

DC Brushless Pump General Catalogue

# SANSO-DC

Made to order products



## <Cautions about safety>

- ◇ Read the handling manual carefully and use the pump properly before use.
- ◇ Set the earth firmly and install the exclusive leakage breaker.  
There might be electric shock in the case of the damage and electric leakage.  
Never fail to consult the retailers about the earth works.
- ◇ Perform the electric wiring and wiring works with safety in accordance with  
the electric works standard and wiring standard etc.
- ◇ Select the model in accordance with the usage.  
Improper selection might cause the accident and the damage.
- ◇ Confirm water-proof treatment and waste-water treatment is made on the floor.  
Water leakage might cause the big damage.

Specification and dimension might be changed for improvement without notice.



Technology Company Creating the Future

**SANSO ELECTRIC CO.,LTD.**

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671-2221 JAPAN

Tel :81-79-266-1200

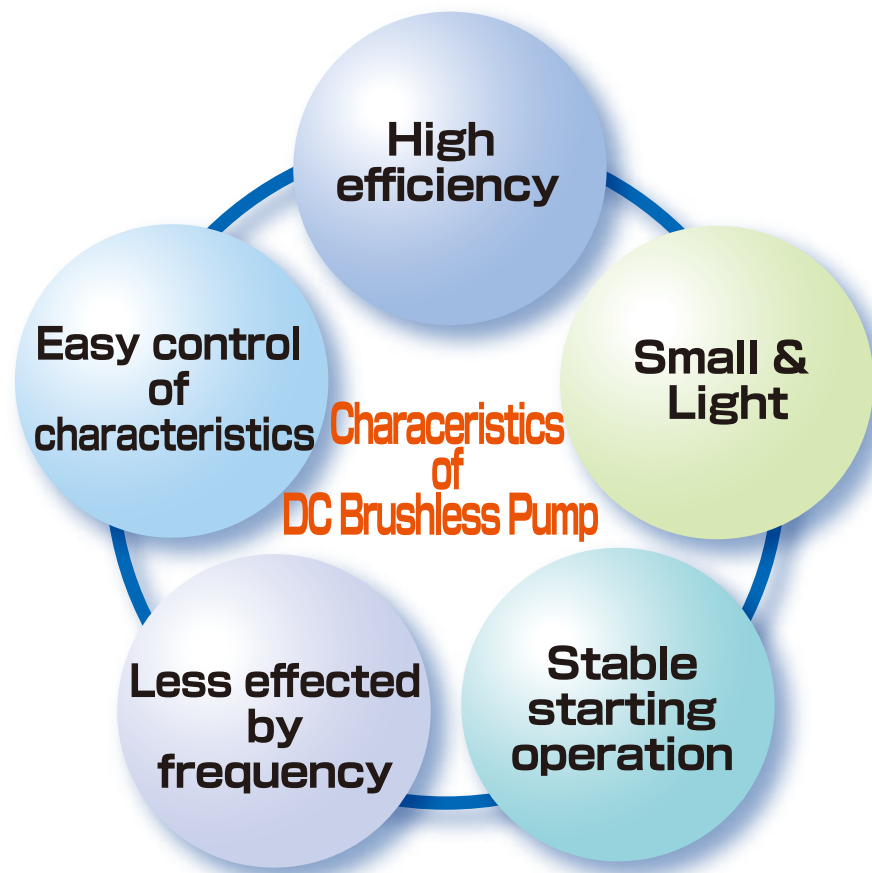
Fax :81-79-266-1206

E-mail :sanso@sanso-elec.co.jp

URL :http://www.sanso-elec.co.jp

# SANSO

# Create the life DC Brushless Pump



1

We can make the optimum design on every specification requested.

2

We can make the design decreasing the noise & vibration, with the high efficiency.

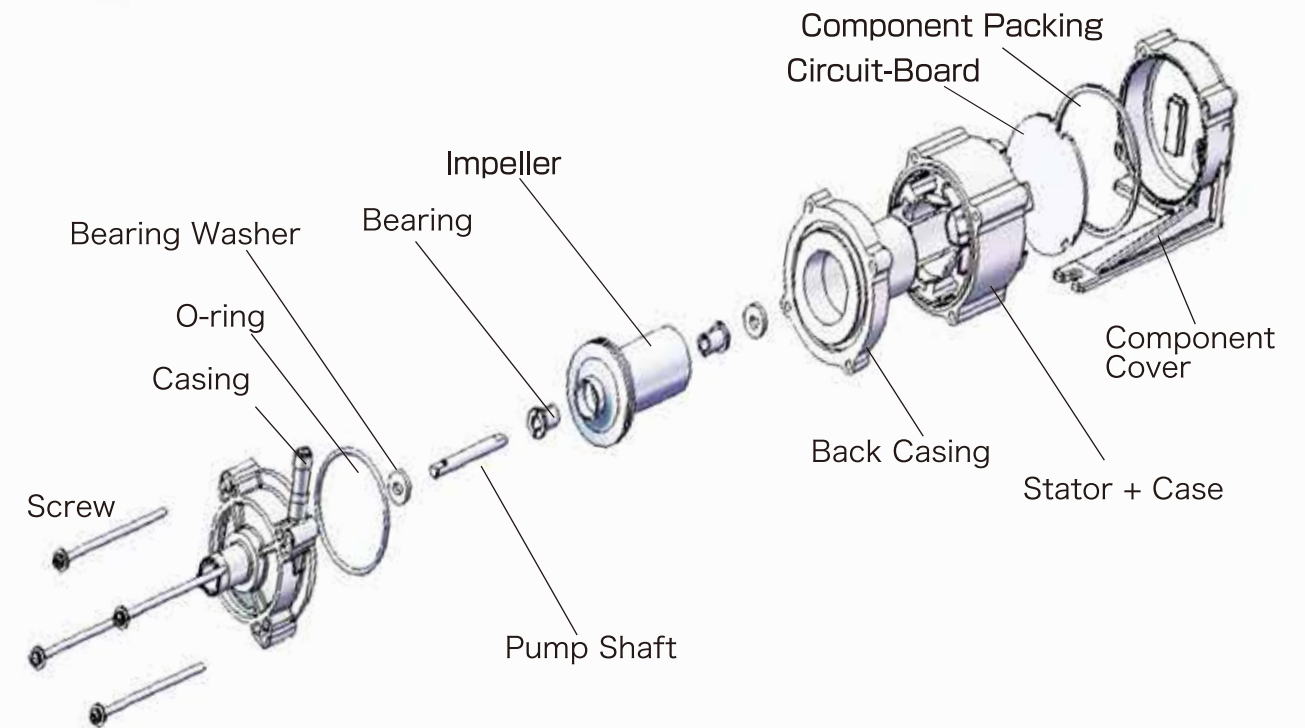
3

We can design on customer demand

4

We can cope with customer demand with the affluent experience of over 30 years'

