

# Low Volume Pump

## Model:LV-40BW

This suction pump is intended for measuring work environments and ambient environments. It is portable and supports both AC and DC power supplies. By preparing a battery unit, there is no need to take into consideration the power supply situation of whether or not the measurement point has a power outlet. It also incorporates various functions such as constant flow rate, total flow rate and timer operation.



The instantaneous and total flow rates are automatically adjusted to the value at 1 atmosphere and 25°C. Temperature can be corrected to 20°C or 0°C. Besides, the actual volume flow rate can be displayed as well.

## Product Overview

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This suction pump is intended for the measurement of work environments or ambient environments. It is portable and supports both AC and DC power supplies. By preparing a battery unit, there is no need to take into consideration the power supply situation of whether or not the measurement point has a power outlet. It also incorporates various functions such as constant flow rate, total flow rate and timer operation.

## Features

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- Compact, lightweight, and handy to carry around
- Drops in suction flow rate caused by an increase in the sampling amount are suppressed by a constant flow rate unit.
- The pump incorporates a timer function. The ON timer operates by the time and countdown modes, and the OFF timer operates by the time, countdown, and total flow rate timer modes.
- The instantaneous and total flow rates, pressure loss and other values are displayed digitally.
- A brushless motor is used to suppress dust emission and extend motor life.
- In addition to an AC power supply, the pump can also be driven by a DC battery by using the battery unit (sold separately).
- The battery unit uses an overcharge protection circuit.
- The battery charger (sold separately) can charge up to three battery units simultaneously.

## Installation

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- Install this product on a horizontal, stable site.
- Use a 100 to 240 V AC single-phase power supply. However, if the power supply voltage exceeds 100 V, provide a power supply cable that complies with the laws, regulations, and safety standards of the country or region where it is being used.
- Avoid using this product at humid installation sites.
- Do not use this product at sites subject to the direct sunlight and the direct blast of hot air from heating equipment, etc. Doing so might cause the temperature to rise, resulting in faulty operation or malfunction.
- Be sure to install the filter, sizing unit, etc. before the backup filter.

## Configuration

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The low-volume pump comprises the following three units.

**LV-40BW Low-volume Pump** This is the pump body. It is solely driven by an AC power supply.

**BU-24B Battery Unit** This battery is exclusively for the LV-40BW (sold separately).

Adding this unit can extend the pump's drive time. Up to three units can be added.

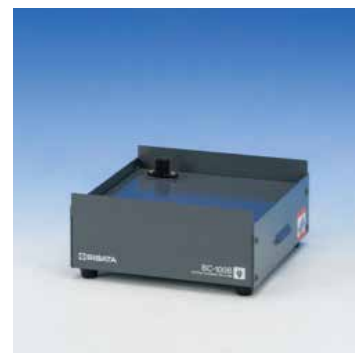
**BC-100B Battery Charger** This charger is exclusively for the BU-24B (sold separately). Up to three battery units can be charged simultaneously.



LV-40BW



BU-24B (sold separately)



BC-100 (sold separately)

## Specifications

### LV-40BW Low-Volume Pump

Item Code	080800-045	
Suction Flow Rate	5.0 to 40.0 L/min	
Instantaneous Flow Rate Display Range	4.0 to 50.0 L/min	
Constant Flow Rate Operating Range	5.0 L/min: 5 to 35 kPa 10.0 L/min: 0 to 35 kPa 20.0 L/min: 0 to 22 kPa 30.0 L/min: 0 to 12 kPa 40.0 L/min: 0 to 6 kPa	
Total Flow Rate Display Range	0.000 to 999.999 m <sup>3</sup>	
Flow Rate Accuracy	Within $\pm 5$ % of the set flow rate	
Display Range of Set Time	0.00 to 999.59 (hours.minutes)	
Time Setting/Display Range	YY/MM/DD/hh/mm/ss (year/month/day/hour/minute/second)	
Display Range	Ambient Pressure	800 to 1100 hPa
	Pressure Loss	0.0 to 50.0 kPa
	Temperature	-10.0 to 45.0 $\forall$ C
Built-In Flow Meter	Mass-flow sensor	
Pressure Gauge	Semiconductor sensor	
Thermometer	Thermistor	
Display	Liquid crystal display (with backlighting)	
Suction Pump	Diaphragm pump	
Operating Temperature Range	0 to 40 $\forall$ C	
Power Supply	100 to 240 VAC, 50/60 Hz, 1 A (2 A fuse) 24 VDC (exclusive BU-24B Battery Unit: sold separately)	
Dimensions	200 W $\Delta$ 200 D $\Delta$ 285 H mm (excluding protrusions)	
Weight	Approx. 5 kg	
Accessories	Power switch key $\Delta$ 2, power cable $\Delta$ 1, 2 A fuse $\Delta$ 1 Sampling tube (10 mm I.D. $\Delta$ 14.5 mm O.D.) 2.5 m	

**\* A 100 to 240 V AC single-phase power supply is specified, but if the power supply voltage exceeds 100 V, provide a power cable that complies with the laws, regulations, and safety standards of the country or region where it is being used.**

### BU-24B Battery Unit (sold separately)

Item Code	080800-041
Battery	24 VDC lead storage battery (12 V, 7.2 Ah $\Delta$ 2)
Operating Temperature Range	10 to 40 $\forall$ C
Dimensions	200 W $\Delta$ 200 D $\Delta$ 155 H mm (excluding protrusions)
Weight	Approx. 6.5 kg

### BC-100B Battery Charger (sold separately)

Item Code	080800-042
Rated Output	24 VDC, 100 W
Operating Temperature Range	10 to 40 $\forall$ C
Power Supply	100 to 240 VAC, 50/60 Hz, 1.5 A (2 A fuse)
Dimensions	200 W $\Delta$ 200 D $\Delta$ 95 H mm (excluding protrusions)
Weight	Approx. 1.5 kg

**\* A 100 to 240 V AC single-phase power supply is specified, but if the power supply voltage exceeds 100 V, provide a power cable that complies with the laws, regulations, and safety standards of the country or region where it is being used.**

## The low-volume pump comprises the three units



**LV-40BW+BU-24B**  
This is the pump body. It is solely driven by an AC power supply.



**LV-40BW+BU-24B**  
Pump's drive time can be added with this unit. Up to three units can be added.



**LV-40BW+BU-24B**  
Up to three battery units can be charged simultaneously.

### Related products



products Name	Item Code
Filter holder, A type	080050-155
Filter holder, B type	080050-255
Filter holder, C type (Multi-stage type sizing unit)	080050-3553
Filter holder for $\phi 47\text{mm}$	080140-045
Filter holder for $\phi 25\text{mm}$	080140-076
Andersen sampler, AN-200	080040-012
PM4 NW-354 Filter holder equipped with inertial impaction particle size separator	080120-354
Glass fiber filter, AP2005500 55 mm dia. (100 pcs.)	080150-3
Fluoropolymer binder filter, T60A20 35 mm dia. (50 pcs.)	080130-60235
Fluoropolymer binder filter, T60A20 55 mm dia. (50 pcs.)	080130-60255
Filter element, VFE-3 (5 pcs.)	080860-001
Flow indicator, FI-10N	080800-044
Flow indicator fixing hardware	080800-0451

Specifications, and appearance described in this document are based on information as of April 10, 2015. They are subject to change without notice for improvement of the product.

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