

LINEAR AIR PUMP

**HIBLOW**<sup>®</sup>

**G**ENERAL  
CATALOG

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## Introduction

Since the introduction of the first HIBLOW pump in 1967, we have established an unshakable market position as a pioneer in the air pump field. We introduced electromagnetically operated diaphragms into domestic market for the first time. Since then, we have endeavoured to develop unique products, and the SPP series is the latest result. More than 18million HIBLOW pumps have now been produced and found widespread applications. They are used in the medical field for scientific and chemical instruments, in industrial equipment, for aquaria, septic tanks and for many other purposes, HIBLOW air pumps employ electoromagnetically operated diaphragms, which makes it possible to supply a compact device at low cost, and besides, it offers simple maintenance and requires minimum power input, important requirements in the market today, Low noise operation and high durability are two more remarkable advantages of our products.

## Business Location



By establishing affiliated offices in the Philippines, U.S.A. Spain, France, Australia and Vietnam, Techno Takatsuki Co.,Ltd. is steadily expanding its overseas network of companies. Currently HIBLOW air pumps are being exported to the U.S.A. and Europe, as well as Southeast Asia and Australia, totalling some 70 different countries. With a view toward enhancing the reliability of its products, positive efforts are being made to meet safety standards in each country. Company strategy is global, supported by abundant technical know-how to keep pace with the fast growing age of high technology.

Here are examples of some typical applications of our products. There are many more than illustrated.

## MEDICAL & CARE

Sterilizer / Low-frequency therapy equipment / Dental treatment device / Urine test instrument / Endoscopic cleaning equipment / Air circulation device for clean room / Air mat for preventing bedsores / Nursing bathtub / etc.

## HOME

Fuel cell systems / Aquarium fish tank / Air massager / Oxygen capsule / Aroma diffuser / etc.

## ENVIRONMENT

Wastewater treatment system / Pure hydrogen fuel cell system / Ozone air cleaner / etc.

## OTHERS

Air analyzer / Boiler unit / Commercial rice milling machine / Commercial rice cooker / Cup type beverage automatic vending machine / Tram / etc.

## Advantage

### 1 Durability

The moving parts consist of an actuating rod supported by two special synthetic rubber diaphragms which vibrate laterally, permitting long-term continuous operation.

### 2 No Lubrication Necessary

There is no friction between moving parts and therefore no need for lubrication. An added advantage being that the exhausted air is always clean.

### 3 High Efficiency

Operation is based upon the principle of electromagnetic vibration which eliminates the need for sliding parts, thereby minimizing power consumption and offering high efficiency.

### 4 Compact and Powerful

"HIBLOW" air pumps incorporate two electromagnets, one to the front, the other to the rear, which act upon permanent magnets, providing perfectly-balanced vibration and allowing a compact but powerful device.

### 5 Low Noise

Sound insulation was of prime importance when designing the pneumatic circuit and vibrating section and as a result it is exceptionally quiet.

### 6 Smooth Air Flow

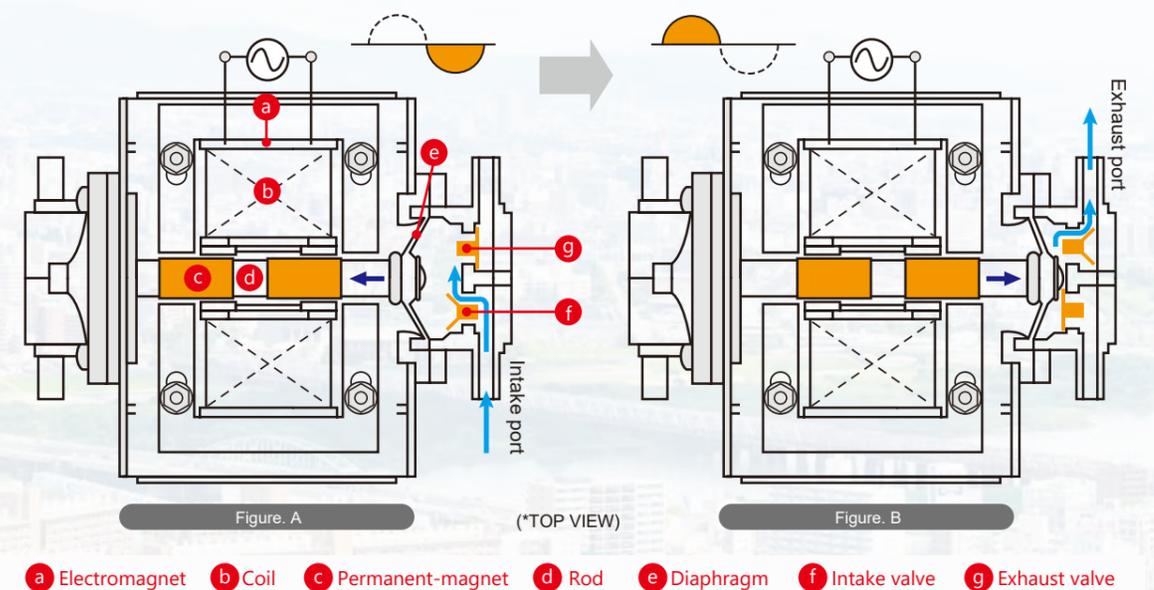
The exhaust rate is uniform and vibration minimal therefore it is ideally suited for applications which require consistent air pressure and supply.

### 7 Easy Maintenance

Apart from the simple replacement of some components, such as a broken diaphragm, long-term, maintenance-free operation is possible. Replacement parts come in a cassette.

## Working Principle

When the alternating current is applied to the electromagnet as in the figure below the actuating rod moves first in the direction of the arrow as shown in Fig. A and then in the direction of the arrow as shown in Fig. B, by the magnetic attraction and repellent forces exerted between the electromagnet and the permanent magnets attached to the rod. The rod vibrates at the same frequency as that of the power supply and changes the volume of the space enclosed between the casing and the diaphragm. Thus, the air intake, compression and exhaust can be performed through the valves.