## Structure drawing (PDH-054 Model)



## List of Model

Representative Model Name	Characteristics	Rated Output	Power Source	Range of liquid temp.	Material of flow passage					
					Casing	Back Casing	Impeller	O-Ring	Shaft	Bearing
PD-051	2m-5.5L/m	4W	24V	0~60°C	PPE	PPS	PP	EPDM-FKM	Ceramic	Carbon Teflon
PDH-054	14.4m-2L/m	25W	24V	0~60°C	PPE	PPS	PP	EPDM-FKM	Ceramic	Carbon Teflon
PD-055	4.7m-10L/m	16W	24V	0~60°C	PPE	PPS	PP	EPDM-FKM	Ceramic	Carbon Teflon
PD-22	4.3m-6L/m	11W	282V	0~80°C	PPS	PPS	PPE	EPDM	Ceramic	Carbon
PD-51	17.1m-15L/m	110W	24V	0~60°C	PPS	PPS	PPS	EPDM-FKM	Ceramic	Carbon
	23.2m-15L/m	150W	48V							
PD-103	5.8m-90L/m	145W	1φ 200V 3φ 200V	0~60°C	PPS	PPS	PPS	EPDM-FKM	Ceramic	Carbon
PDS-72	5.6m-20L/m	50W	141V	0~45°C	PPE	PPE	PPE	EPDM	Ceramic	Carbon
PDH-403	32m-30L/m	400W	3φ 200V	0~120°C	SCS13	SCS13 SUS316 SUS304	SUS304	FKM	Ceramic	Ceramic
PDH-752	40m-40L/m	750W	3φ 200V	0~120°C	SCS13	SUS316	SUS304	FKM	SIC	SIC

※Above models are representative. Customer design is possible, dependent on conditions & usage. Contact us.

※Model & Specification is out of guarantee. Change of specification is subject to revision & change.

## Internal structure PDH-752 Model

### Motor Structure

Motor is filled with Inert gas N2 for preventing dew condensation

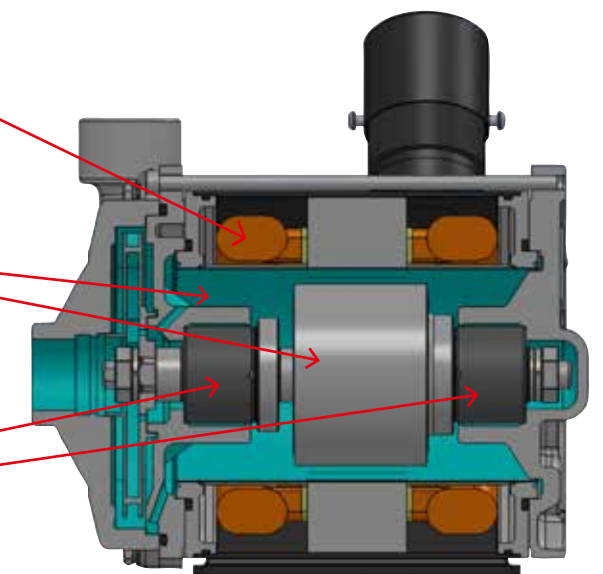
### Rotor

Large gap between the stator winding and the rotor  
Rare-earth magnets

### Wetted parts Material

Stainless steel, SIC, Fluoro-Rubber

### SIC Bearing



→ Long life & high reliability

→ No contamination or Impurities in the liquid

# DC Brushless Pump PD-051



## Application

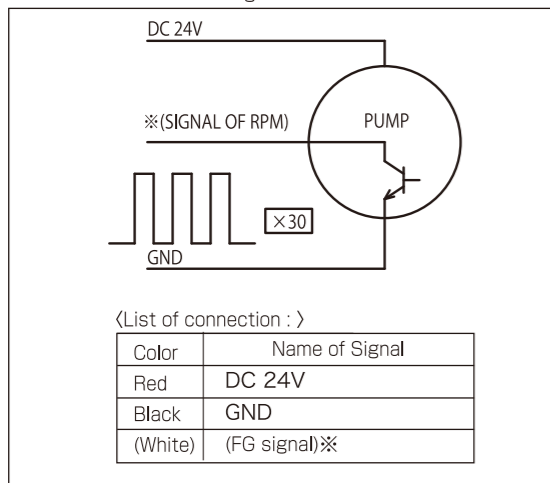
- ◆ **Medical Equipment:**  
Biochemistry Analyzers, cooling systems,
- ◆ **Physical and Chemical analysis:** Thermoregulator, Water Purification Systems
- ◆ **Semiconductors:**  
semiconductor cooling systems
- ◆ **Surface treatment:**  
Plating equipments
- ◆ **Beverage Equipment:**  
Dispensers



