

# Liquid Handling Equipment



# Peristaltic Pump

Advancing the Science of Liquid Handling



## Advanced Control Features

- > Icon Driven User Interface allows for easy setup and operation
- > Large Backlit LCD Display is easy to view from a distance
- > Durable Front Overlay is resistant to chemicals
- > Polarized and Angled Screen allows for glare free viewing
- > "Trouble-Free" Calibration Screen allows for accurate and quick calibration
- > Ultra High Precision Stepper Motor ensures repeatability and accuracy

## User-Friendly Design Features

- > Low Profile Design reduces space required on the bench or in a hood
- > Pump Settings can be saved and recalled saving time in multi-use settings. Nine quick retrieval setups are available
- > Multi-Language Help Screens: English, Chinese, Deutsch, Francaise, Japanese, Korean, and Spanish

## Vdose® ELITE Additional Features

- > Multiple stacking pump heads allow for higher volumes and multiple fill applications with one pump
- > Microcassette head is ideal for precision micro-dispensing of liquids in well plates, microtubes, or microcentrifuge tubes
- > Works with 2, 3, 6 and 8mm tubing
- > Pump allows for different ramping profiles to avoid splashing or foaming
- > Accommodates a variety of dispensing and process applications

Functionality	Vdose® PRO	Vdose® ELITE
Modes	Dispense Mode	Dispense Mode and Flow Mode
Motor	Dual Speed 75 and 150 rpm	Variable Speed 0.5 to 400 rpm
Direction	Unidirectional; Clockwise	Bidirectional; Clockwise and Counterclockwise
Ramp	Not Offered	User Ramp Control for Dispense and Flow Modes 5 Profiles
Drawback	Not Offered	For Filling into a Closed Container
Pump Heads	Single	Single, Dual, Microcassette
Order No.	W1100100	W1100200

## Peristaltic pump standard package includes

Peristaltic pump, 2.3mm wall thickness single pump head; Silicone tube, iD 3mm, with built-in delivery nozzle and glass sinker, length 1.5m ( Order NO. 374311 ); Silicone tube, iD 6mm, , with built-in delivery nozzle and glass sinker, length 1.5m ( Order NO. 374313).

## Technical Specification

Model Pump	Power supply V	Capacity W	Operating Speed rpm	Tubing Sizes Available (mm ID)	Dispense Ranges for Tubing mL	Flow Rate Ranges for Tubing mL/min	Accuracy Midrange	Delay Time / Sec	Weight kg	Dim. with Pump Head (HxWxD)	Optional Pump Head Support
Vdose® ELITE	100-240	37	0.5-400	2	0.01-9999.99	20.4-174	≤±1%	0.5-99.9	5.4	18×21×34cm	> Stack up to 2 Pump Heads
				3	0.01-9999.99	60-330	≤±1%				> Stacking Pump Head for 2.3mm Wall Tubing
				6	0.01-9999.99	270-1080	≤±2.5%				> Pump Head for 1.6mm Wall Tubing
				8	0.01-9999.99	200-1746	≤±2.5%				> Stacking Pump Head for 1.6mm Wall Tubing
Vdose® PRO	100-240	37	75&150	2	0.01-9999.99	30&60	≤±1%	0.5-99.9	5.4	18×21×34cm	> 5-Channel Pump Head for Small-Bore Tubing
				3	0.01-9999.99	60&120	≤±2%				Pump Head for 1.6mm Wall Tubing
				6	0.01-9999.99	210&426	≤±2%				Pump Head for 2.3mm Wall Tubing
				8	0.01-9999.99	540&1080	≤±2.5%				

## Suggested Application

### Research, Development, and Quality Control

Transfer and distribution of fluids into smaller containers, serial dilutions, sample preparation, and media dispensing.

### Pharmaceutical and Biotechnology

Dispensing microbiological media, pill coating, dilutions, transferring live cells, additions and harvests to and from bioreactors, packaging and filling.

### Food and Beverage

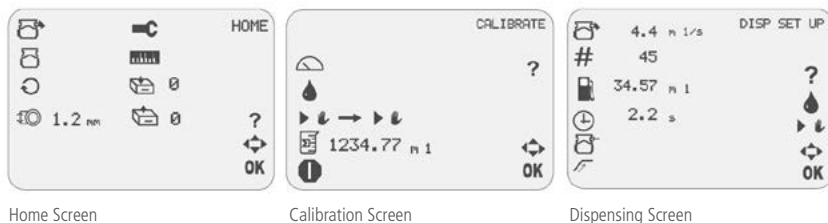
Common uses include dispensing flavorings, colorings, vitamins, and other additives in processing applications, and simple dispensing of end products on production lines or into shelf packages.

