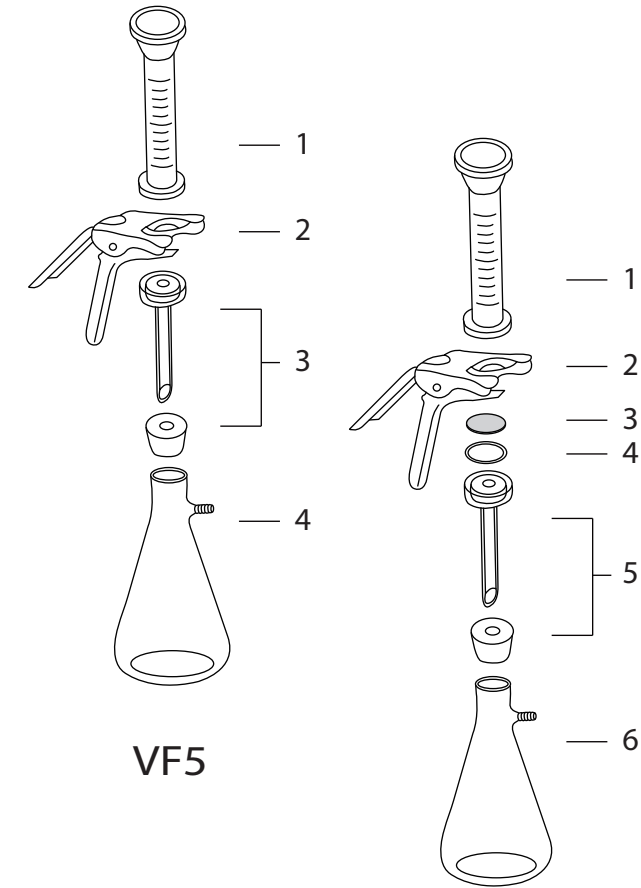
VF5, 25mm Glass Microanalysis Filtration Set		167200-05
15 ml Glass filter holder (1+2+3)		167120-32

1	Glass funnel, 15 ml	167220-15
2	Anodized aluminum clamp	167240-05
3	Glass support base (Including No.5 silicone stopper)	167230-04
4	Receiver flask, 125 ml	167250-05

VF8, 25 mm Glass Microanalysis Filtration Set		167200-08
15 ml Glass filter holder (1+2+3+4+5)		167120-34

1	Glass funnel, 15 ml	167220-15
2	Anodized aluminum clamp	167240-05
3	Stainless steel 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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VF5

VF8

47 mm Glass Filtration Sets



VF6



VF7

Applications

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

Specifications

Material	VF6	VF7
Filter funnel	Borosilicate glass	Borosilicate glass
Funnel support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	S.S. screen with PTFE seal
Clamp	Anodized aluminum	Anodized 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 ²	9.6 cm ²
I.D. tubing	5/16 inch (8 mm)	5/16 inch (8 mm)

Ordering Information

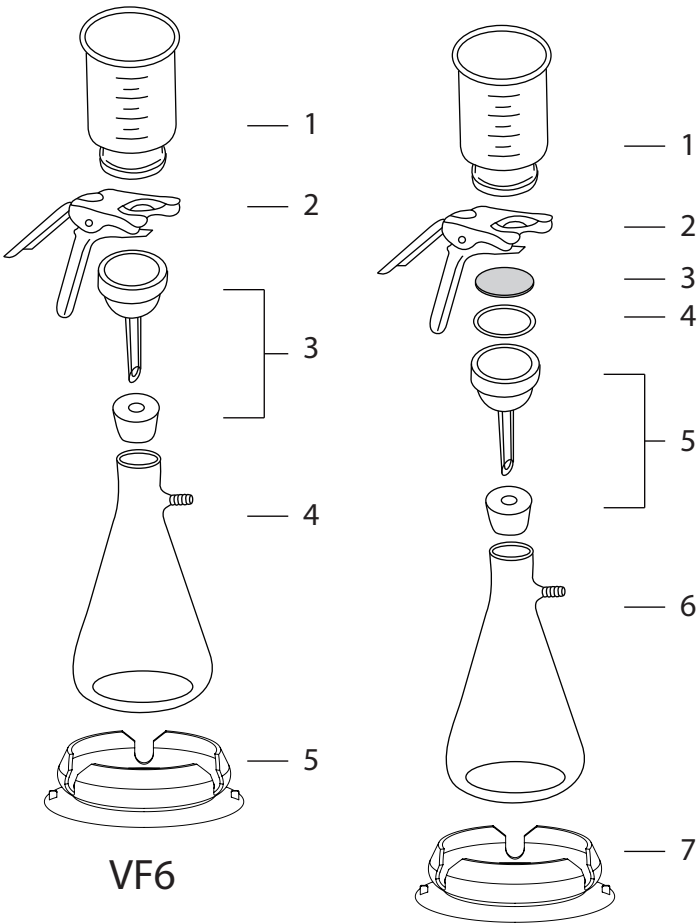
VF6, 47 mm Glass Filtration Set		167200-06
300 ml Glass filter holder (1+2+3)		167120-31

1	Glass funnel, 15 ml	167210-03
2	Anodized aluminum clamp	167240-01
3	Glass support base (Including No.8 silicone stopper)	167230-03
4	Receiver flask, 1000 ml	167250-03
5	Silicone fixing sucker	167200-45

VF7, 47 mm Glass Filtration Set		167200-07
300 ml Glass filter holder (1+2+3+4+5)		167120-33

1	Glass funnel, 300 ml	167210-03
2	Anodized aluminum clamp	167240-01
3	Stainless steel 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	167250-03
7	Silicone fixing sucker	167200-45



VF6

VF7

47 mm, 90 mm Glass Filtration Sets



VF3



VF10

Applications

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

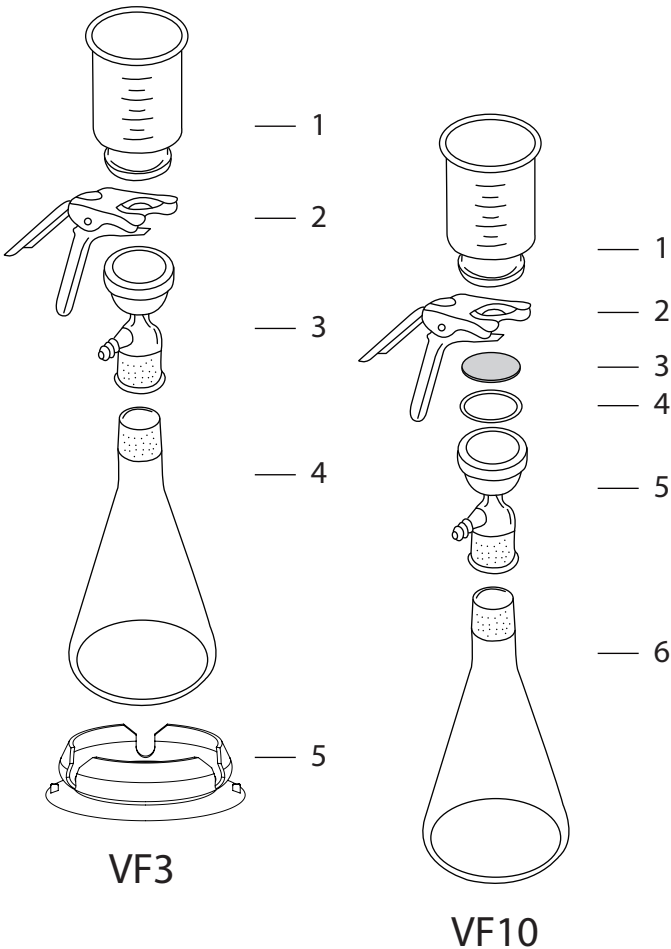
Specifications

Material	VF3	VF10
Filter funnel	Borosilicate glass	Borosilicate glass
Funnel support base	Borosilicate glass	Borosilicate glass
Membrane support	Sintered glass	S.S. screen with PTFE seal
Clamp	Anodized aluminum	Anodized 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 cm²	40.6 cm²
I.D. tubing	5/16 inch (8 mm)	5/16 inch (8 mm)

Ordering Information

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



VF3

VF10

47 mm Glass Filtration Sets



VF12

Features

- Unique filtration adaptor design can connect with GL45 storage bottle.
- VF12 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 analysis.