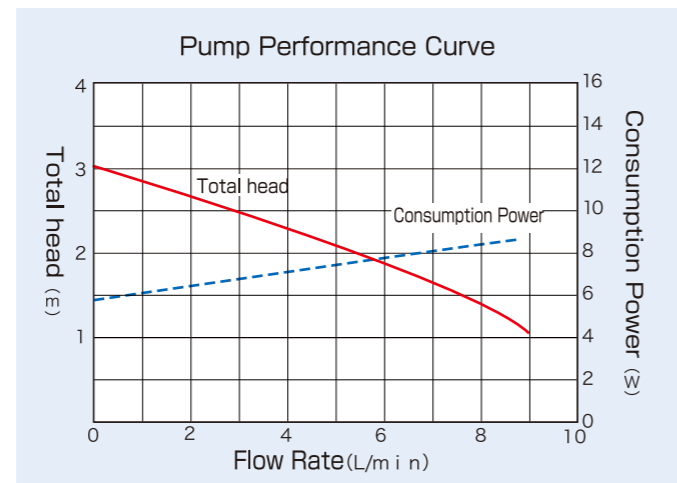
PD-051

## Wiring Diagram

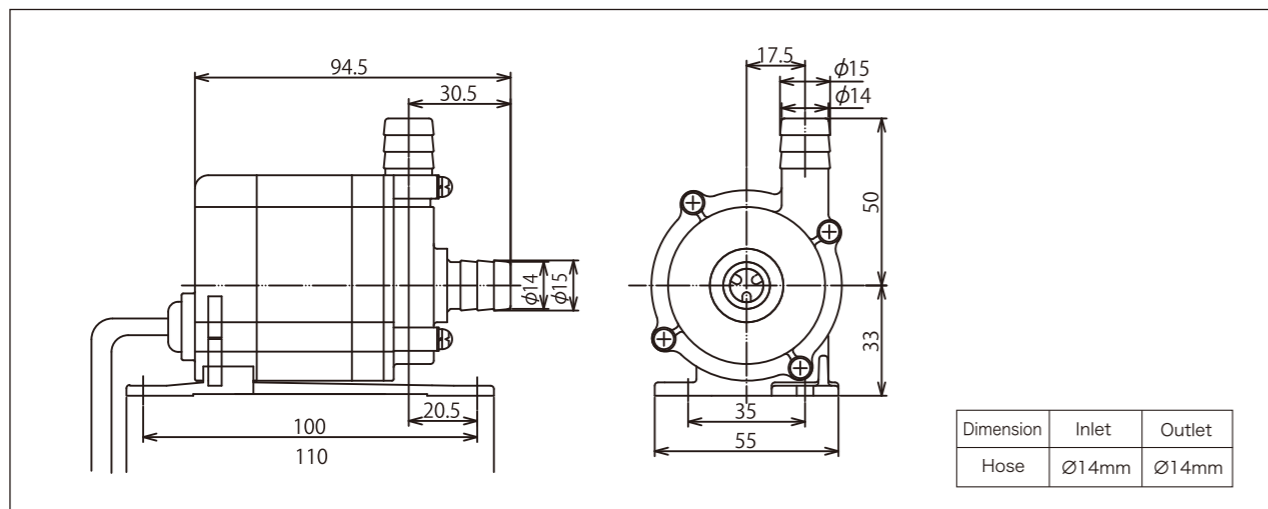
※Standard is without FG signal.



## Characteristics



## Outline Dimension



## Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	μm	dB(A)	kg
<b>PD-051</b>	4	24	5.5	2	7.2	Less Than 20	Less Than 40	0.4

■ Range of Ambient Temperature : 0~40°C ■ Range of Liquid TemperatureFlow Rate : 0~60°C ■ Location to be set : Indoors

Base Product : PD-051PEB-24A (Hose)

# DC Brushless Pump PDH-054



## Application

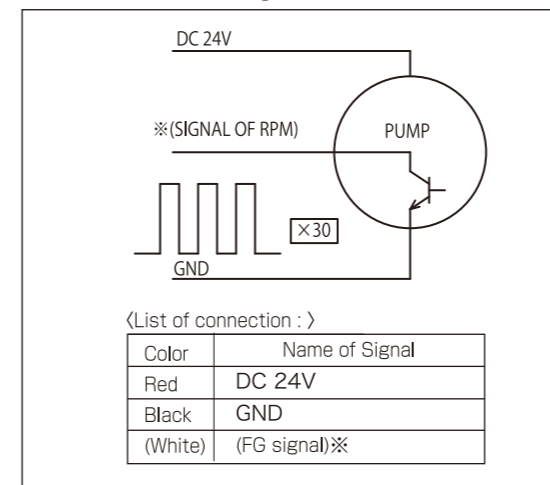
- ◆ **Medical Equipment:**  
Biochemistry Analyzer, Cooling systems, Laser treatment cooling devices, Laser therapy apparatus
- ◆ **Physical and Chemical analysis:** Thermoregulator, Water Purification Systems
- ◆ **Semiconductors:**  
Semiconductor cooling systems
- ◆ **Surface treatment:**  
Plating equipments
- ◆ **Beverage Equipment:**  
Dispensers