### Waste Water and Sample Collection

Industrial and QC applications, environmental compliance hazardous/toxic materials evaluation and site sampling for liquids, sludge, earth/soil, water, etc. Ideal for sampling from barrels and drums.

### International

The Icon Driven display and multi-language help screen work well in laboratories abroad.



Home Screen

Calibration Screen

Dispensing Screen



5-Channel Pump Head



Single Pump



Stacking Pump Head with Standard Pump Head



Stacking Pump Head

## Optional Pump Heads

Order No.	Description	Qty/Case
W1100101	Single Pump Head for 2.3mm Wall Tubing	1
W1100201	Optional Stacking Pump Head for 2.3mm Wall Tubing	1
W1100102	Optional Pump Head for 1.6mm Wall Tubing	1
W1100202	Optional Stacking Pump Head for 1.6mm Wall Tubing	1
W1100203	Optional 5-Channel Pump Head for use with Small Bore with fixed stops	1

## Peristaltic Pumps Accessories

Order No.	Description	Qty/Case
Tubing Accessories		
374322	Hose Barb/Luer Adapter (fits 2 and 3mm)	1
W1100104	Footswitch	1
374324	2 and 3mm Polypropylene Nozzle	6
374326	6mm Polypropylene Nozzle	6
374328	8mm Polypropylene Nozzle	6
374320	Small Glass Sinker (fits 2 and 3mm ID tubing)	6
374321	Large Glass Sinker (fits 6 and 8mm ID tubing)	6
Tubing Support Stand		
W1100105	Tubing Support Stand	1
Silicone Tubing Assembly, 2.3 mm wall thickness		
374310	2mm ID, 5 ft Section (1.5m)	1
374311	3mm ID, 5 ft Section (1.5m)	1
374313	6mm ID, 5 ft Section (1.5m)	1
374314	8mm ID, 5 ft Section (1.5m)	1
Silicone Tubing, 2.3mm wall thickness		
374304	2mm ID, 25 ft Section (7.62m)	1
374305	3mm ID, 25 ft Section (7.62m)	1
374306	6mm ID, 25 ft Section (7.62m)	1
374308	8mm ID, 25 ft Section (7.62m)	1
Microtest Manifolds		
851380	4 Position, Straight, 24 Well	1
851381	8 Position, Straight, 96 Well	1
851382	4 Position, Angular, 24 Well	1
851383	8 Position, Angular, 96 Well	1
851388	12 Position, Straight, 96 Well	1
851389	12 Position, Angular, 96 Well	1
Dispensing Cannulas w/Luer Lock		
851411	18 Gauge x 2 in	1
851412	14 Gauge x 4 in	1

### Hose Barb/Luer Adapter

The luer adapter allows connection to equipment and components with a female luer connector.



### Tubing Support Stand

Optional tubing support stand conveniently holds the tubing in place for filling operations.



### Footswitch

Utilize the convenience of a handsfree pump by installing the optional footswitch.



### Silicone Tubing

Assembly consists of 1.5m (5-foot) section of silicone tubing with a wall thickness of 2.3mm, a borosilicate glass sinker, and a polypropylene delivery nozzle. Bulk tubing is also available.



### Polypropylene Nozzle & Glass Sinker

- > The nozzle connects to the pump tubing for dispensing of liquids.
- > The glass sinker is used to secure tubing when drawing from a container.



### Microtest Manifolds & Dispensing Cannulas

Ideal for use with 24 and 96 well microplates. This unique dispensing system enables you to perform sample inoculations and cell feedings faster and more efficiently under sterile conditions.



# Portable Suction Unit (Aspirator)

Adopts oil-free vacuum pump

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

## Double overflow protection

A built-in float switch plus 0.2 μm PTFE hydrophobic disc filter between the suction bottle and the pump prevent the medium and bacteria from flowing into the pump.

## Autoclavable

Waste bottles and disc filters are autoclavable.

- > The whole unit is made of ABS plastic and aluminum alloy.
- > Various precision elements are developed, and assembled through long time test.
- > Piston pump inside offers low noise, and it is wear-resistant, pollution-free, maintenance-free.