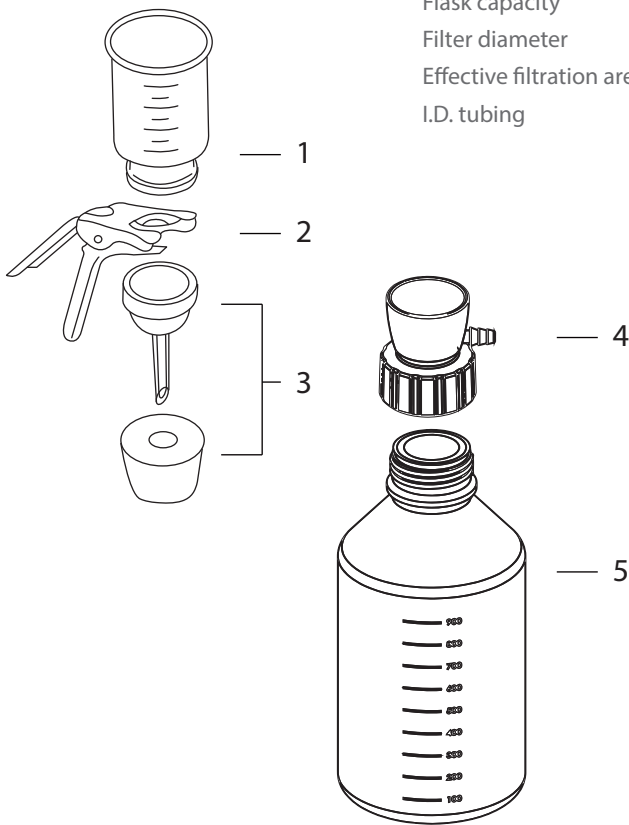
Specifications

Material	VF12
Filter funnel	Borosilicate glass
Funnel support base	Borosilicate glass
Membrane support	Sintered glass
Clamp	Anodized aluminum
Filtration Adaptor	PP (Autoclavable)
Storage Bottle	Borosilicate glass

Specifications	
Funnel capacity	300 ml
Flask capacity	1000 ml
Filter diameter	47 mm
Effective filtration area	9.6 cm²
I.D. tubing	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	Anodized aluminum clamp	167240-01
3	Glass support base	167230-03
(Including No.8 silicone stopper)		
4	Filtration Adaptor	197000-65
5	1000ml Storage Bottle	197000-59



VF12

47 mm Stainless Steel Filtration Sets



VF2



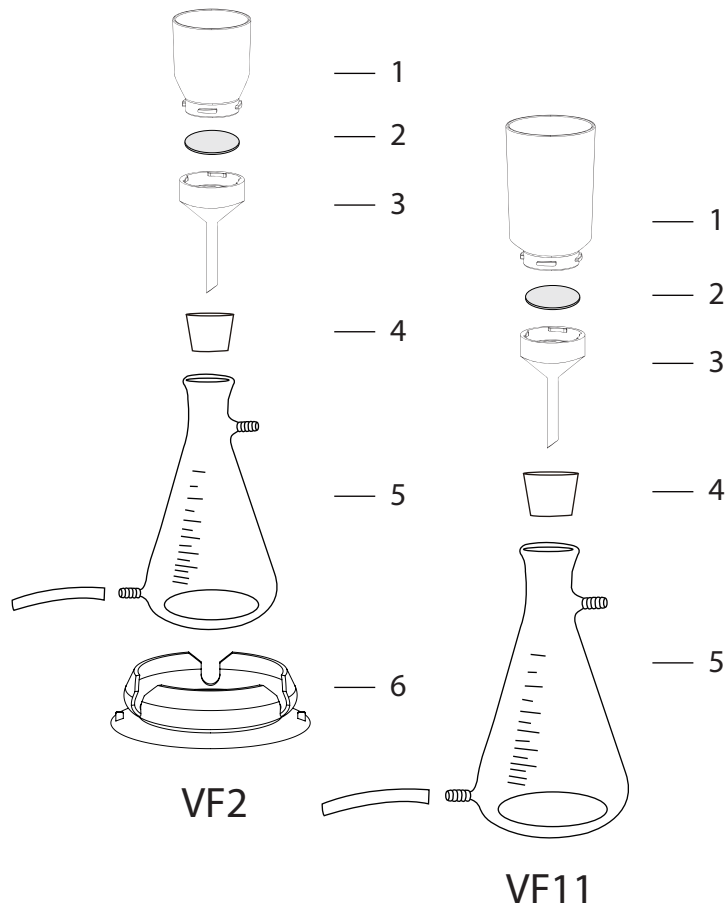
VF11

Applications

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

Specifications

Material	VF2	VF11
Filter funnel	SUS316	SUS316
Funnel support base	SUS316	SUS316
Membrane support	SUS316	SUS316
Stopper	Silicone rubber (No.16)	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 ²	9.6 cm ²
I.D. tubing	5/16 inch (8 mm)	5/16 inch (8 mm)



Ordering Information

VF2, 47 mm Stainless Steel Filtration Set 167200-02		
100 ml Stainless steel filter holder (1+2+3+4)		
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
5	Receiver flask with drain, 1000 ml	167300-08
6	Silicone fixing sucker	167200-45
VF11, 47 mm Stainless Steel Filtration Set 167200-11		
500 ml Stainless steel filter holder (1+2+3+4)		
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	167200-13

47 mm Stainless Steel Filtration Sets



LF 32



LF 33

Features

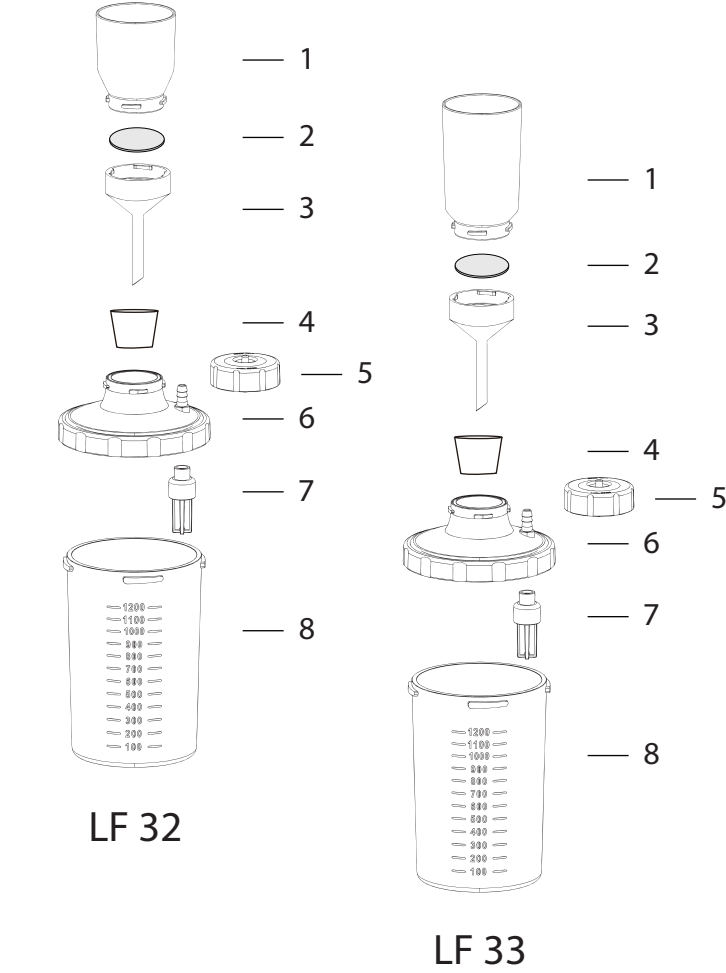
- Spin-lock connection facilitates fast and stable installation without clamp.
- Stainless steel funnel offers excellent chemical resistance and can be fastly sterilized by flame.
- Built-in overflow protection to keep the filtrate from overflowing when waste bottle is full.

Specifications

Material	LF 32	LF 33
Filter funnel	SUS316	SUS316
Funnel support base	SUS316	SUS316
Membrane support	SUS316	SUS316
Waste bottle	PC	PC
Specifications		
Funnel capacity	100 ml	300 ml
Flask capacity	1200 ml	1200 ml
Filter diameter	47 mm / 50 mm	47 mm / 50 mm
Effective filtration area	9.6 cm ²	9.6 cm ²
I.D. tubing	5/16 inch (8 mm)	5/16 inch (8 mm)
Funnel graduation	50 ml / 100ml	100 ml / 300ml

Ordering Information

LF 32, 47 mm Stainless Steel Filtration Set 197010-32		
100 ml Stainless steel filter holder (1+2+3+4)		
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)		
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 33, 47 mm Stainless Steel Filtration Set 197010-33		
300 ml Stainless steel filter holder (1+2+3+4)		
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.16)	167110-17
PC waste bottle with cover, 1200 ml (5+6+7+8)		
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 Filtration Sets



LF 30



MF 31

Features

- LF 30 spin-lock connection facilitates fast and stable installation without clamp.
- MF 31 strong magnetic seal allows one-handed operation
- Excellent smash, high temperature resistance and autoclavable.
- Funnel graduated in 50ml, receiver in 100ml increments for easy measurement.