# Small capacity air pump C-5BN / 15H



Pressure use

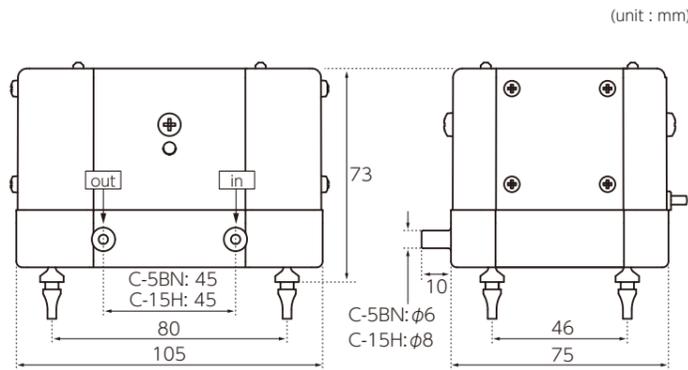
Built-in use

\*No power plug included because it is designed for built-in use.  
\*Rubber-made legs are sharp-pointed. Not for self-standing installation.

### Applications

- Air mat, air bed (continuous air exhaust)
- Air bearing
- For burner (air supply)
- Scientific & chemical instruments (analysis and agitation)

### Dimensions

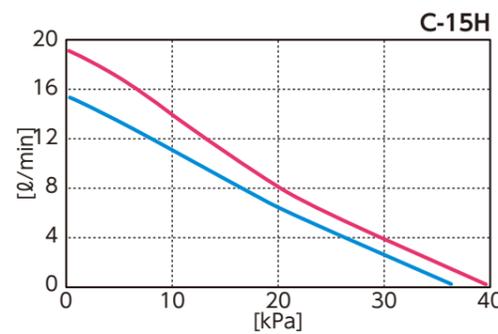
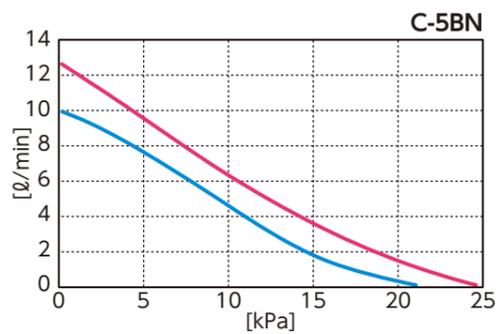


### Specifications

	C-5BN		C-15H	
Rated voltage [V]	AC100 / 120 / 230			
Power frequency [Hz]	50	60	50	60
Max airflow volume [L/min]	10	13	15	19
Max power consumption [W]	8.5		15	17
Sound level [dBA]	31	34	40.5	42.5
Weight [kg]	0.69			

\*Sound data shown is with pump operating at 4kPa(C-5BN) / 5kPa(C-15H).

### Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

# Small capacity air pump CD-8S



Pressure & vacuum use

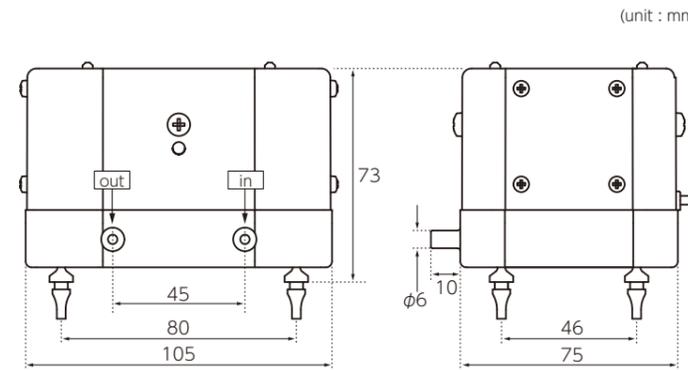
Built-in use

\*No power plug included because it is designed for built-in use.  
\*Rubber-made legs are sharp-pointed. Not for self-standing installation.

### Applications

- Air mat, air bed (continuous air exhaust)
- Air bearing
- For burner (air supply)
- Scientific & chemical instruments (analysis and agitation)

### Dimensions

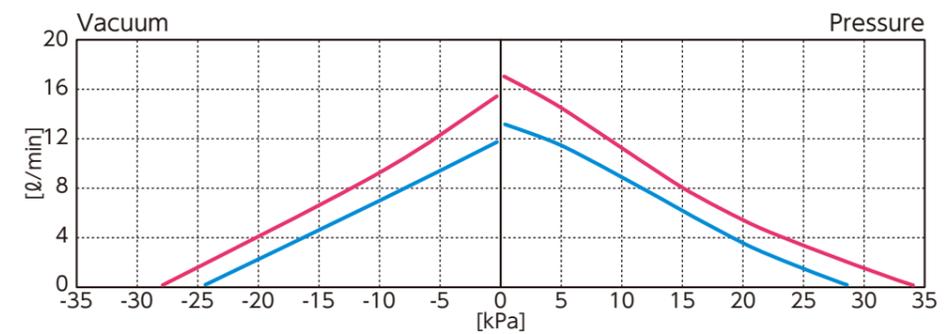


### Specifications

	CD-8S	
Rated voltage [V]	AC100 / 120 / 230	
Power frequency [Hz]	50	60
Max airflow volume [L/min]	13 (-12)	17 (-16)
Max power consumption [W]	8	11
Sound level [dBA]	31	34
Weight [kg]	0.74	

\*The value in parentheses represents vacuum.  
\*Sound data shown is with pump operating at -10kPa CD-8S.

### Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

# Small capacity air pump VP-4020 / 5030 / 6035



\*The nozzle position of images are examples.

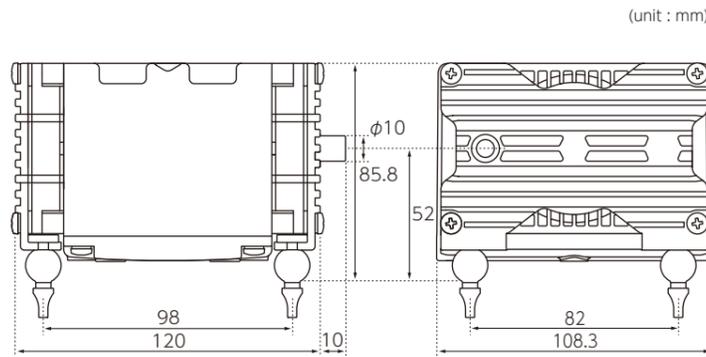
- Pressure use
- Numerous nozzle configurations available
- Built-in use

\*No power plug included because it is designed for built-in use.  
\*Rubber-made legs are sharp-pointed. Not for self-standing installation.