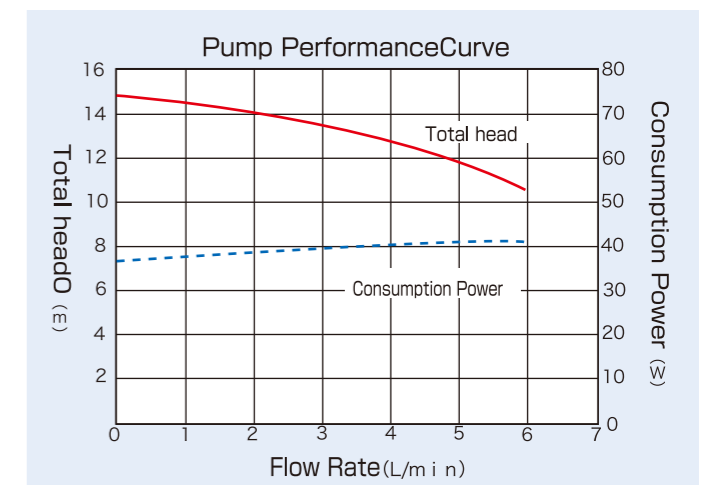
PDH-054

## Wiring Diagram

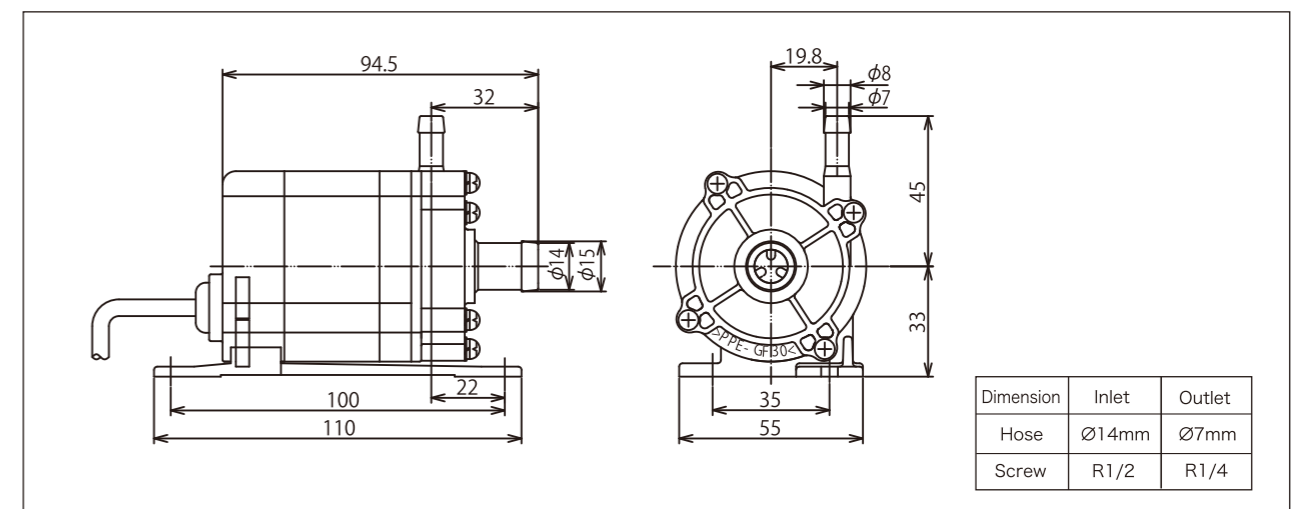
※Standard is without FG signal.



## Characteristics



## Outline Dimension



## Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	μm	dB(A)	kg
<b>PD-054</b>	25	24	2	14.4	37	Less Than 25	Less Than 45	0.4

■ Range of Ambient Temperature : 0~50°C ■ Range of Liquid TemperatureFlow Rate : 0~60°C ■ Location to be set : Indoors

Base Product : PDH-054 CEA/CEQ-24A (Hose/Screw)

# DC Brushless Pump PD-055



## Application

- ◆ **Medical Equipment:** Biochemistry Analyzer, cooling system, Endoscope reprocessor,
- ◆ **Physical and Chemical analysis:** Thermoregulator, Water Purification Systems
- ◆ **Semiconductors:** semiconductor cooling system
- ◆ **Photo:** photo, X-ray and dental film processors;
- ◆ **Beverage Equipment:** Dispensers



PD-055

# DC Brushless Pump PD-22



## Application

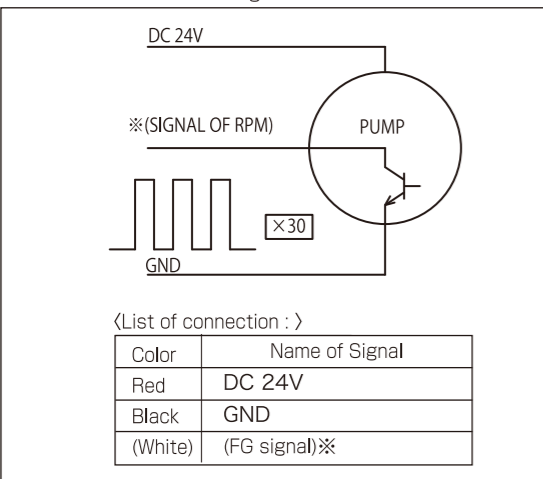
- ◆ **Housing Facility :** Hot water heater, solar collector



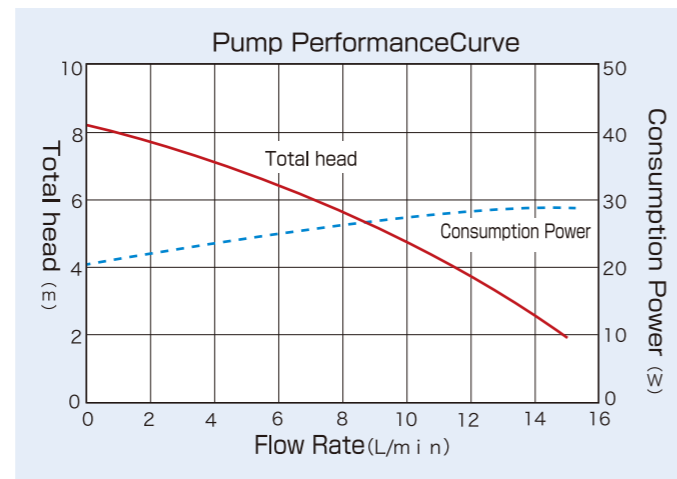
PD-22

## Wiring Diagram

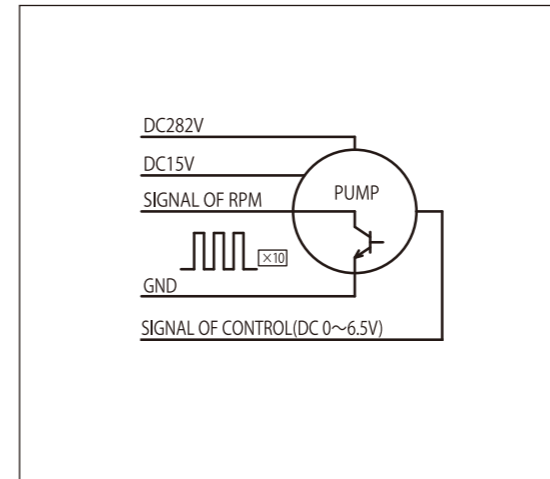
※Standard is without FG signal.