## High-Temperature Sterilization

Waste bottle and disc filter can resist high-temperature and high-pressure sterilization

## Employment of an Oil-Free Vacuum Pump

The oil-free vacuum pump is maintenance-free, features a very low noise level and high-pressure sterilization and works stably

## Double Protection Against Liquid Overflow

- > Waste bottle, floating ball
- > 0.2 μm PTFE disc filter
- > Protection against liquid overflow
- > Keeps liquid from entering the pump.

## Vacuum Regulator

Deliver the correct vacuum for various applications

## Stable and Durable Casing

The casing is made of ABS material, which is light and easy to clean

## Wire Storage Box

The system provides a storage for the foot switch wire, which makes it easy and convenient to use

## Certification



BioVac 225



BioVac 235



BioVac 240

## Application

- > Biochemical cultivation
- > Separation of culture fluids
- > Waste liquid suction in cell cultivation
- > All kinds of waste liquid suction in laboratory environments

Single-branch suction head



1

Handheld controller



2

8-branch "tip" plastic suction head



3

Single-branch stainless steel suction head



4

## Specifications

Order No.	Model series	Power	Ultimate Vacuum	Max. Flow Rate	Foot Switch	Dimensions	Suction bottle	Weight	Accessories included
		W	mbar	L/min		cm		kg	
W1080225	BioVac 225	25	100	25	-	37 × 15 × 25	1000mL X 1	4.3	4
W1080226	BioVac 225 PLUS	25	100	25	-	37 × 15 × 25	1000mL X 1	4.3	1.2.3.4
W1080235	BioVac 235	25	100	35	-	27 × 30 × 28	1500mL X 2	6.9	4
W1080236	BioVac 235 PLUS	25	100	35	-	27 × 30 × 28	1500mL X 2	6.9	1.2.3.4
W1080240	BioVac 240	25	80	40	yes	54 × 26 × 35	3000mL X 1	12	4
W1080241	BioVac 240 PLUS	25	80	40	yes	54 × 26 × 35	3000mL X 1	12	1.2.3.4

## Accessories

### Bio-Suction Kit

Successful removal of supernatants from lab containers by means of a vacuum aspiration system depends on applying the correct level of vacuum and on using an aspirator tip that matches the size and form of the container from which liquid is aspirated. The vacuum aspiration tool is produced by Wiggins to specifically match the diversity of laboratory containers. Different adapters fit on the hand operator so that your vacuum source is converted into a flexible system for aspirating liquids from tubes, dishes, bottles, T-flasks, 24-well and 96-well plates.

### Quick-lock design

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 a single hand easily.

### Quick fitting change

Quick connection coupling between fitting and handle can make any fittings replaced quickly.

### Vapor sterilization can be applied

The complete kit except the rack are made of POM and stainless steel material available for autoclave.



### Specifications

No.	Order No.	Name	Quantity
1	167200-42	Single-branch suction head	1
2-1	167200-44	Single-branch stainless steel suction head, needle length 5cm	1
2-2	167200-44L	Suction Head Single-branch stainless steel suction head, needle length 11cm (Option)	1
3	167200-45	Single-branch "tip" plastic suction head	1
4	167200-46	Handheld controller	1
5	167200-47	8-branch stainless steel suction head	1
6	167200-48	8-branch "tip" plastic suction head	1
7	167200-49	ABS Depositing rack	1

Name	Bio-Suction Kit
Order No.	167200-37
Operation Form	Vacuum Suction
Outlet Diameter(mm)	5



### Disc Filter

Name	Small Disc Filter	Big Disc Filter
Order No.	167200-35	167200-36
Filter Diameter / Pore Size	37 mm / 0.2 μm	50 mm / 0.2 μm
Outer Diameter	45 mm	73 mm
Material	PTFE	PTFE
Outer Material	PP	PP
Number of Filters per Package	1	1
Suitable for	BioVac225 / BioVac235	BioVac240

### Silicon Tube



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



167200-50



167200-51

Order No.	Name	Description
167200-50	Manual suction tube	The outer diameter of the connector is 8mm, The outer diameter of the PP tube is 5mm
167200-51	High pressure silicone tube	For the tube, the outer diameter is 10mm, and the inner diameter is 6mm, with hose joints at both ends