### Applications

- Air mat, Air bed (continuous air exhaust)
- Air bearing
- Air massager
- Scientific & chemical instruments (analysis and agitation)

### Dimensions



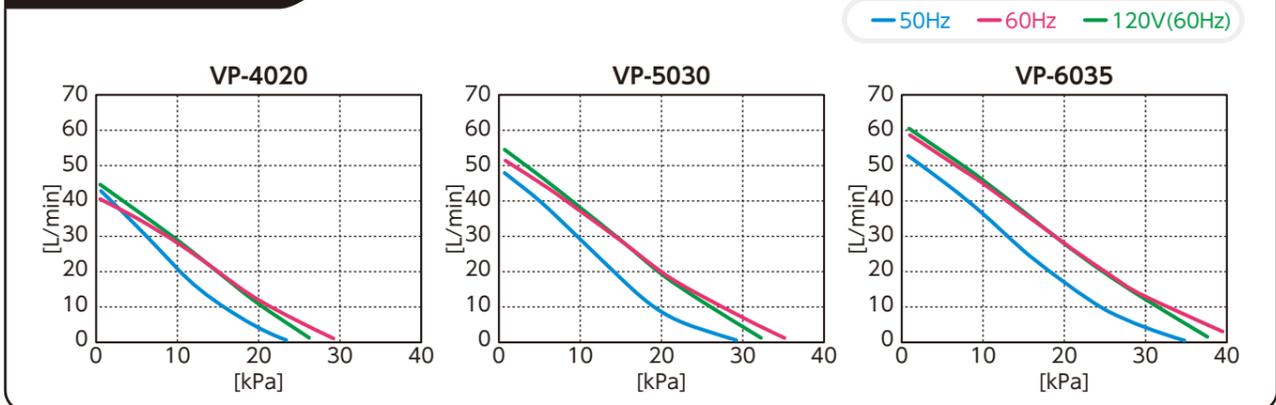
\*The figure represents the standard configuration. Customization of nozzle position is available.

### Specifications

	VP-4020			VP-5030			VP-6035		
Rated voltage [V]	AC100 / 120 / 230								
Power frequency [Hz]	50	60	120V/60	50	60	120V/60	50	60	120V/60
Max airflow volume [L/min]	42	40	43	46	50	54	52	59	60
Max power consumption [W]	16	17	18	23	26	27	30	36	35
Sound level [dBA]	41	42	43	41.5	42	44	42	43.5	45
Weight [kg]	1.95								

\*Sound data shown is with pump operating at 10kPa and exhaust plumbed away from the unit.

### Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

# Small capacity air pump VP-4020S / 5030S / 6035S



\*The nozzle position of images are examples.

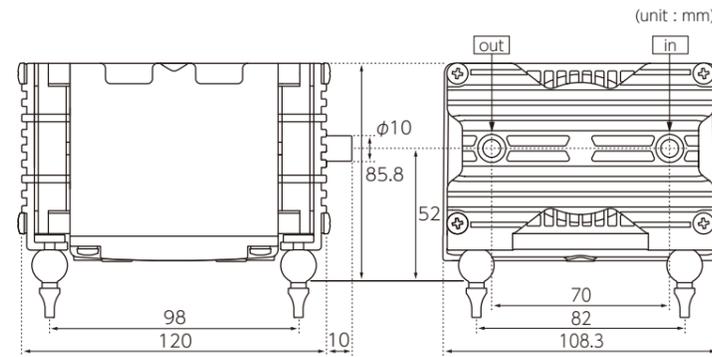
- Pressure & vacuum use
- Numerous nozzle configurations available
- Built-in use

\*No power plug included because it is designed for built-in use.  
\*Rubber-made legs are sharp-pointed. Not for self-standing installation.

### Applications

- Air mat, Air bed (continuous air exhaust)
- Air bearing
- Air massager
- Scientific & chemical instruments (analysis and agitation)

### Dimensions



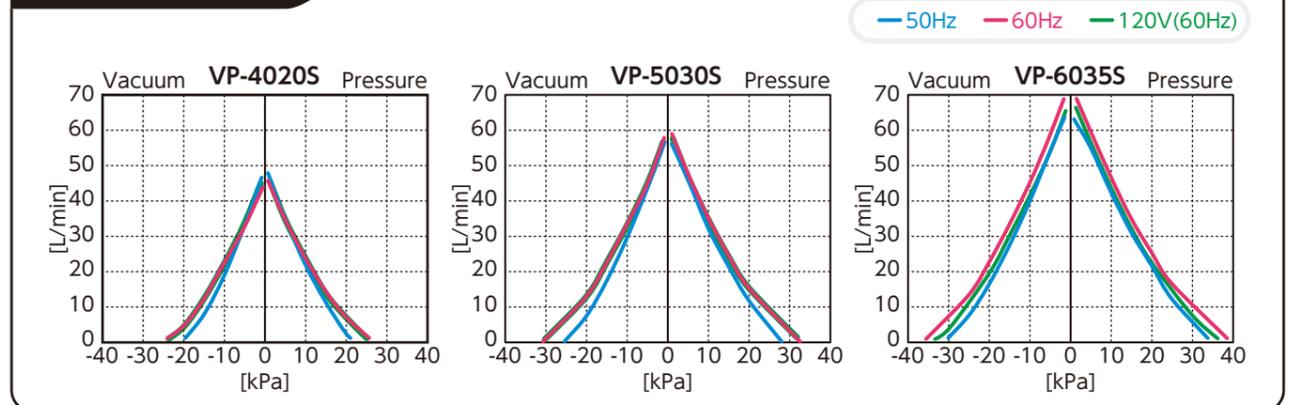
\*The figure represents the standard configuration. Customization of nozzle position is available.

### Specifications

	VP-4020S			VP-5030S			VP-6035S		
Rated voltage [V]	AC100 / 120 / 230								
Power frequency [Hz]	50	60	120V/60	50	60	120V/60	50	60	120V/60
Max airflow volume [L/min]	47	46	47	56	59	58	63	70	66
	(-47)	(-45)	(-46)	(-56)	(-58)	(-57)	(-63)	(-69)	(-65)
Max power consumption [W]	16	17	18	23	26	27	30	36	35
Sound level [dBA]	31.5	34.5	35	39	38	36.5	40.5	40	
Weight [kg]	1.95								

\*The value in parentheses represents vacuum.  
\*Sound data shown is with pump operating at 10kPa and exhaust plumbed away from the unit.

### Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

# Small capacity air pump ML-6A / 6AS / 6B / 6BS

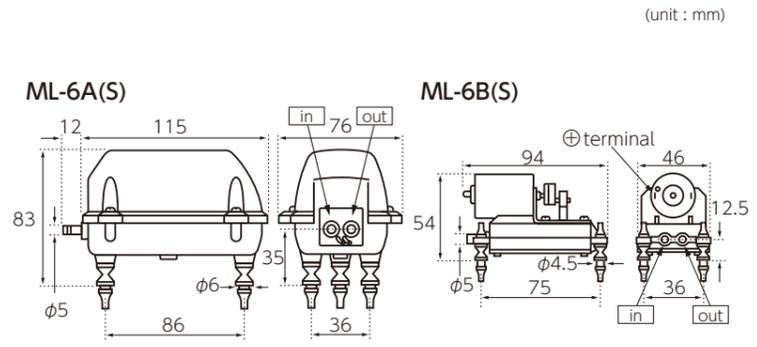


- DC motor driven
- ML-6A / 6B : Pressure use
- ML-6AS / 6BS : Vacuum use
- Built-in use

\*No power plug included because it is designed for built-in use.  
\*Rubber-made legs are sharp-pointed. Not for self-standing installation.

- ### Applications
- Supply and pressurization of air in air mats
  - Extraction of air for vacuum packaging
  - Suction means for air-tweezers
  - Air sampling

## Dimensions

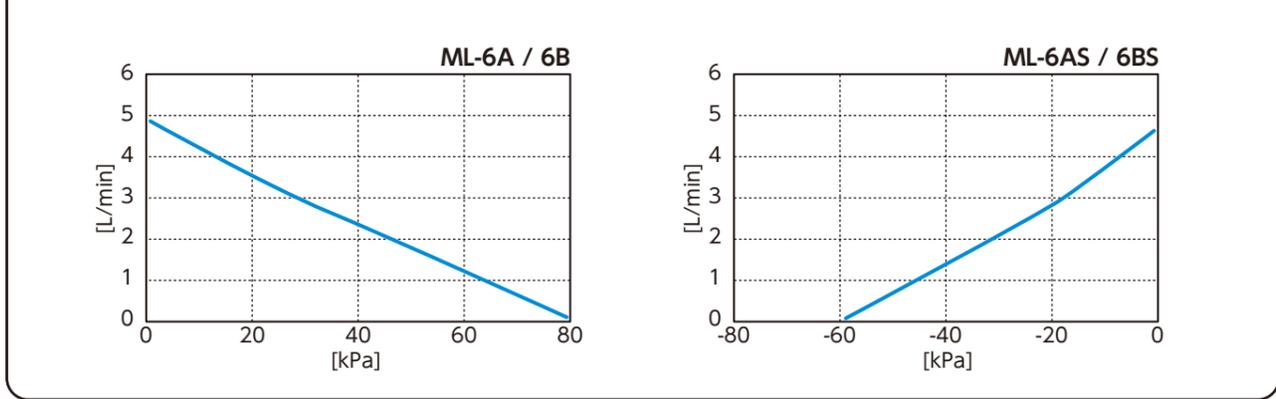


## Specifications

	ML-6A/6AS	ML-6B/6BS
Rated voltage [ V ]	DC12	
Power current [ mA ]	450	
Airflow volume [ L/min ]	5 (-4.5)	
Sound level [ dBA ]	37	58
Weight [ kg ]	0.5	0.22

\*The value in parentheses represents ML-6AS, ML-6BS vacuum.  
\*Sound data shown is with pump operating at 20kPa and exhaust plumbed away from the unit.

## Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

# Small capacity air pump MR-6B / 6BS

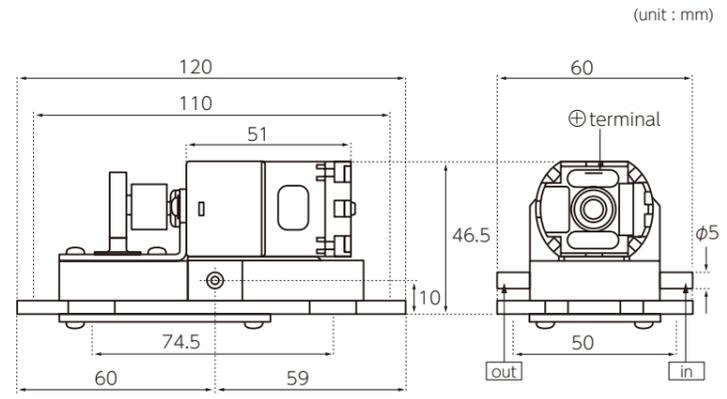


- DC motor driven
- MR-6B : Pressure use
- MR-6BS : Vacuum use
- Built-in use

\*No power plug included because it is designed for built-in use.  
\*Rubber-made legs are sharp-pointed. Not for self-standing installation.

- ### Applications
- Supply and pressurization of air in air mats
  - Extraction of air for vacuum packaging
  - Suction means for air-tweezers
  - Air sampling

## Dimensions

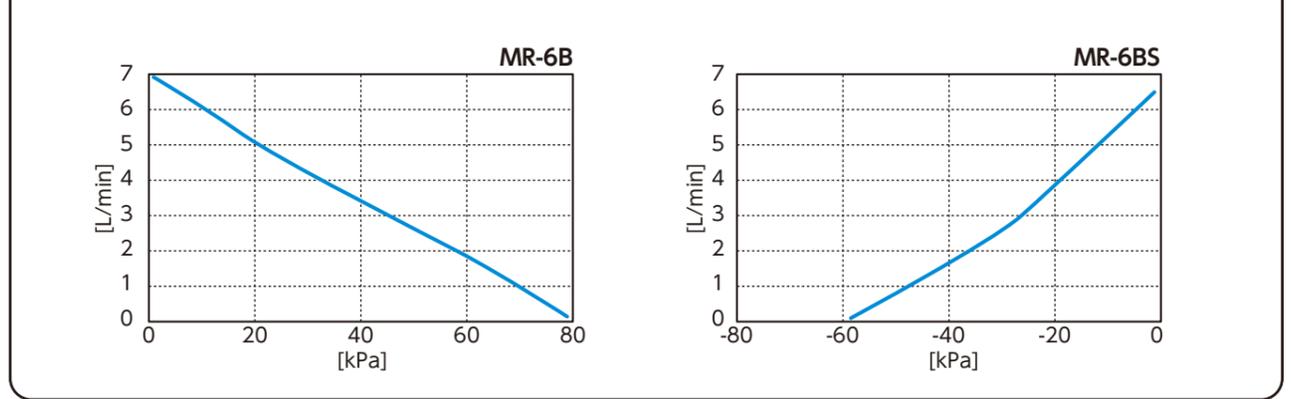


## Specifications

	MR-6B / 6BS
Rated voltage [ V ]	DC24
Power current [ mA ]	500
Airflow volume [ L/min ]	7 (-6.5)
Sound level [ dBA ]	58
Weight [ kg ]	0.28