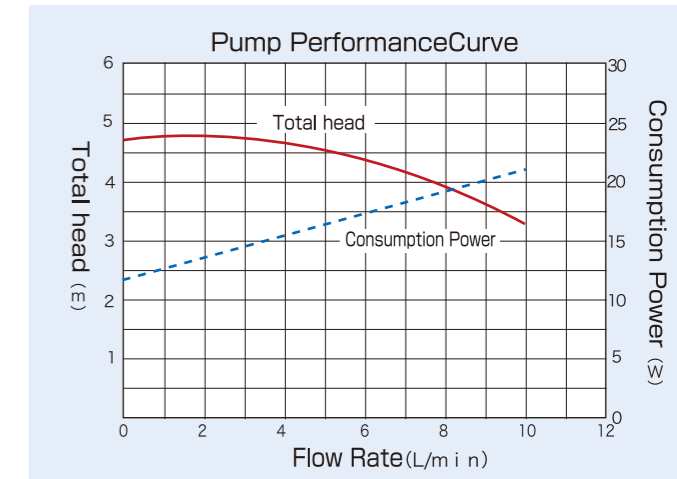
## Characteristics



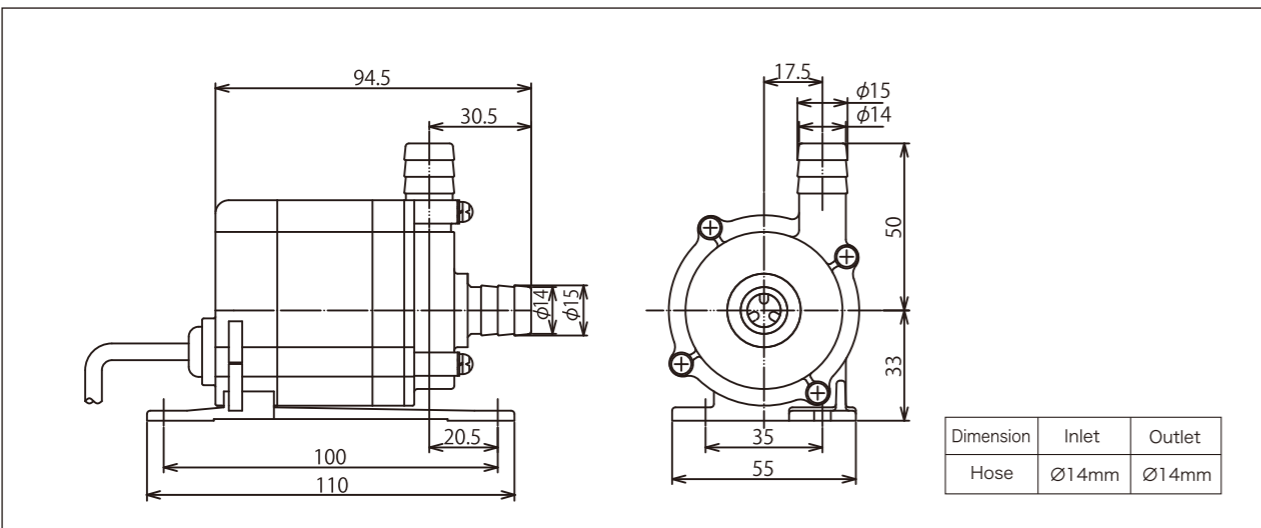
## Wiring Diagram



## Characteristics



## Outline Dimension



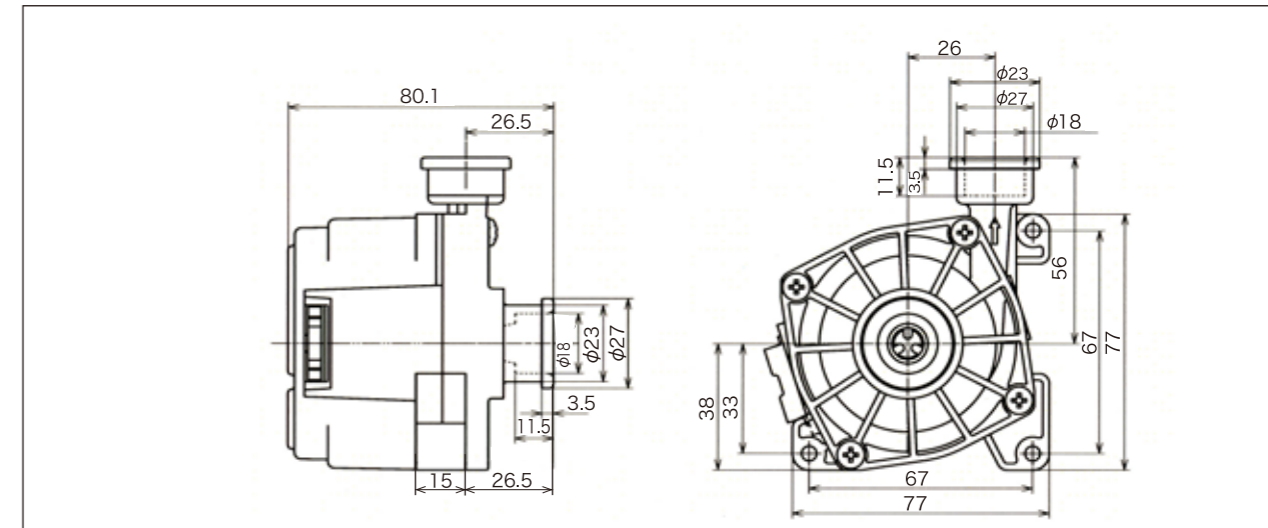
## Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	μm	dB(A)	kg
<b>PD-055</b>	16	24	10	4.7	27	Less Than 25	Less Than 45	0.4

■ Range of Ambient Temperature : 0~40°C ■ Range of Liquid TemperatureFlow Rate : 0~60°C ■ Location to be set : Indoors

Base Product : PD-055CEB-24A (Hose)

## Outline Dimension



## Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	μm	dB(A)	kg
<b>PD-22</b>	11	282	6	4.3	17.2	Less Than 15	Less Than 38	0.54

■ Range of Ambient Temperature : 0~50°C ■ Range of Liquid TemperatureFlow Rate : 0~80°C ■ Location to be set : Indoors

# DC Brushless Pump PD-51



## Application

### ◆ Medical Equipment:

Biochemistry Analyzer,  
Cooling system, Laser  
treatment cooling device,  
Endoscope reprocessors

◆ **Physical and Chemical  
analysis:** Thermoregulator,  
Water Purification Systems