Specifications

Material	LF 30	MF 31
Filter funnel	PES	PES
Funnel support base	PC	PES
Membrane support	PP	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 / 50 mm	47 mm / 50 mm
Effective filtration area	12.5 cm ²	13.1 cm ²
I.D. tubing	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	—

Ordering Information

LF 30, 47 mm Filtration Set	197010-30
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LF 3, PES filter holder (300 ml) (1+2+3+4)	197000-01
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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
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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
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MF 3, Magnetic filter holder (300ml) (1+2+3+4)	200300-01
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1	PP lid kit for Magnetic funnel	200300-36
2	PES magnetic funnel, 300ml	200300-30
3	PES support base	200300-32
4	Silicone stopper (No.16)	167110-17

5	Receiver flask with drain, 1000 ml	167300-08
6	Silicone fixing sucker	167200-45

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.

Specifications

Material	167103-10	167103-30	167103-50
Filter funnel	SUS316	SUS316	SUS316
Funnel support base	SUS316	SUS316	SUS316
Membrane support	SUS316	SUS316	SUS316
Funnel lid	SUS316	SUS316	SUS316

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 ²	9.6 cm ²	9.6 cm ²

Ordering Information

100 ml, 47 mm Stainless Steel Filter Holder	167103-10
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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

300 ml, 47 mm Stainless Steel Filter Holder	167103-30
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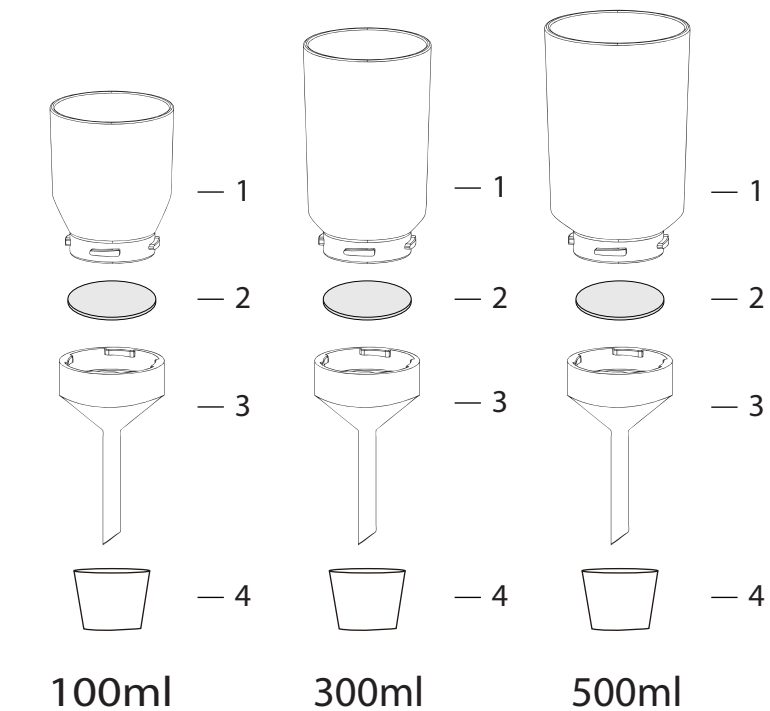
1	Stainless steel funnel, 300 ml	167103-63
2	Stainless steel support screen	167100-31
3	Stainless steel support base	167103-60
4	Silicone stopper (No.16)	167110-17

500 ml, 47 mm Stainless Steel Filter Holder	167103-50
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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.16)	167110-17

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



100ml

300ml

500ml

47 mm PES Filter Holder

(Polyethersulfone)



Features

- Spin-lock connection facilitates fast and stable installation without clamp.
- PES structure offers excellent smash, high temperature (180°C) resistance and autoclavable.
- Reusable, friendly to the earth and save your money.
- Funnel graduated in 50ml increments for easy measurement.
- LF 3/5 equips with No.16 stopper that allows it to fit other receiver flasks.
- LF 3a/5a is available to fit different tissue bottle.

Specifications

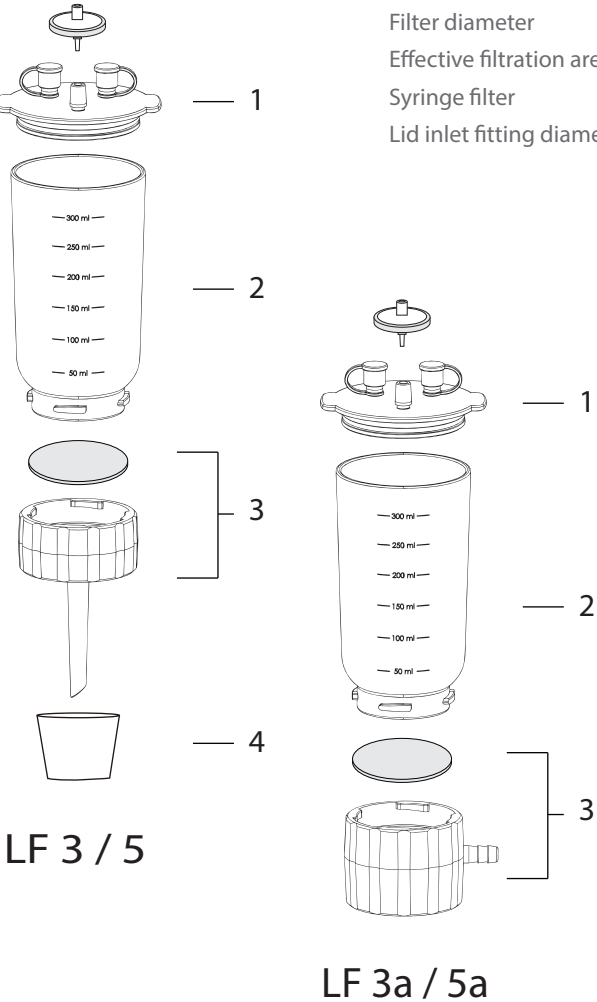
Material	LF 3 / LF 5	LF 3a / LF 5a
Filter funnel	PES	PES
Funnel support base	PC	PC
Membrane support	PP	PP
Funnel lid	PP	PP
Cap of lid	Silicone	Silicone
Syringe filter	PTFE	PTFE

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 ²	12.5 cm ²
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
LF 5, 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.16)	167110-17
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
LF 5, 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 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.
- Withstands autoclave cycles (121°C, 20 minutes).
- MF magnetic filter holder was awarded the United States and Taiwan invention patent.

Specifications

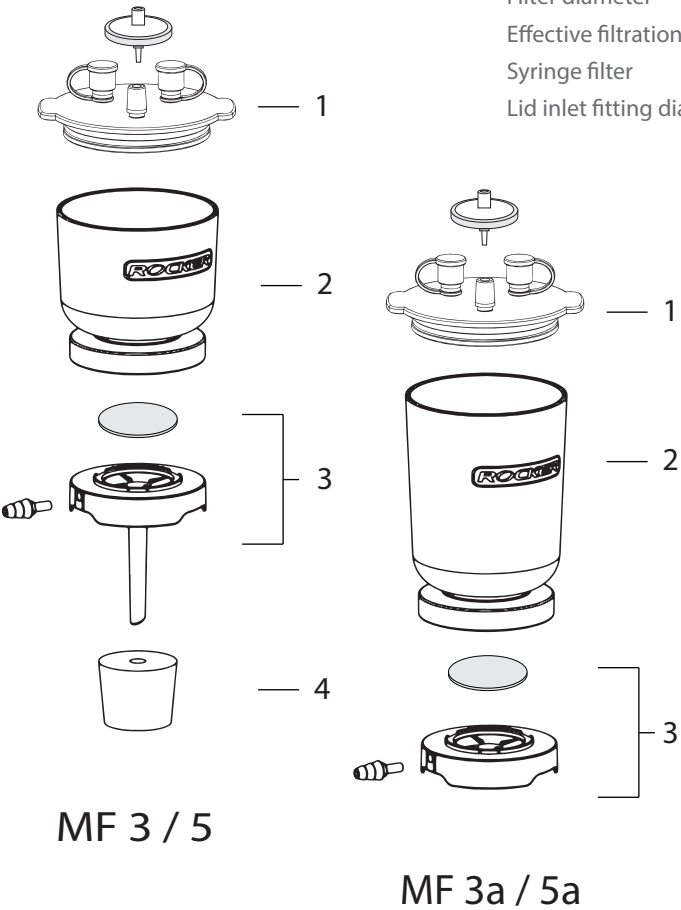
Material	MF 3 / MF 5	MF 3a / MF 5a
Filter funnel	PES	PES
Funnel support base	PES	PES
Membrane support	PES	PES
Funnel lid	PP	PP
Hose barb	PES	PES
Syringe filter	PTFE	PTFE

Specifications

Funnel capacity	300 ml / 500 ml	300 ml / 500 ml
Filter diameter	47 mm	47 mm
Effective filtration area	13.1 cm ²	13.1 cm ²
Syringe filter	25 mm, 0.2 μm	25 mm, 0.2 μm
Lid inlet fitting diameter	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 for Magnetic funnel	200300-36
2 PES magnetic funnel, 300ml	200300-30
PES magnetic funnel, 500ml	200500-30
3 PES support base	200300-32
4 Silicone stopper (No.16)	167110-17
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 for Magnetic funnel	200300-36
2 PES magnetic funnel, 300ml	200300-30
PES magnetic funnel, 500ml	200500-30
3 PES support base	200310-32