\*The value in parentheses represents MR-6BS vacuum.  
\*Sound data shown is with pump operating at 20kPa and exhaust plumbed away from the unit.

## Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

Small capacity air pump

# KP-4020 / 5030 / 6035



\*The nozzle position of images are examples.

Pressure use

Numerous nozzle configurations available

Hausing use (High noise reduction)

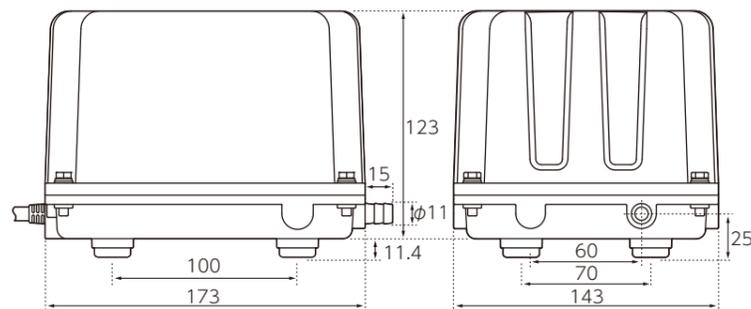
Indoor use

### Applications

- Air mat, Air bed (continuous air exhaust)
- Air bearing
- Air massager
- Scientific & chemical instruments (analysis and agitation)

### Dimensions

(unit : mm)



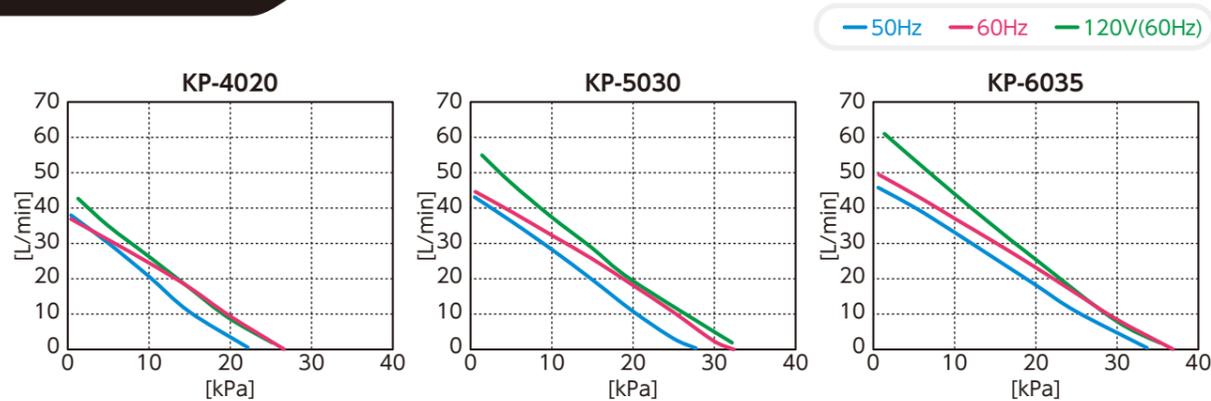
\*The figure represents the standard configuration. Customization of nozzle position is available.

### Specifications

	KP-4020		KP-5030		KP-6035				
Rated voltage [V]	AC100 / 120 / 230								
Power frequency [Hz]	50	60	120V 60	50	60	120V 60			
Max airflow volume [L/min]	37	43	44	45	49	50			
Max power consumption [W]	16	17	18	23	26	27	24	33	35
Sound level [dBA]	28	31	32	34	34	36			
Weight [kg]	3.8								

\*Sound data shown is with pump operating at 10kPa and exhaust plumbed away from the unit.

### Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

Small capacity air pump

# KP-4020S / 5030S / 6035S



\*The nozzle position of images are examples.

Pressure & vacuum use

Numerous nozzle configurations available

Hausing use (High noise reduction)

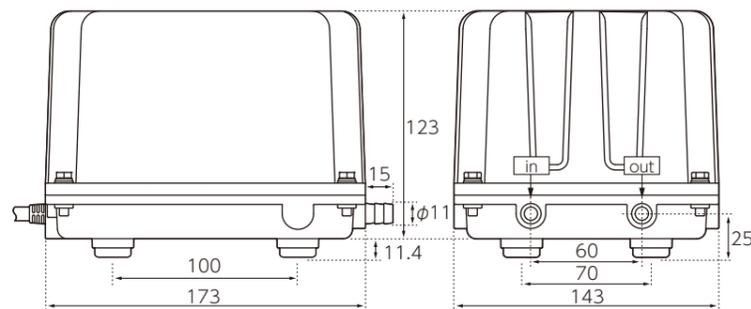
Indoor use

### Applications

- Air mat, Air bed (continuous air exhaust)
- Air bearing
- Air massager
- Scientific & chemical instruments (analysis and agitation)

### Dimensions

(unit : mm)