### ◆ Housing Facility:

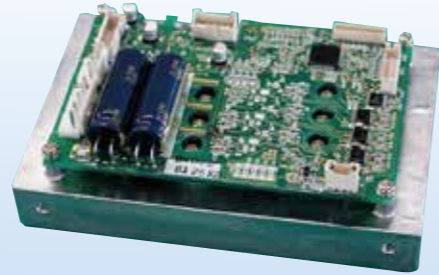
Bubble bath device

### ◆ Semiconductors:

Semiconductor cooling  
system



PD-51

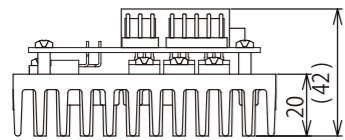
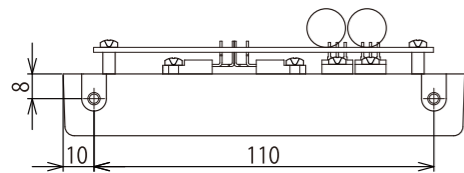
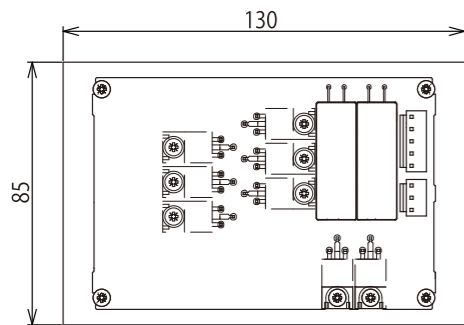


Drive circuit

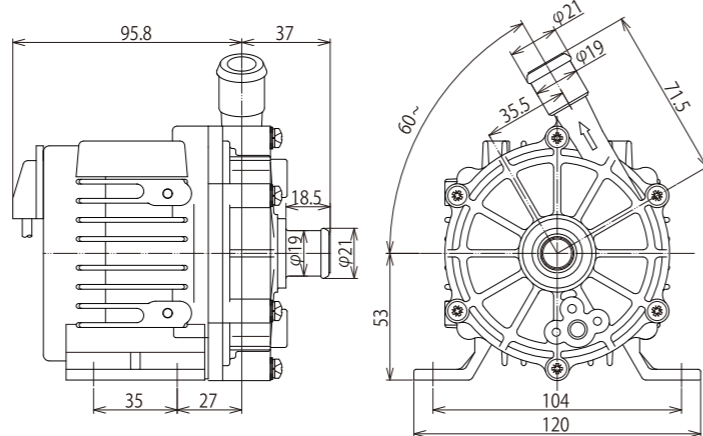
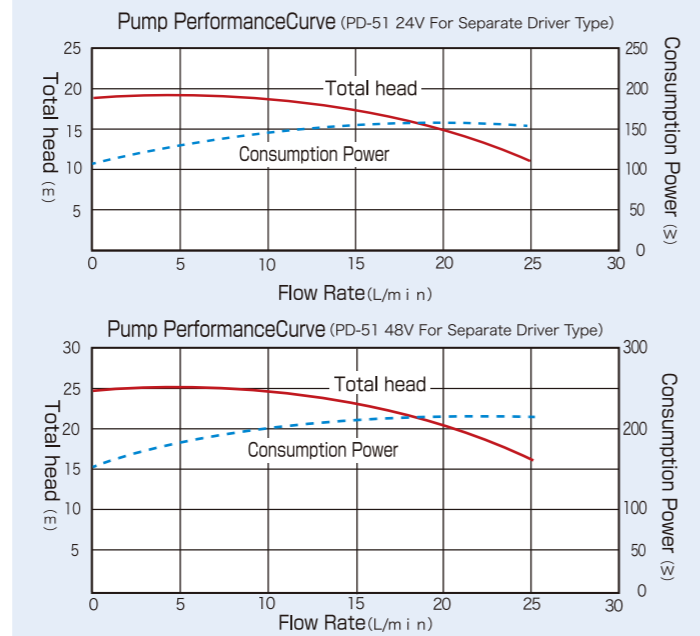
## Characteristics

Exclusive driver is necessary  
for the operation of pump.  
Contact us.

## Outline Dimension



Dimension	Inlet	Outlet
Hose	Ø19mm	Ø19mm
Screw	G3/4	G3/4



## Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
	W	V	L/min	m	W	μm	dB(A)	kg
<b>PD-51</b>	110/150	24/48	15/15	17.1/23.2	155/215	Less Than 25	Less Than 55	2.0

■ Range of Ambient Temperature : 0~50°C ■ Range of Liquid TemperatureFlow Rate : 0~60°C ■ Location to be set : Indoors and inside machine

Base Product : PD-51CED-24B/48B (Hose) PD-51CEM-24B/48B (Screw)

# DC Brushless Pump PD-103 DUT-10



## Application

### ◆ Dedicated equipment :

Water heater circulation

### ◆ Housing Facility :

Bubble bath device



PD-103

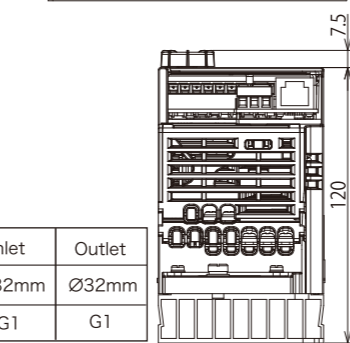
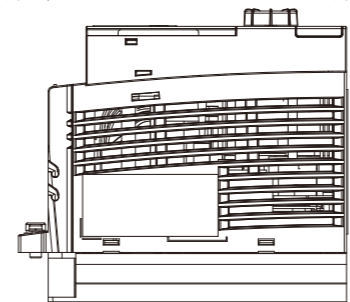
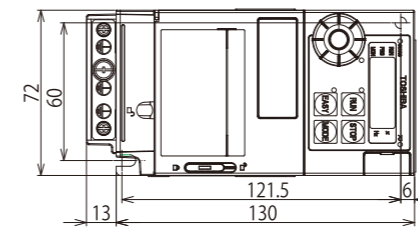


DUT-10

## Characteristics

Exclusive driver is necessary  
for the operation of pump.  
Contact us.