Vacuum Filtration System

Two-Year Warranty

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**
Waste bottle and filter holder is made of engineering plastics which are shatterproof, high temperature resistance and autoclavable.
- **International safety certification**
CE certification

Applications

- Filtration for microbiology test
- Suspended solid test
- Vacuum filtration

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)



Specification

Model	Lafil 400 - LF 30		Lafil 400 - LF 32	
Voltage	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	- 720 mmHg		- 720 mmHg	
Max. flow rate	25 l/min	22 l/min	25 l/min	22 l/min
Motor rotation	1750 RPM	1450 RPM	1750 RPM	1450 RPM
Port thread	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	
Filter funnel	PES (300 ml, 47 mm / 50 mm)		SUS316 (100 ml, 47 mm / 50 mm)	
Waste bottle	PC (1200 ml)		PC (1200 ml)	
Funnel support base	PP (for Ø47 mm / Ø50 mm membrane)		SUS316 (for Ø47 mm / Ø50 mm membrane)	
Funnel lid	pp (Containing PTFE syringe filter,) 25 mm, 0.2 µm		—	
Overflow protection	PP		PP	

Vacuum Filtration System

Two-Year Warranty

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.
- **Autoclavable**
LF 5a is made of engineering plastics which shatterproof, high temperature resistance and autoclavable.
- **International safety certification**
CE certification

Applications

- Sample pretreatment
- Medium and buffer purification
- Vacuum filtration

Ordering Information

197404-11(22)
Lafil 400 - LF 5a - 500, Vacuum Filtration System, AC110V, 60Hz (AC220V, 50Hz)

197400-11(22)
Lafil 400, Vacuum Pump
AC110V, 60Hz (AC220V, 50Hz)

ROU-1152-RLS
Autofil, 500ml Disposable Funnel, 24PK

ROU-1153-RLS
Autofil, 1000ml Disposable Funnel, 24PK



Specification

Model	Lafil 400 - LF 5a - 500	
Voltage	110V/60Hz	220V/50Hz
Max. power (W)	100	80
Max. current (A)	1.0	0.4
Max. vacuum	- 720 mmHg	
Max. flow rate	25 l/min	22 l/min
Motor rotation	1750 RPM	1450 RPM
Port thread	5/16 inch (8 mm)	
Dimension (LxWxH)	33.5 x 23 x 43 cm	
Part	Material	Material
Filter funnel	PES (500ml)	PE (500ml, 1000ml)
Storage bottle	Borosilicate glass (500 ml)	Borosilicate glass (500 ml, *1000 ml)
Funnel support base	PP (for Ø47 mm / Ø50 mm membrane)	
Membrane filter	—	PES (0.22 µm, Ø90 mm)
Funnel lid	PP	PE

* 1000ml tissue bottle is optional

Vacuum Filtration System

Two-Year Warranty

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 giving a fast and stable installation without clamp.
- **The patented magnetic design**
Rocker 300 - MF 31 strong magnetic seal 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.

Applications

- Air sampling
- 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	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	- 680 mmHg		- 680 mmHg	
Capacity (Funnel / Waste bottle)	300 ml / 1200 ml		300 ml / 1000 ml	
Filter diameter	47 mm / 50 mm		47 mm / 50 mm	
Effective filtration area	12.5 cm ²		13.1 cm ²	
Port thread	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 series pumps are piston-driven, no need of lubricant, regular oil changes and maintenance; with no oil pollution.
- **Save Time**
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.)

Applications

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

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)



Specification

Model	Rocker 300C -VF12		Chemker 300 -VF12	
Voltage	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. flow rate	23 l/min	20 l/min	20 l/min	18 l/min
Max. vacuum	- 630 mmHg		- 670 mmHg	
Capacity (Funnel / Waste bottle)	300 ml / 1000 ml		300 ml / 1000 ml	
Filter diameter	47 mm		47 mm	
Effective filtration area	9.6 cm ²		9.6 cm ²	
Port thread	5/16 inch (8 mm)		5/16 inch (8 mm)	
Part	Material		Material	
Filter funnel	Borosilicate glass		Borosilicate glass	
Funnel support base	Borosilicate glass		Borosilicate glass	
Membrane support	Borosilicate glass		Borosilicate glass	
Clamp	Anodized aluminum		Anodized aluminum	
Filtration Adaptor	PP		PP	
Storage Bottle	Borosilicate glass		Borosilicate glass	

Multi-Branch Manifold

Features

- **The whole set is made of SUS316**
All parts of BioVac 330, 320 manifold are made of SUS316.
- **Adjustable vent valve design**
The adjustable vent valve design can avoid “Water Hammer” and help to drain residual liquid off the tube.
- **Individual control valve**
Each branch permits individual control.
- **The patented spin-lock design**
BioVac 330 manifold uses a patented spin-lock connection which allows for fast and stable installation without clamp.
- **Compatible with different sizes of funnels**
BioVac 330 manifold is available for Rocker standard 100, 300, 500ml S.S. funnel at option.



* Rocker standard S.S. funnels



Specification

Model	BioVac 330	BioVac 320
Number of branch	3	3
Filter diameter	47 mm / 50 mm	Optional
Funnel capacity	100 ml / 300 ml / 500 ml	Optional
Effective filtration area	9.6 cm ²	Optional
Port thread	5/16 inch (8 mm)	5/16 inch (8 mm)
Dimension (LxWxH)	44.5 x 12.9 x 12.5 cm	44.5 x 12.9 x 15 cm
Part	Material	Material
Body	SUS316	SUS316
Control valve	SUS316	SUS316
Funnel support base	SUS316	SUS316
Handle	SUS316	SUS316
Connector	SUS316	SUS316

Applications

- Filtration for microbiology test
- Chemistry Experiments
- General laboratory filtration

Ordering Information

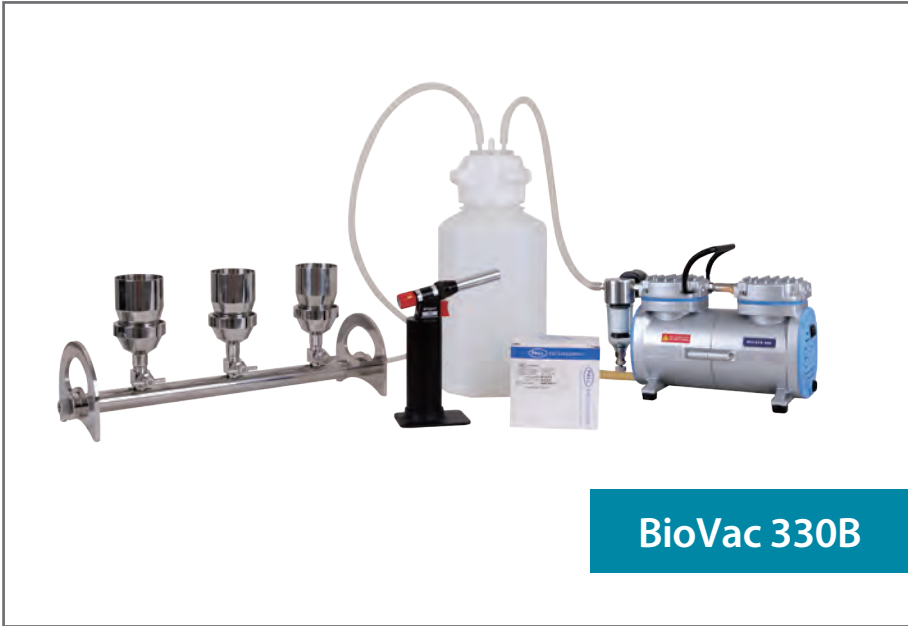
- 167103-23** BioVac 330, 3 Places Stainless Steel Manifold (without S.S. funnel)
167110-23 BioVac 320, 3 Places Stainless Steel Manifold
167103-61 100ml Stainless Steel Funnel
167103-63 300ml Stainless Steel Funnel
167103-65 500ml Stainless Steel Funnel
200300-01 MF 3, 300ml Magnetic filter holder with lid kit
200500-01 MF 5, 500ml Magnetic filter holder with lid kit

Vacuum Filtration System

Two-Year Warranty

Features

- **Special design for microbiology filtration**
BioVac 330B is designed for a large number of samples filtration in microbiology test. The complete system includes vacuum pump, manifold, burner, waste bottle and filter.
- **The manifold is made of SUS316**
All parts of manifold are made of SUS316 which offer excellent chemical resistance and can be fast sterilized by flame, steam and oven etc. .
- **The patented spin-lock design**
The manifold uses a patented spin-lock connection which allows for fast and stable installation without clamp.
- **4 liter PP waste bottle with drain**
The large capacity of 4000ml waste bottle with drain offers convenience of collecting and draining waste solution.
- **Adjustable vent valve design**
The adjustable vent valve design can avoid “Water Hammer” and help to drain residual liquid off the tube.