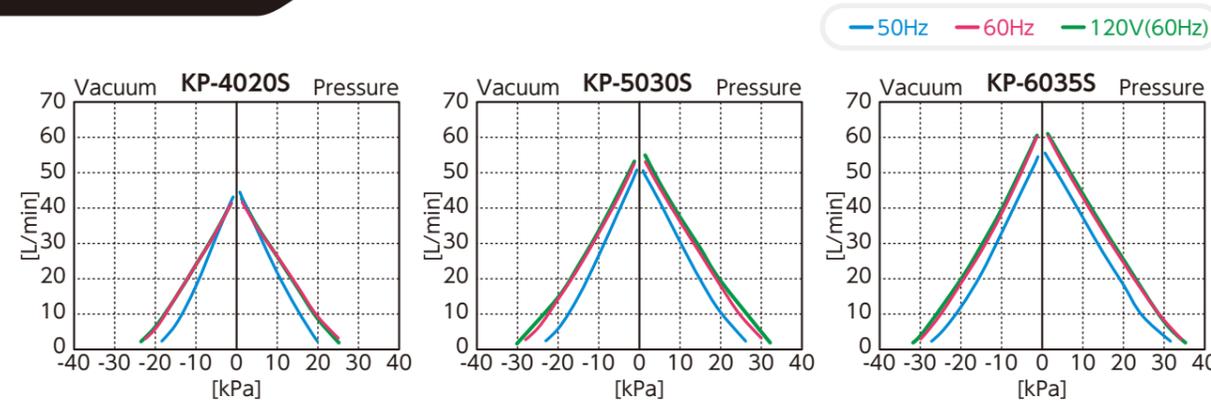
\*The figure represents the standard configuration. Customization of nozzle position is available.

### Specifications

	KP-4020S		KP-5030S		KP-6035S				
Rated voltage [V]	AC100 / 120 / 230								
Power frequency [Hz]	50	60	120V 60	50	60	120V 60			
Max airflow volume [L/min]	45	44	52	55	55	61	62		
	(-45)	(-43)	(-51)	(-54)	(-55)	(-60)	(-61)		
Max power consumption [W]	16	17	18	23	26	27	24	33	35
Sound level [dBA]	27.5	28.5	28	29	29.5	31.5	30		
Weight [kg]	3.8								

\*The value in parentheses represents vacuum.  
\*Sound data shown is with pump operating at 10kPa and exhaust plumbed away from the unit.

### Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

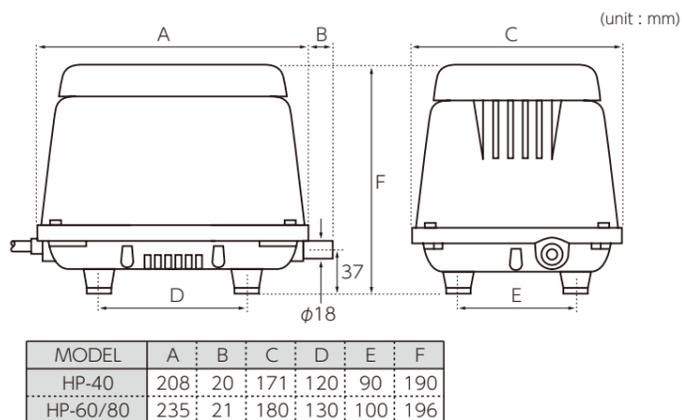
# Small & medium capacity air pump HP-40 / 60 / 80



- Pressure use
- Outdoor (Rainproof) use

- Applications**
- Low frequency therapeutic equipment and other medical & scientific apparatus
  - Septic tank (biological contact aeration)
  - Bubble bath (air bubble injection)
  - Oxygen supply for fish breeding

## Dimensions



## Specifications

	HP-40	HP-60	HP-80
Rated voltage [V]	AC120 / 230		
Power frequency [Hz]	50 60	50 60	50 60
Rated pressure [kPa]	12.8	14.7	
Airflow volume [L/min]	40	60	80
Power consumption [W]	38	51	71
Sound level [dBA]	32	35	39
Weight [kg]	5.7	7	

## Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

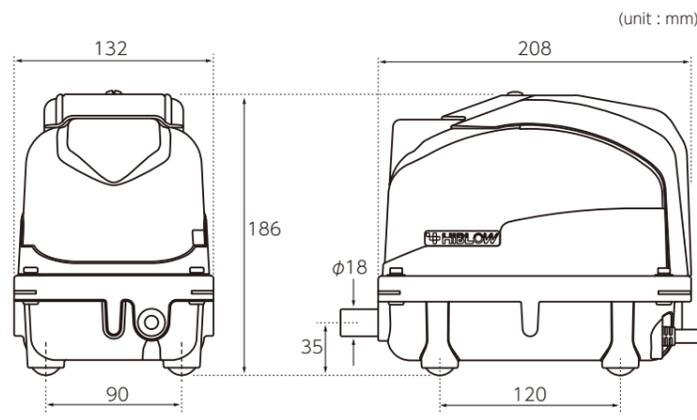
# Small & medium capacity air pump XP-40 / 60 / 80



- Pressure use
- Dust control "Dust trap filter"
- Easy restart by micro switch (XP-60 / 80 only)
- No need of grounding
- Outdoor (Rainproof) use

- Applications**
- Septic tank (biological contact aeration)
  - Air injection for bubble bath
  - Small capacity compressor

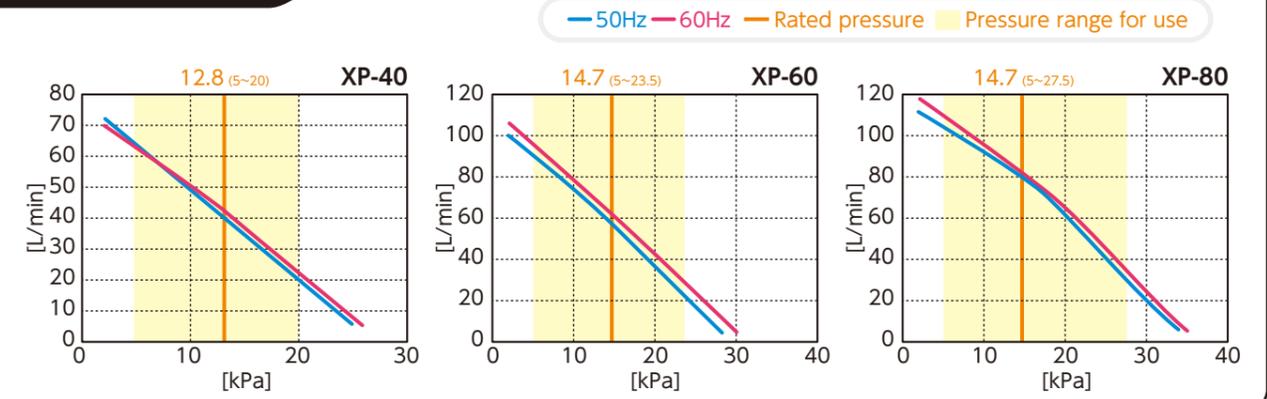
## Dimensions



## Specifications

	XP-40	XP-60	XP-80
Rated voltage [V]	AC100 / 120 / 230		
Power frequency [Hz]	50 60	50 60	50 60
Rated pressure [kPa]	12.8	14.7	
Airflow volume [L/min]	40	60	80
Power consumption [W]	24 30	32 39	51 58
Sound level [dBA]	33	35	36
Weight [kg]	4.1	4.3	

## Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

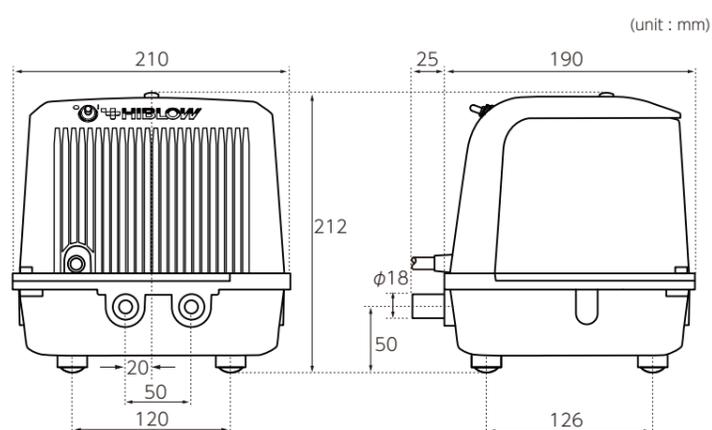
# Medium capacity air pump DUO-60 / 80



- Pressure use
- Easy restart by micro switch
- Two directional control valve
- No need of grounding
- Outdoor (Rainproof) use

- Applications**
- Septic tank (biological contact aeration)
  - Air injection for bubble bath
  - Small capacity compressor

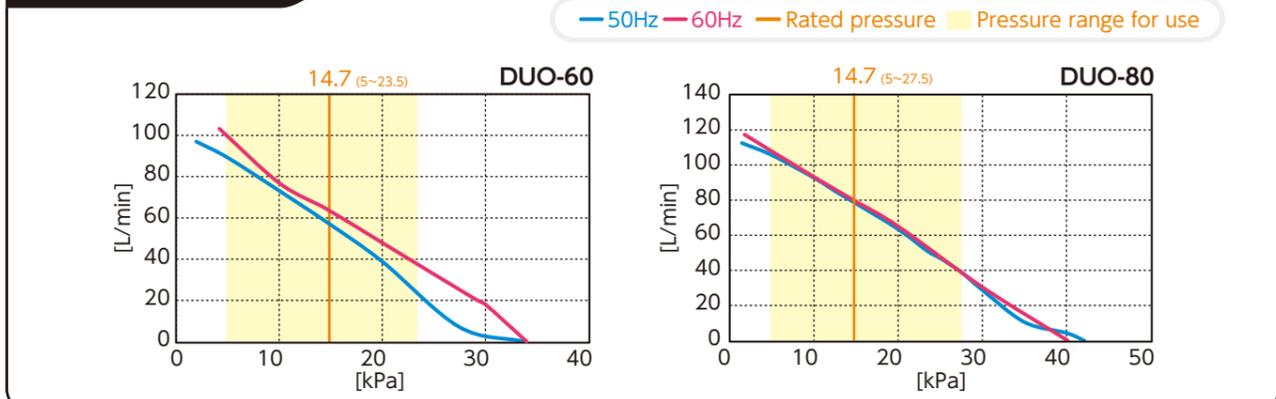
## Dimensions



## Specifications

	DUO-60	DUO-80
Rated voltage [V]	AC120 / 230	
Power frequency [Hz]	50 60	50 60
Rated pressure [kPa]	14.7	
Airflow volume [L/min]	60	80
Power consumption [W]	32 39	51 58
Sound level [dBA]	35	
Weight [kg]	6	

## Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

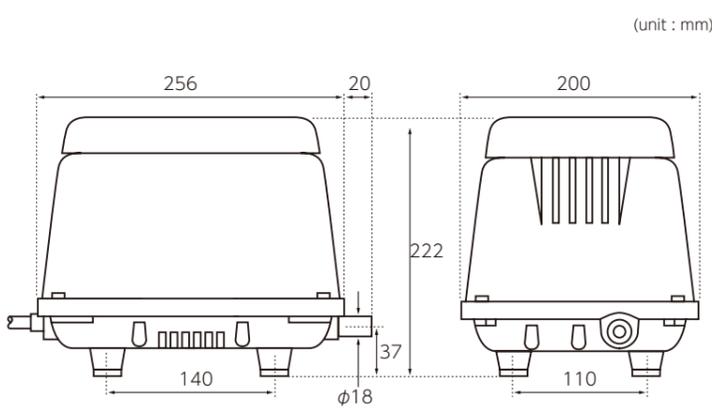
# Large capacity air pump HP-100 / 120 / 150 / 200



- Pressure use
- Outdoor (Rainproof) use

- Applications**
- Septic tank (biological contact aeration)
  - Air injection for bubble bath
  - Small capacity compressor
  - Oxygen supply for fish breeding