## Outline Dimension

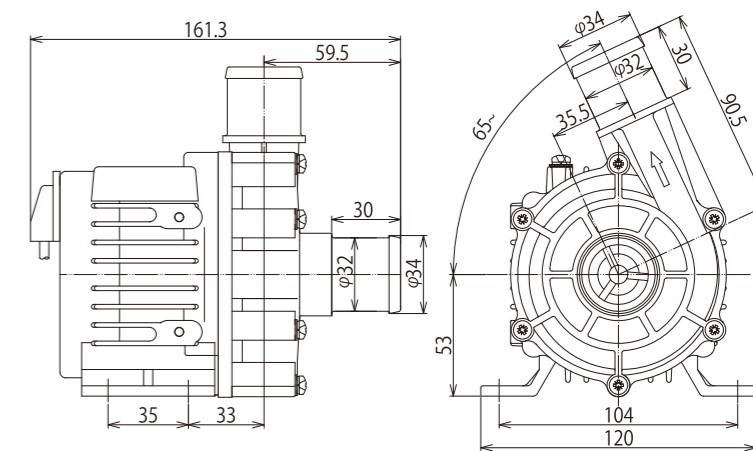
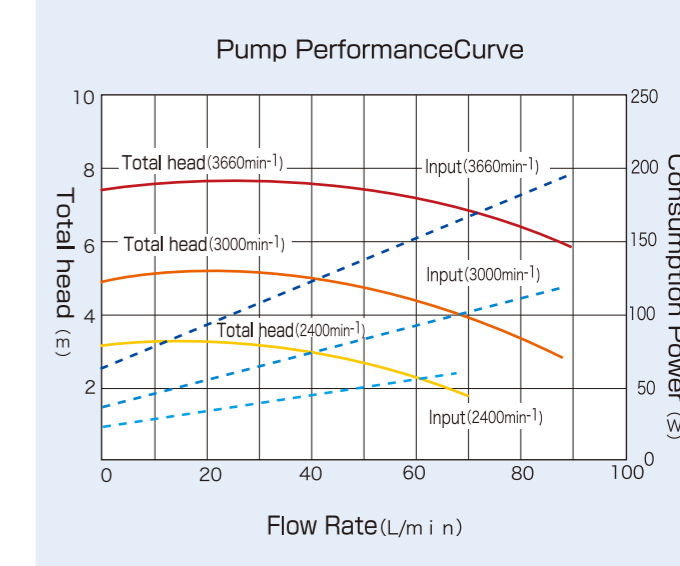


Dimension	Inlet	Outlet
Hose	Ø32mm	Ø32mm
Screw	G1	G1

## Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
	W	V	L/min	m	W	μm	dB(A)	kg
<b>PD-103</b>	145	1φ200V / 3φ200V	90	5.8	196	Less Than 30	Less Than 60	1.6

■ Range of Ambient Temperature : 0~40°C ■ Range of Liquid TemperatureFlow Rate : 0~60°C ■ Location to be set : Indoors





**Application**  
◆ 24 hours' Bath

**pump**

- PD-51CFM-200A
- PD-51CFD-200A
- PD-103PFP-200A
- PD-103PFR-200A

Exclusive driver is necessary for the operation of the pump. Please contact us.



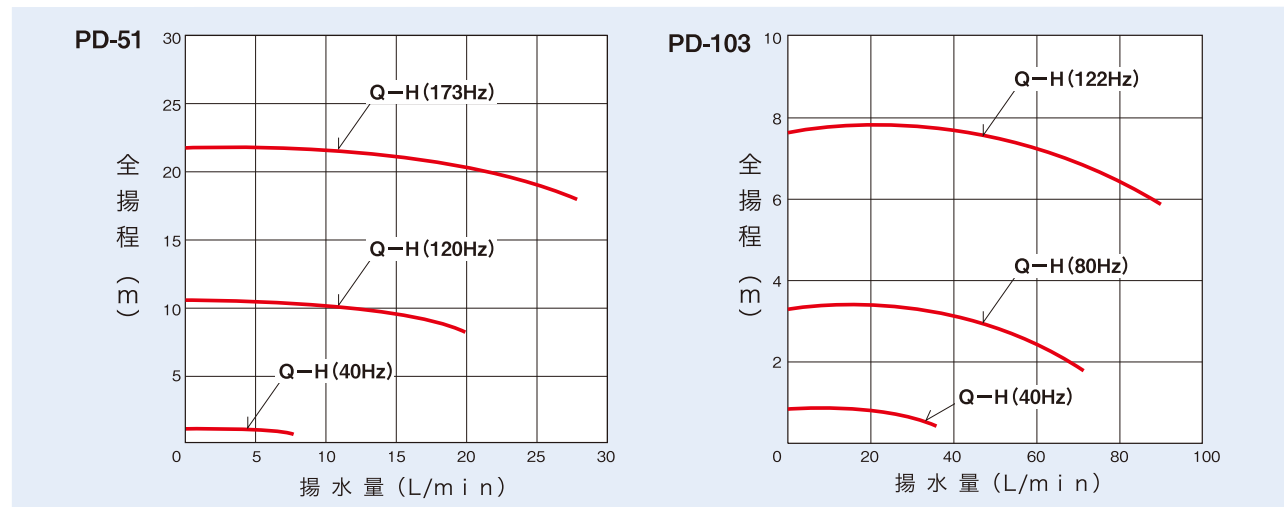
**Characteristics**

- High efficiency and energy saving
- Easy to control with a dedicated inverter
- Compact and lightweight
- Excellent corrosion resistance
- Long life

**Application**

- Coolant Circulation for water, antifreeze etc.
- A wide variety of industrial machines