The adjustable vent valve design can avoid “Water Hammer” and help to drain residual liquid off the tube.

Specification

Model	BioVac 330B	
Voltage	110V/60Hz	220V/50Hz
Max. flow rate	37 l/min	34 l/min
Max. vacuum	- 680 mmHg	
Waste bottle	4000 ml, made of PP with drain	
Number of branch	3	
Filter diameter	47mm / 50mm	
Funnel capacity	100ml	
Effective filtration area	9.6 cm ²	
Port thread	5/16 inch (8 mm)	
Manifold Part	Material	
Body	SUS316	
Control valve	SUS316	
Filter funnel	SUS316	
Funnel support base	SUS316	
Connector	SUS316	

Applications

- Filtration for microbiology test
- Chemical experiment
- General laboratory filtration

Ordering Information

- 167403-11(22)**
BioVac 330B, Vacuum Filtration System, complete set includes :
* Rocker 400, Oil Free Vacuum Pump
* BioVac 331, 3 Places Stainless Steel Manifold Set
* 4000 ml PP Waste Bottle with drain
* Dragon 100, Torch Burner
* MCE Membrane, 47 mm, 0.45 μm, 200/PK
* Silicone Tube (2m)

Alumium Multi-Branch Manifold

Features

- **Light and handy aluminum design**
All parts of MultiVac 310-MS are made of anodized 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-MS manifold include no.8 silicone stoppers which can accept various types of filter holders at option.

Applications

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

Ordering Information

180310-01
MultiVac 310-MS, 3 Places Aluminum Manifold with No. 8 stopper x 3



MultiVac 310-MS



The tubing to the vacuum source can be connected to the other side of manifold.

Specification

Model	MultiVac 310-MS
Number of branch	3
Filter diameter	Optional
Funnel capacity	Optional
Effective filtration area	Optional
Port thread	5/16 inch (8 mm)
Dimension (LxWxH)	47 x 13 x 16 cm
Part	Material
Body	Anodized aluminum
Control valve	Anodized aluminum
Handle	Anodized aluminum
Hose barb	Anodized aluminum

Vacuum Filtration System

Two-Year Warranty

Features

- **Special design for large number samples**
MultiVac 310-MS-T is an economical model for large sample filtration. This system includes vacuum pump, manifold, waste bottle and filter holders.
- **Light and handy aluminum design**
The manifold is made of anodized aluminum which is autoclavable, light and cost-effective.
- **Magnetic filter holder is included**
Magnetic filter holder allows 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.

Applications

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

Ordering Information

180311-11(22)-T
MultiVac 310-MS-T, Vacuum Filtration System, complete set includes :
* Rocker 400, Oil Free Vacuum Pump
* MultiVac 310-MS, 3 Places Aluminum Manifold
* MF 3, 300ml Magnetic Filter Holder with lid kid (3 pcs)
* 4000 ml PP Waste Bottle with drain
* Silicone Tube (2m)



MultiVac 310-MS-T

Specification

Model	MultiVac 310-MS-T	
Voltage	110V/60Hz	220V/50Hz
Max. flow rate	37 l/min	34 l/min
Max. vacuum	- 680 mmHg	
Waste bottle	4000 ml, made of PP with drain	
Number of branch	3	
Filter diameter	47mm	
Funnel capacity	300ml	
Effective filtration area	13.1 cm ²	
Port thread	5/16 inch (8 mm)	
Manifold Part	Material	
Body	Anodized aluminum	
Control valve	Anodized aluminum	
Handle	Anodized aluminum	
Hose barb	Anodized aluminum	

Stainless Steel Spin-Lock Design Multi-Branch Manifold

Features

- **Quick-assembly and disassembly**
Each component can be removed easily by hand for cleaning and autoclaving to prevent biofilms and eliminate sources of contamination.
- **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 S.S. 100, 300, 500ml funnel at option.

Applications

- Filtration for microbiology test
- Chemical experiment
- General laboratory filtration

Ordering Information

- 180300-02**
MultiVac 300-MB, 3 Places S.S. Manifold with Rocker S.S. funnel adaptor
- 180600-02**
MultiVac 600-MB, 6 Places S.S. Manifold with Rocker S.S. funnel adaptor
- 167103-61** 100ml S.S. Funnel
- 167103-63** 300ml S.S. Funnel
- 167103-65** 500ml S.S. 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 ²	9.6 cm ²
Port thread	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	SUS316	SUS316
Control valve	Anodized aluminum	Anodized aluminum
Funnel support base	SUS316	SUS316
Membrane support	SUS316	SUS316
Handle	Anodized aluminum	Anodized aluminum
Connector	SUS316	SUS316

Stainless Steel Multi-Branch Manifold

Features

- **Quick-assembly and disassembly**
Each component can be removed easily by hand for cleaning and autoclaving to prevent biofilms and eliminates sources of contamination.
- **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.

Applications

- Filtration for microbiology test
- Chemical experiment
- General laboratory filtration

Ordering Information

- 180300-01**
MultiVac 300-MS, 3 Places S.S. Manifold with No. 8 stopper funnel adaptor
- 180600-01**
MultiVac 600-MS, 6 Places S.S. Manifold with No. 8 stopper funnel adaptor
- 200300-01** MF 3, 300ml Magnetic Filter Holder with lid kit
- 200500-01** MF 5, 500ml 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
Port thread	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	SUS316	SUS316
Control valve	Anodized aluminum	Anodized aluminum
Funnel support base	SUS316	SUS316
Handle	Anodized aluminum	Anodized aluminum
Connector	SUS316	SUS316

Vacuum Filtration System

Two-Year Warranty

Features

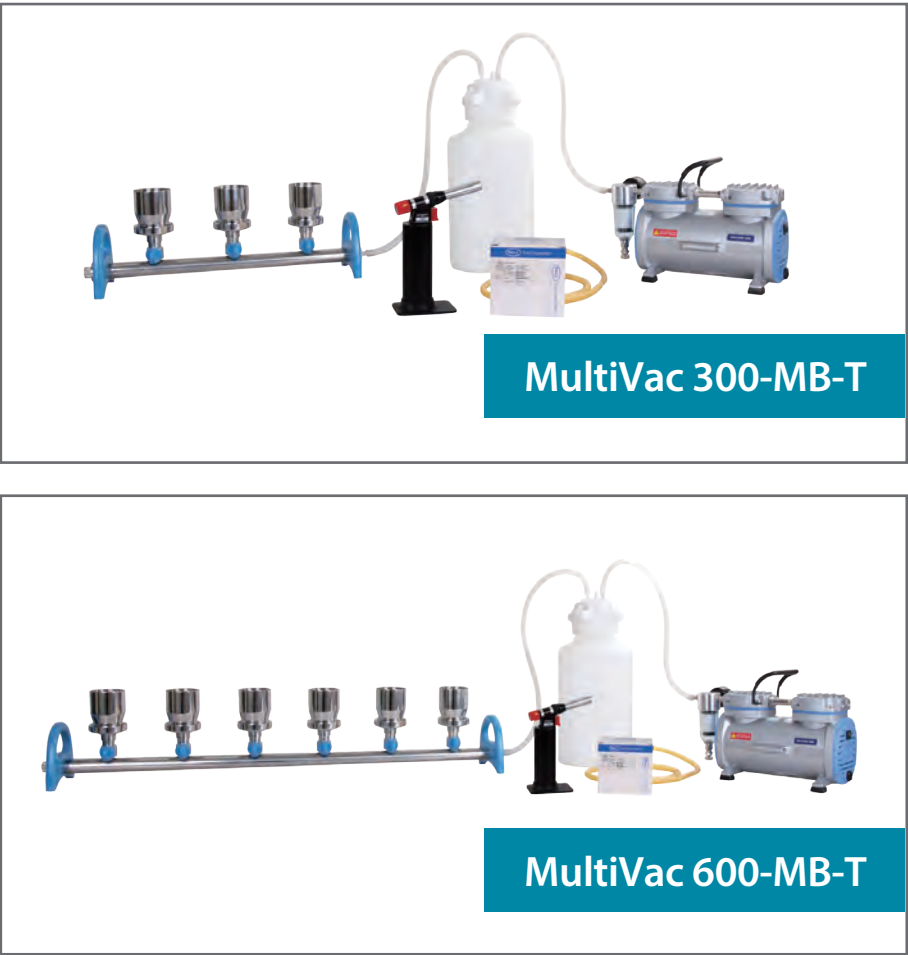
- **Special design for microbiology filtration**
MultiVac 330-MB-T / 600-MB-T are designed for a large number of samples filtration in microbiology test. Each system includes vacuum pump, manifold, burner, waste bottle and filter.
- **Innovative vent valve design**
An adjustable vent valve integrated 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.
- **Individual control valve**
Each branch permits individual control.