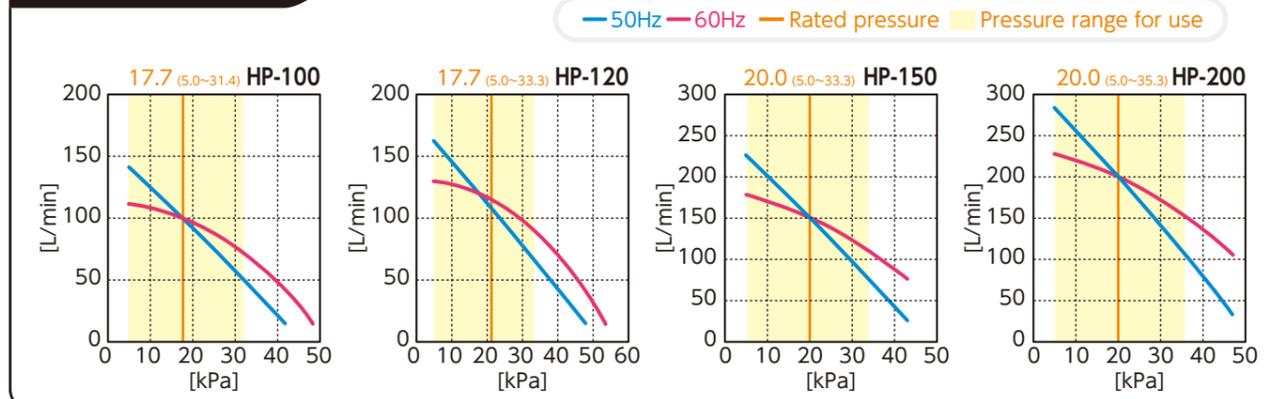
## Dimensions



## Specifications

	HP-100	HP-120	HP-150	HP-200
Rated voltage [V]	AC100 / 120 / 230			
Power frequency [Hz]	50 60	50 60	50 60	50 60
Rated pressure [kPa]	17.7		20	
Airflow volume [L/min]	100	120	150	200
Power consumption [W]	95 100	115 125	125 155	210 250
Sound level [dBA]	38	40	45 47	46 48
Weight [kg]	8.5		9	

## Performance Curve



\* All characteristics values are only for reference, and are not guaranteed values.  
\* Note that the operating temperature for our pumps is 41°F(5°C) to 104°F(40°C).

# For air pump only AIR PUMP DRIVER

## Applications

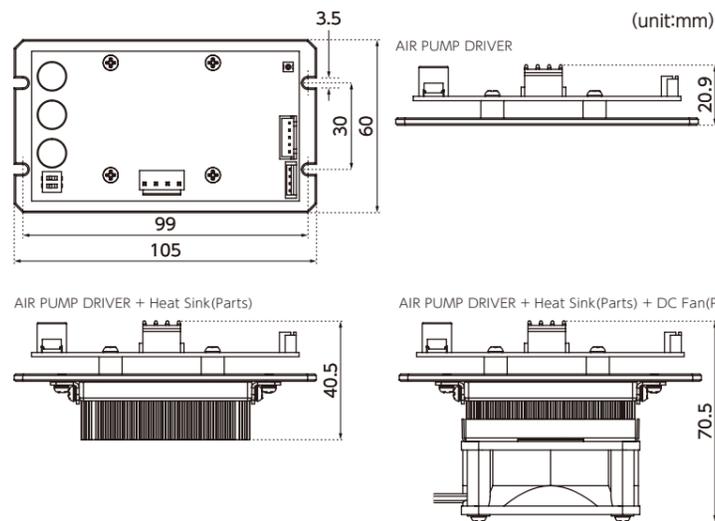
- DCAC inverter for air pump
- Airflow controller



The HIBLOW Driver System consists of an inverter (PCB) board and a heat dissipation frame.

The inverter board converts DC power – up to 10A @24V DC -- to AC, which is required for an AC driven linear diaphragm pump to operate. Additionally, the board can be programmed to custom control voltages to electronically regulate air flow. The heat dissipation frame, with optional heat sink and DC fan, helps cool the system to extend the life of the PUMP SYSTEM.

## Dimensions

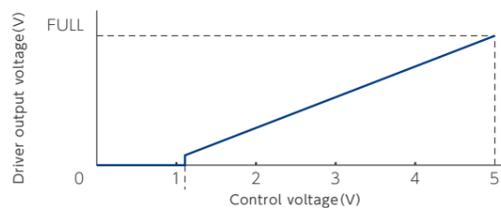


## Specifications

Rated input voltage	DC12V~DC24V
Control method	PWM Duty control
Frequency setting	40Hz~80Hz*1 (1Hz step)
Control voltage	DC1-5V

\*1 Factory settings

## Output voltage characteristics



## Functions of each part

Port name	Port function	Input and output	Connector model	Connector direction	Function
Connector1	(No.1)	PUMP	JST B4P-VH	Top	Blower(Inverter drive)
	(No.2)	PUMP			Blower(Inverter drive)
	(No.3)	GND			GND
	(No.4)	VDD			Power input(DC12V~DC24V)/MAX10A
Connector2	(No.1)	DC5V	JST B5B-XH-A	Top	Power output(DC5V)
	(No.2)	ch1			ch1 (Voltage control)
	(No.3)	ch2			External control voltage(DC0V~DC5V)
	(No.4)	ch3			ch2(Reserve) (Frequency control)
	(No.5)	GND			ch3(Reserve)
					GND

◆ This product (driver) is exclusively to be used for HIBLOW air pumps.  
 ◆ We would like to propose heat sink and DC cooling fan as options, depending on usage environment, applications and combination with the pump.  
 ◆ Uses a heat sink manufactured by Alpha Company Ltd.

## ⚠ Things to be aware of when using HIBLOW air pump

- Our pumps are air pumps. Under no circumstance should the pumps be used in water or any other liquids as this could damage the pump.
- Note that the operating temperature for our pumps is 41°F (5°C) to 104°F (40°C).
- When using the pump to inject air into a liquid; make sure that the pump is higher than the surface level of the liquid, otherwise the liquid may flow back into the pump when the power is turned off.
- Do not use pump near volatile liquids such as gasoline, thinners etc., as this would create the danger of an explosion.
- Do not excessively block the quantity of discharged air, cover the pump so that heat cannot escape, or use in temperatures higher than 104°F (40°C) otherwise pump life may be shortened and malfunctions occur.
- If the pump sounds unusual or the amount of discharged air is greatly reduced, turn off the power immediately because this may indicate a damaged diaphragm.
- Do not touch the pump with wet hands as there is a possibility of you receiving an electric shock.
- The specifications given in this catalogue are subject to change without notice.
- Standard models are designed to operate on 100V AC, but 110V ~ 120V and 220V ~ 240V AC models are available on request, Please ask our sales department for further information.

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- HEAD OFFICE (JAPAN)  
8-16, Hatcho-Nishimachi, Takatsuki, Osaka 569-0095  
TEL 072-684-0805 | FAX 072-684-0807
- HIBLOW USA INC.  
TEL +1-734-944-5032 | FAX +1-734-944-5163
- HIBLOW FRANCE S.A.S  
TEL +33-6-75-83-25-06
- HIBLOW SPAIN S.L.  
TEL +34-616-479716
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