167200-52

Order No.	Name	Description
167200-52	Plastic stoppers	Suitable for the tube of which the outer diameter is 10mm or 12mm



Spill-Proof Buoy

### PP/PC Waste Bottle

Material	167200-31	167201-35	167201-36	167200-34
Order No.	167200-31	167201-35	167201-36	167200-34
Bottle	PC	PC	PC	PC
Bottle Cover	PC	PC	PC	PC
Spill-Proof Buoy	PP	PP	PP	PP
Description				
Capacity (mL)	1000	1500	1500	3000
Outlet (mm)	8	8	8	8
Spill-Proof Buoy	With	With	Without	With
Autoclavable	Yes	Yes	Yes	Yes
Suitable for	BioVac225	BioVac235	BioVac235	BioVac240 / 350 / 650

If you need other bottles of different volumes, please choose 167200-39 below



### Stand for Suction Bottle

Order No.	Description	Capacity
167200-39-1	Stand for suction bottles, designed for stabilizing	1000mL
167200-39-2	the bottle in filtration work	1500mL
167200-39-3		3000mL



### Foot switch

Order No.	Description
167200-40	Foot switch, Suitable for BioVac240
167200-54	Foot switch, Suitable for BioVac225 / BioVac235

# Vdose Syringe Pump

The standard syringe pump includes injection element and controller, and the injection element can be single-channel or dual-channel. Vdose serial syringe pump can carry out accurate liquid transmission automatically. The system is also programmable with a PC to realize more complicated liquid dosing operations.

- > Bright TFT display can show the dosing parameters clearly on one screen
- > 9 types of syringes can be selected, from 50µl~25mL, it is easy to change the syringes
- > Dosing speed: from 1.25uL/min to 375mL/min
- > All parts contacted with the liquid are glass or PTFE, which guarantees the chemical resistance
- > The three port valve can switch automatically to complete the repeating withdrawing and dosing
- > The valve ports can be configured for convenient liquid recovery without taking part the tubing
- > RS-232/485 digital communication ports available for remote PC or PLC control



Vdose4200

## Specifications

Model	Vdose4200	Vdose4400
Number of dosing channel	Single Position	Dual Position
Flow Rate	1.25 µL/min~375 mL/min	1.25 µL/min~375 mL/min
Precision	≤ 5 ‰	≤ 5 ‰
Weight (kg)	5.5	9.1
Outer Dimensions (H x W x D mm)	305 x 89 x 330	305 x 178 x 330
Syringe	Size	50µl~25 mL
	Material	Glass and Teflon wetted
	Dispense Resolution	1/6000 of the syringe size in use
	Feature	Easily interchangeable
Valve	Material	PTFE
	Feature	3 to 8 selectable ports
Interface Port	RS232 / 485	RS232 / 485
Power supply	110~240V,50/60Hz	110~240V,50/60Hz
Order No.	V900705	V900704

Vdose 4200 and Vdose 4400 are more suitable for corrosive solvents



Vdose4400

## Order Information

Order No.	Description
V900705	Single Position Syringe pump, with dosing unit and controller (need to specify the valve ports and glass syringe volume)
V900704	Dual Position Syringe pump, with dosing unit and controller (need to specify the valve ports and glass syringe volume)
<b>Accessories</b>	
V900700-5	50µL glass syringe with Teflon plunger
V900700-6	100µL glass syringe with Teflon plunger
V900700-7	250µL glass syringe with Teflon plunger
V900700-8	500µL glass syringe with Teflon plunger
V900700-9	1mL glass syringe with Teflon plunger
V900700-10	2.5mL glass syringe with Teflon plunger
V900700-11	5mL glass syringe with Teflon plunger
V900700-12	10mL glass syringe with Teflon plunger
V900700-13	25mL glass syringe with Teflon plunger
<b>PTFE Tubing and Fittings</b>	
V900700-19	Tubing Length: 6m; Outer Diameter: 1/8" ; Includes: 6 nuts and 6 ferrules
V900700-20	Tubing Length: 30m; Outer Diameter: 1/8" ; Includes: 6 nuts and 6 ferrules
V900700-21	Tubing Length: 6m; Outer Diameter: 1/16" ; Includes: 6 nuts and 6 ferrules
V900700-22	Tubing Length: 30m; Outer Diameter: 1/16" ; Includes: 6 nuts and 6 ferrules



Glass syringe with Teflon plunger



Tube