Applications

- Filtration for microbiology test
- Chemical experiment
- General laboratory filtration

Ordering Information

- 180300-11-T (22-T)**
MultiVac 300-MB-T, Vacuum Filtration System, complete set includes :
* Rocker 400, Oil Free Vacuum Pump
* MultiVac 300-MB, 3 Places Stainless Steel Manifold
* 3 x S.S. Funnel 100ml
* 4000 ml PP Waste Bottle with drain
* Dragon 100, Torch Burner
* MCE Membrane, 47 mm, 0.45 µm, 200/PK
* Silicone Tube (2m)
- 180600-11-T (22-T)**
MultiVac 600-MB-T, Vacuum Filtration System, complete set includes :
* Rocker 400, Oil Free Vacuum Pump
* MultiVac 600-MB, 6 Places Stainless Steel Manifold
* 6 x S.S. Funnel 100ml
* 4000 ml PP Waste Bottle with drain
* Dragon 100, Torch Burner
* MCE Membrane, 47 mm, 0.45 µm, 200/PK
* Silicone Tube (2m)



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	- 680 mmHg		- 680 mmHg	
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 ²		9.6 cm ²	
Port thread	5/16 inch (8 mm)		5/16 inch (8 mm)	
Manifold Part	Material		Material	
Body	SUS316		SUS316	
Control valve	Anodized aluminum		Anodized aluminum	
Filter funnel / base	SUS316		SUS316	
Handle	Anodized aluminum		Anodized aluminum	
Connector / vent valve	SUS316		SUS316	

WaterVac100 Vacuum Filtration System

Features

- **Save 70% bench space**
The compact design of WaterVac 100 vacuum filtration system is ideal for use on the work bench or in the laminar flow hood where its small size can save much precious space.
- **Filtration without need of waste bottle**
No suction flask and waste bottle design can save lots of bench sapce and time to empty waste bottle.
- **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.

Applications

- Microbiological Filtration Technique for analyzing aqueous-based fluids for microbial contamination.
- Suspended Solid test for municipal, surface, ground and drinking water.
- General filtration without the need of collecting filtrate.

Ordering Information

- 190100-01/02**
WaterVac 100, Vacuum Filtration System with AC100-240V adaptor, US /EU plug
- 190110-01/02**
WaterVac 100-MS, Vacuum Filtration System with No. 8 stopper funnel adaptor, AC100-240V adaptor, US /EU plug
- 190120-01/02**
WaterVac 100-MB, Vacuum Filtration System with Rocker S.S. funnel adaptor, AC100-240V adaptor, US /EU plug



Specification

Model	WaterVac 100 - MS	WaterVac 100 - MB
Voltage	DC 12 V, 1.5A	
Max. flow rate	2.2 LPM (air) / 0.5 LPM (liquid)	
Max. vacuum	540 mmHg	
Weight	1.16 kg	
Effective filtration area	optional	
Dimension (LxWxH)	170 x 120 x 96 mm	
Suppose base	silicone stopper	Spin-Lock design
Part	Material	
Housing	SUS304	
Valve plate	EPDM (Ethylene Propylene Diene Monomer)	
Diaphragm	EPDM (Ethylene Propylene Diene Monomer)	
Inlet / outlet port	SUS316	
O-ring	FKM	
Tube	silicon , Ø4x8mm, 2m	

How to order?

You can select Combination A, B or C to complete your order

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)

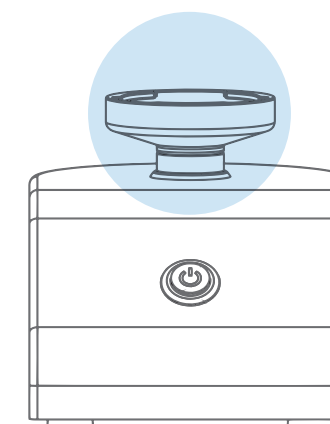
C



WaterVac 100
vacuum filtration system
(190100-01/02) (U.S. plug / EU plug)

Customized Design

We can offer customized adaptor for your 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)



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



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



Sartorius, 100ml
disposable plastic funnel
(16A07)

+



Adaptor for Sartorius
disposable plastic funnel
(190100-74)



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

+



Adaptor for Millipore
disposable plastic funnel
(190100-73)



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

+



Adaptor for Pall
disposable plastic funnel
(190100-75)



Silicone Tube
Φ4.2-8 mm, 200cm
(199100-68)

+



Adaptor for
Hose barb (Ø4-8mm)
(190100-76)

Waste Bottle Accessories



Specification		Material	
Port thread (I.D. tubing)	5/16 in. (8 mm)	Container	PES
Graduated increment	100 ml	Cover	PES
Overflow protection	Yes	Overflow protection	PP
Cap with suction fitting	Yes		
Autoclavable	Yes		



Specification		Material	
Port thread (I.D. tubing)	5/16 in. (8 mm)	Container	PC
Graduated increment	100 ml	Cover	PC
Overflow protection	Yes	Overflow protection	PP
Cap with suction fitting	Yes		
Autoclavable	Yes		



Specification		Material	
Port thread (I.D. tubing)	5/16 in. (8 mm)	Container	Borosilicate glass
Graduated increment	100 ml	Connector	PP
Drain	Yes		
Stopper	No.16 (option)		
Silicone fixing sucker	Yes		



Specification		Material	
Port thread (I.D. tubing)	1/4 in. (6.5 mm)	Container	PP
Graduated increment	500 ml	Cover	PP
Overflow protection	Yes	Overflow protection	PP
Autoclavable	Yes		



Specification		Material	
Port thread (I.D. tubing)	1/4 in. (6.5 mm)	Container	PP
Graduated increment	500 ml	Cover	PP
Overflow protection	Yes	Overflow protection	PP
Drain	Yes	Tube	Rubber
Autoclavable	Yes		

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

Waste Bottle Accessories



Specification	2000ml waste bottle	4000ml waste bottle
Catalog number	162-2102-OEM	167200-46
Port thread (I.D. tubing)	1/4 in. (6.5 mm)	1/4 in. (6.5 mm)
Graduated increment	500 ml	500 ml
Overflow protection	No	Yes
Material of cover	PP	PP



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



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



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



Specification		Material	
Suitable flask size	1000 ml	Fixing sucker	Silicone

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

BioSuction
 BioDolphin
 Lafil 100
 BioVac 225 Plus / 240 Plus
 Lafil 400 Plus
 Lafil 400 - 5a - 500
 Lafil 400 - LF 30
 Accessory
 ELISA Washer
 BioWasher 200 / 100
 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.

Applications

- Cell culture aspiration
- Laboratory waste suction

Ordering Information

- 199100-00** BioDolphin-LB (Light Blue)
 Complete kit includes handle, rack and 5 kinds of adaptors (No.2-6).
- 199110-00** BioDolphin-DB (Deep Blue)
- 199120-00** BioDolphin-P (Pink)
- 199130-00** BioDolphin-G (Green)



Standard accessory :

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

Optional accessory :

- 8. 199100-75** 1-channel tip adaptor with ejector
- 9. 199100-76** 1-channel tip adaptor (150mm)

BioDolphin Suction kit is available for optional colors below:

- a. Green
- b. Pink
- c. Deep Blue

Specification

Model	BioDolphin
Operation	Press to suck
Port thread	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, 8-channel tip adaptor with ejector	POM
1, 8-channel S.S adaptor	POM and SUS 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 microplates, supernatants after centrifugation 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.
- **Autoclavable**
All supplied fittings are made of POM material available for autoclave.
- **Safety compliance**
CE certification

Applications

- Cell culture aspiration
- Laboratory waste suction

Ordering Information

- 197100-01**
Lafil 100, Portable Suction System with AC100-240V adaptor, US plug
- 197100-02**
Lafil 100, Portable Suction System with AC100-240V adaptor, EU plug
- 197000-02**
LF 3a, 300ml PES Filter Holder with lid kit
- 197000-07**
LF 5a, 500ml PES Filter Holder with lid kit
- ROU-1152-RLS**
Autofil, 500ml Disposable Funnel
0.22µm, Ø90mm, PES membrane, 24/PK
- ROU-1402-RLS**
Autofil 50ml, Disposable Centrifuge Funnel
0.22µm, Ø40mm, PES membrane, 24/PK



Lafil 100 with Autofil 50ml disposable centrifuge funnel



Lafil 100 with Autofil 500ml disposable funnel



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



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

A Dual-Function System for Suction and Filtration



GL45 Suction Cap

Specification	Suction cap	Cap with storage bottle	Cap with storage bottle
Catalog number	197000-60	197000-60-500	197000-60-1000
Capacity	-	500 ml	1000 ml
Port thread (I.D. tubing)	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	ROU-1402-RLS / ROU-1152-RLS
Max. vacuum	500 mmHg	Capacity	50ml / 500ml
Max. flow rate	1.0 L/min	Part	Material
Motor	DC brushless motor	Funnel	PE
Transformer	DC 12V / AC 100 - 240V	Lid	PE
Net weight	1.3 kg	membrane	PES
Dimension (LxWxH)	26.5 x 13 x 21 cm	Model	LF 3a/5a
Part	Material	Capacity	300ml / 500ml
Case	ABS	Part	Material
Handle	POM	Funnel	PES
1/8-channel tip adaptor with ejector	POM	Lid	PP
GL45 suction cap	PP	Membrane support	PP

Portable Suction System

Features

- **Adopts oil-free vacuum pump**
No lubricant required, maintenance free, low noise and durable.
- **Dual overflow protection**
Both built-in overflow protection and 0.2 um PTFE hydrophobic disc filter between suction bottle and pump can fully prevent medium from flowing into the pump.
- **Autoclavable**
Waste bottle and all supplied fitting parts are autoclavable.
- **Safety compliance**
CE certification

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)
- 199100-30**
Handle
- 199100-75**
1-channel tip adaptor with ejector
- 199100-50**
8-channel tip adaptor with ejector
- 199100-76**
1-channel tip adaptor (150mm)



Specification

Model	BioVac 225 Plus		BioVac 240 Plus	
Voltage	110V/60Hz	220V/50Hz	110V/60Hz	220V/50Hz
Max. vacuum	- 650 mmHg	- 650 mmHg	- 720 mmHg	- 720 mmHg
Max. flow rate	25 l/min	23 l/min	40 l/min	38 l/min
Port thread	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)	37 x 15 x 25 cm		53 x 24 x 35 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	

Portable Suction System

Two-Year Warranty

Features

- **Oil-free vacuum pump**
No lubricant required, maintenance free, low noise and durable.
- **Dual overflow protection**
Both built-in overflow protection and 0.2 um PTFE hydrophobic disc filter between suction bottle and pump can fully prevent medium from flowing into the pump. (Lafil 400-LF30 is supplied with overflow protection and without disc filter)
- **Autoclavable**
Waste bottle and all supplied fitting parts are autoclavable.
- **Safety compliance**
CE certification

Applications

- Cell culture aspiration
- Laboratory waste suction

Ordering Information

- 197405-11(22)**
Lafil 400 Plus, Portable Suction System
AC110V, 60Hz (AC220V, 50Hz)
- 197401-11(22)**
Lafil 400 - LF 30, Vacuum Filtration System
AC110V, 60Hz (AC220V, 50Hz)
- 197404-11(22)**
Lafil 400 - LF 5a - 500, Vacuum Filtration System, AC110V, 60Hz (AC220V, 50Hz)
- 199100-30**
Handle
- 199100-75**
1-channel tip adaptor with ejector
- 199100-50**
8-channel tip adaptor with ejector
- 199100-76**
1-channel tip adaptor (150mm)



Specification

Model	Lafil 400 Plus	
Voltage	110V/60Hz	220V/50Hz
Max. vacuum	- 720 mmHg	- 720 mmHg
Max. flow rate	25 l/min	22 l/min
Port thread	3/16 inch (5 mm)	3/16 inch (5 mm)
Thermal protector	Yes	Yes
Pump type	Piston	Piston
Dimension (LxWxH)	33.5 x 23 x 29.5 cm / 33.5 x 23 x 43 cm / 33.5 x 23 x 45 cm	
Part	Material	
Suction bottle	PES (1200ml)	
1-channel / 8-channel tip adaptor with ejector	POM	
1-channel tip adaptor (150 mm)	POM	

Disposable Funnel



Disposable Filtration Set

Specification	250ml filtration set	500ml filtration set	1000ml filtration set
Catalog number	ROU-1101-RLS	ROU-1102-RLS	ROU-1103-RLS
Filter diameter	66 mm	90 mm	90 mm
Pore size	0.22 µm	0.22 µm	0.22 µm
Material of filter	PES	PES	PES
Material of shell	PE	PE	PE



Disposable Funnel

Specification	250ml funnel	500ml funnel	1000ml funnel
Catalog number	ROU-1151-RLS	ROU-1152-RLS	ROU-1153-RLS
Filter diameter	66 mm	90 mm	90 mm
Pore size	0.22 µm	0.22 µm	0.22 µm
Material of filter	PES	PES	PES
Material of shell	PE	PE	PE



Disposable Centrifuge Funnel

Specification	15ml centrifuge funnel	50ml centrifuge funnel
Catalog number	ROU-1411-RLS	ROU-1402-RLS
Filter diameter	40 mm	40 mm
Pore size	0.22 µm	0.22 µm
Material of filter	PES	PES
Material of shell	PE	PE



Funnel Rack

Specification	Cradle ring	Pedestal stand
Catalog number	ROU-1122-RLS	ROU-1116-RLS



	15	50	250	500	1000	250	500	1000
Size (ml)								
0.2 µm PES	V	V	V	V	V	V	V	V
0.45 µm PES	V	V	V	V	V	V	V	V

Waste Bottle



PC Waste Bottle

Specification	1000ml waste bottle	3000ml waste bottle
Catalog number	167200-31	167200-33
Graduated increment	100 ml	100 ml
Overflow protection	Yes	Yes
Port thread (I.D. tubing)	5/16 in. (8 mm)	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
Port thread (I.D. tubing)	5/16 in. (8 mm)
Autoclavable	Yes



PES Waste Bottle

Specification		Material	
Catalog number	197000-12	Container	PES
Capacity	1200 ml	Cover	PES
Graduated increment	100 ml	Overflow protection	PP
Overflow protection	Yes		
Port thread (I.D. tubing)	5/16 in. (8 mm)		
Autoclavable	Yes		



PP Waste Bottle

Specification	2000ml waste bottle	4000ml waste bottle
Catalog number	165-2102-OEM	167200-47
Graduated increment	500 ml	500 ml
Overflow protection	No	Yes
Port thread (I.D. tubing)	1/4 in. (6.5 mm)	1/4 in. (6.5 mm)
Autoclavable	Yes	Yes



PP Waste Bottle with drain

Specification		Material	
Catalog number	167200-48	Container	PP
Capacity	4000 ml	Cover	PP
Graduated increment	500 ml	Overflow protection	PP
Overflow protection	Yes	Tube	Rubber
Drain	Yes		
Port thread (I.D. tubing)	1/4 in. (6.5 mm)		
Autoclavable	Yes		

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

Semi-Automatic Microplate Washer (ELISA Washer)

Features

- **Economical**
BioWasher 200 is very ideal for washing immunoassays in 8-well and 96-well microplate for 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 S.S. 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 SUS 304. Both have a long working life and are autoclavable.

Applications

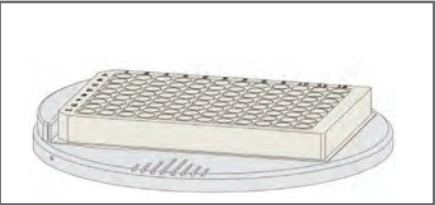
- ELISA washing procedure
- 96-well microplate washing and dispensing

Ordering Information

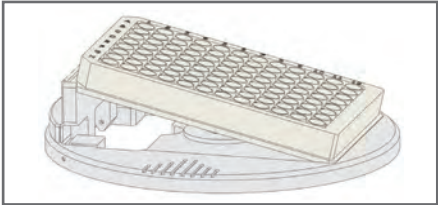
- 196200-11(22)**
BioWasher 200, Semi-Automatic Microplate Washer
AC110V, 60Hz (AC220V, 50Hz)
- 196811-00** 8-channel Dispenser
- 196100-06** Buffer Bottle (2L)
- 196100-04** Waste Bottle (2L)



BioWasher 200



Flat 96-well microplate



Upward-sloping 96-well microplate

Specification

Model	BioWasher 200
Max. flow	500 ml/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	SUS304
Machine dim. (LxWxH)	20.4 x 24.2 x 13.5 cm
New weight	4.1 kg

Gravity-fed Microplate Washer

Features

- **Economical**
BioWasher 100 is a manual dispenser by utilizing the force of gravity, ideal for washing immunoassays in 96-well microplate for ELISA procedure or similar applications.
- **Convenient operation**
Unique designed plate base can 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 S.S. 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 2-row of tubes are made of SUS 304. Both have a long working life and are autoclavable.

Applications

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

Ordering Information

- 196100-01**
BioWasher 100 gravity-fed microplate washer, complete set includes 8-channel dispenser and plate base
- 196811-00** 8-channel Dispenser
- 199100-68**
Silicone Tubing(Φ4.2xΦ8 mm), 200cm
- 196100-04** Waste Bottle (2L)
- 196100-02** Microplate base



BioWasher 100



Installation diagram

To feed the 8-channel dispenser enough gravity to dispense, buffer bottle must be placed 60 cm above plate base.
* Waste Bottle (2L) and Buffer Bottle (4L) are optional

Specification

Model	BioWasher 100
Min. height	Buffer bottle must be placed 60 cm above plate base.
8-channel dispenser dim. (mm)	137(L) x 67(W) x 33(H)
8-channel dispenser material	PTFE
Port thread	3/16 inch (5 mm)
Plate base dim. (mm)	197(L) x 148(W) x 433(H)
Plate base material	Acrylic
Dispensing tube material	SUS304

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 phage DNA, RNA, genomic DNA, viral nucleic acids from PCR and other enzymatic reactions.

➤ **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**

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

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



96-well microplate



micro centrifuge tubes (24 holes)



large-volume centrifuge tubes (8 holes)

Specification

Model	WelVac 200
Vacuum manifold material	Anodized aluminum
Gasket material	Rubber
O-ring material	Rubber
Column adapter board material	PC (polycarbonate)
Luer connector material	Silicone rubber
Luer stopper material	Silicone rubber
Port thread	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

Microplate Vacuum Manifold System

Two-Year Warranty

Features

➤ **One system meeting full needs**

By coupling with a vacuum pump, WelVac 210 can be a complete set of vacuum purification system including Rocker 300 oil-free vacuum pump, silicone tube, waste tray, disc filter (prevent waste liquid from overflowing into pump). The optional PES waste bottle can be as a good alternative to collect high volume of waste when used with large-volume centrifuge tubes.

➤ **Quiet and no air pollution**

WelVac 210 adopts Rocker 300 oil-free vacuum pump with low noise, adjustable vacuum and no air pollution.

Applications

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

Ordering Information

- 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)



WelVac 210



For large samples

** Waste bottle is optional

Specification

Model	WelVac 210
Max. vacuum	- 680 mmHg (adjustable)
Max. flow	23 l/min
Noise level	50 dB
Waste bottle	1200 ml (with overflow protection device)
Waste bottle material	PES
Port thread	5/16 inch (8 mm)
Disc filter material	PTFE
Disc filter specification	Ø35mm, 0.2 µm

Lab Burner

Features

- Piezo ignition
- Max. temperature: 1300°C
- Adjustable flame
- Refillable butane tank

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.

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.
- **Safety compliance**
CE certification

Applications

- Molecular biology
- Biochemistry

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 (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)
- 179300-05 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, 0.5 ml x12 well and 1.5 ml x 12 well
- 179300-09 combination block module, one side for 0.5 ml x 30 well and another side1.5ml (or 2.0 ml) x 20 well
- 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℃	Ambient + 5 - 150℃
Resolution	0.1℃	0.1℃
Accuracy	±0.2℃	±0.2℃
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℃	Cut off at 170℃

Colony Counter

Two-Year Warranty

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.
- **Safety compliance**
CE certification

Applications

- Total bacteria counting
- Total coliform counting

Ordering Information

- 175330-01**
Galaxy 330, Colony Counter with AC100-240V adaptor, US plug
- 175330-02**
Galaxy 330, Colony Counter with AC100-240V adaptor, EU plug
- 175331-01**
Galaxy 330, Colony Counter with software, AC100-240V adaptor, US plug
- 175331-02**
Galaxy 330, Colony Counter with software, AC100-240V adaptor, EU plug
- 175330-12**
Software Package for Galaxy330 (Include a 8G USB flash drive and connecting cable)



Galaxy 330



Galaxy 330, PC Software (optional)

In addition to recording and tracing data, the newest 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, 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

Two-Year Warranty

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 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.



Rocker 300 - LF 30 - SS

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 μ m , 100/PK
* Silicone Tube (1m)

Specification

Model	Rocker 300 - LF 30 - SS	
Voltage	110V/60Hz	220V/50Hz
Max. flow rate	22 l/min	20 l/min
Max. vacuum	- 680 mmHg	
Capacity	Funnel : 300 ml, Waste bottle : 1200 ml	
Filter diameter	47 mm / 50 mm	
Effective filtration area	12.5 cm ²	
Port thread	5/16 inch (8 mm)	
Part	Material	
Filter funnel	PES	
Waste bottle	PC	
Funnel support base	PP	
Funnel lid	PP	
Overflow protection	PP	
Filter	Glass Fiber Discs, 47mm, 1 μ m , 100/PK	

COD Reactor

Features

- ❖ **Compliance with regulations**
CR25 COD reactor is used to digest closed micro reflux COD vial and can meet USEPA 410. 4. It is easier and safer than traditional open macro reflux method.
- ❖ **Special COD program**
Just press start/stop button, the reactor starts to heat up to 150°C and keep for 2-hour countdown then shut down automatically with 10-sec audio alarm.
- ❖ **3 additional program settings**
Temperature range setting from 60°C - 200°C and timer from 1 - 999. Built-in 3 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.

Applications

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

Ordering Information

- 179200-11(22)**
CR 25, COD Reactor
AC110V, 60Hz (AC220V, 50Hz)
- 179100-45**
Combination Aluminum Block for
8 x 20 mm + 6 x 25 mm vial



CR 25



Combination block (Optional)
Aluminum block for 8 x 20 mm + 6 x 25 mm vial

Specification

Model	CR 25
Read out	4 digital LED of set temperature, set time, process temperature, residual time display.
Timer	1~999 minutes with audible alarm and automatic shutoff or continuous operation.
Accuracy	±2°C (at 150°C)
Temperature rang	Fixed 150°C (COD program) 60°C~200°C, adjustable.
Housing structure	Stainless steel with powder paint coating
Block structure	Anodized aluminum
Power	AC110V, 60Hz (AC220V, 50Hz), 220Watt
Safety	Hot top indicator (flashing when block temperature is over 70°C) Automatic shutoff when block temperature is over 210°C
Block capacity	25 x 16 mm sample vials, Optional block (8 x 20 mm + 6 x 25 mm vial) is available.

COD Detector

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.

Applications

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

Ordering Information

- 198200-01**
CD200, COD Detector with US plug adaptor (100-240V)
- 198200-02**
CD200, COD Detector with EU plug adaptor (100-240V)



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	3s
Optical stability	≤ 0.005 Abs / 30min
Storage	100
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

Applications

- ◆ Household 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	—	—	0~20.00, 200.0 μs/cm	—
	—	—	0~2.000, 20.00 ms/cm	—
	—	—	Auto Range	—
Resistivity(MΩ)	—	—	—	1.00~18.2 MΩ
Temperature	—	0.00~99.9℃	0.00~99.9℃	0.00~99.9℃
Accuracy				
PH	0.01±1digit	0.01±1digit	—	—
ORP (mV)	1±1digit	1±1digit	—	—
Conductivity	—	—	±1% full scale	—
Resistivity(MΩ)	—	—	—	±1% full scale
Temperature	—	±0.5℃	±0.5℃	±0.5℃
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: ± 0.01pH
- ◆ COA certificate is supplied with each bottle.

Ordering Information

- 168700-50**
pH Buffer 7.00 ± 0.01 , 500ml
- 168400-50**
pH Buffer 4.01 ± 0.01 , 500ml
- 168100-50**
pH Buffer 10.01 ± 0.01 , 500ml
- 168103-50**
3M KCL Buffer , 500ml



Specification

pH Electrodes							
Cat. No.	Type	Application	Connector	Internal element	Juction	Size	Cable
168210-13	Glass	General Purpose	BNC	Ag/Agcl	Ceramic	φ 12x155 mm	1m
168210-16	ATC probe						
pH Buffer				Resistivity Electrode			
Cat. No.	Description			Cat. No.	Description		
168700-50	pH 7.00 ± 0.01 , 500ml			171230-30	Resistivity Electrode, 1 meter . (For EC-230)		
168400-50	pH 4.01 ± 0.01 , 500ml			Conductivity Electrode			
168100-50	pH 10.01 ± 0.01 , 500ml			Cat. No.	Description		
KCL Buffer				171220-30	Conductivity Electrode, K=1.0, 1 meter (For EC-220)		
Cat. No.	Description			Carry case			
168103-50	3M KCL , 500ml			Cat. No.	Description		
Conductivity Buffer				168106-01	Carry case		
Cat. No.	Description						
HAN-HI703IL	1413μs/cm, 500ml						

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 SUS304, durable and easy to clean.

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)



Soner203



Soner203H



Soner206



Soner206H

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	24x16x24	33x18x29	33x18x29
Tank capacity (liter)	3	3	6	6
Housing	SUS304	SUS304	SUS304	SUS304
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 SUS304, durable and easy to clean.

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℃)	No	Yes (Max. 60℃)
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	SUS304	SUS304	SUS304	SUS304
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

- 188203-30** 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
- 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
- 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 ²	oz/in ²	in. Hg	mmHg (Torr)	in. H ₂ 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 ³ / 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
ABS	E	E	75	100	21	P	1.06
PP	E	E	85	100	20	F	0.92
PC	E	F	130	140	12	F	1.20
POM	P	F	90	110	19.1	P	1.42
Nylon6	G	E	80	120	6	F	1.15
PSU	E	E	160	180	20	F	1.24
PES	E	E	180	220	8.7	F	1.37
PVDF	E	E	105	150	19.6	G	1.78
PTFE	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
ABS	P	P	P	G
PP	F	P	F	P
PC	G	P	F	G
POM	F	P	P	P
Nylon6	G	P	F	F
PSU	E	G	F	G
PES	E	E	F	G
PVDF	G	P	G	G
PTFE	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