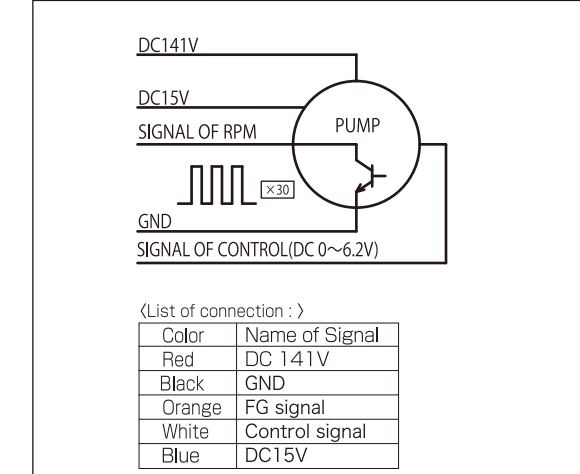
**特性**



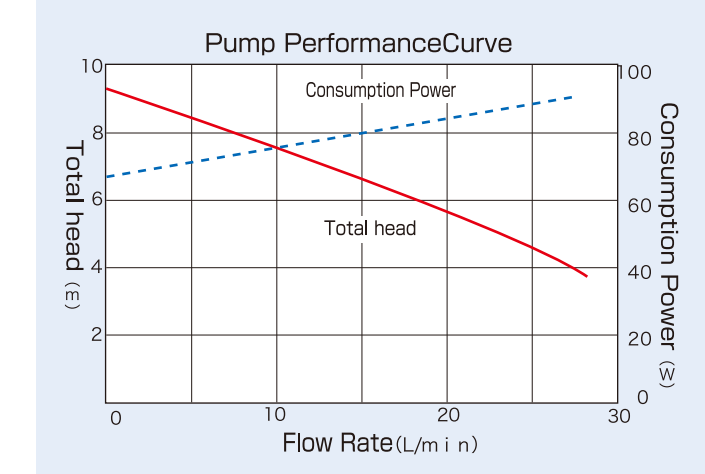
**仕様**

Item	Diameter		Maximum		Rated Voltage	Motor		Weight
	Hose A(mm)	Screw B(G-)	Total head m	Flow rate L / min		Rate output W	Power Consumption W	
Model name					V			kg
PD-51CFD-200A	19	-	21	28	1φ200V	200	260	1.5
PD-51CFD-200A	19	-	21	28	3φ200V	200	260	1.5
PD-51CFM-200A	-	3 / 4	21	28	1φ200V	200	260	1.5
PD-51CFM-200A	-	3 / 4	21	28	3φ200V	200	260	1.5
PD-103PFR-200A	32	-	7.5	90	1φ200V	145	196	1.6
PD-103PFR-200A	32	-	7.5	90	3φ200V	145	196	1.6
PD-103PFP-200A	-	1	7.5	90	1φ200V	145	196	1.6
PD-103PFP-200A	-	1	7.5	90	3φ200V	145	196	1.6

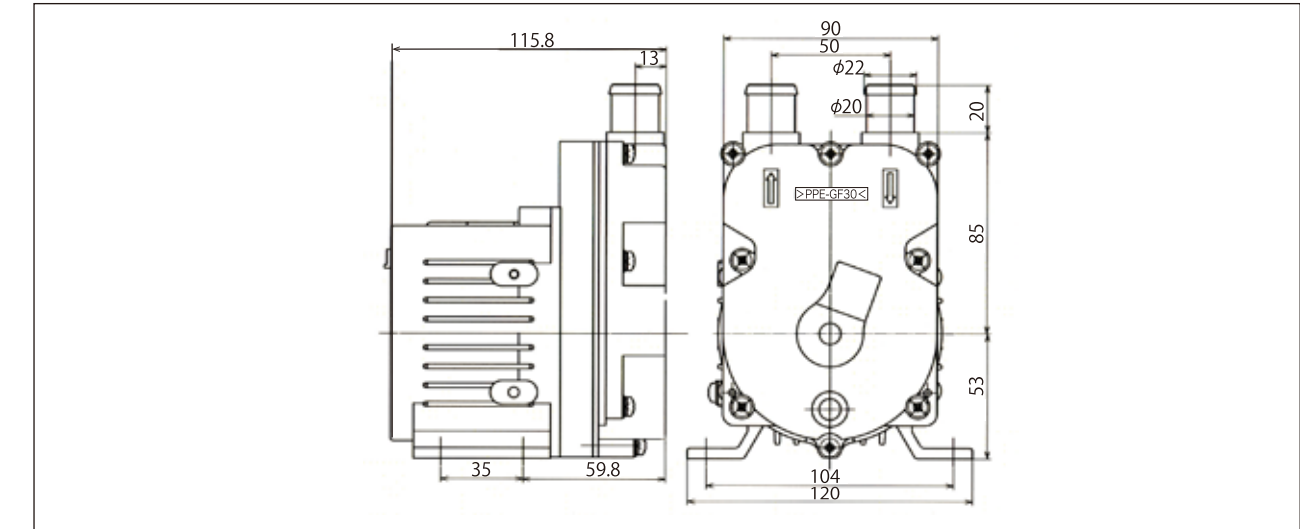
**Wiring Diagram**



**Characteristics**



**Outline Dimension**



**Specification**

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L / min	m	W	μm	dB(A)	kg
<b>PDS-72</b>	50	141	20	5.6	85	Less Than 30	Less Than 43	1.7

■Range of Ambient Temperature : 0~50°C ■Range of Liquid TemperatureFlow Rate : 0~45°C ■Location to be set : Indoors

**Application**  
 ◆ **Semiconductors:**  
 Semiconductor cooling system  
 ◆ **Broadcast facility:**  
 Cooling Equipment



**PDH-403**

**DUF-20**

**Application**  
 ◆ **Semiconductors:**  
 Semiconductor cooling system  
 ◆ **Broadcast facility:**  
 Cooling Equipment

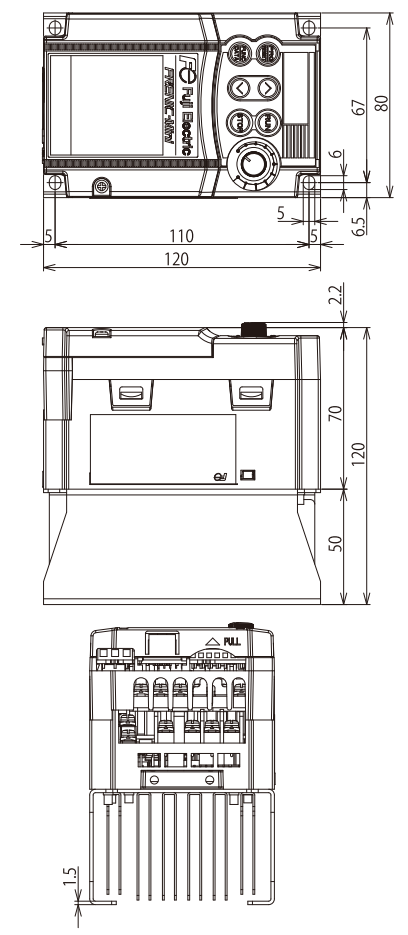


**PDH-752**

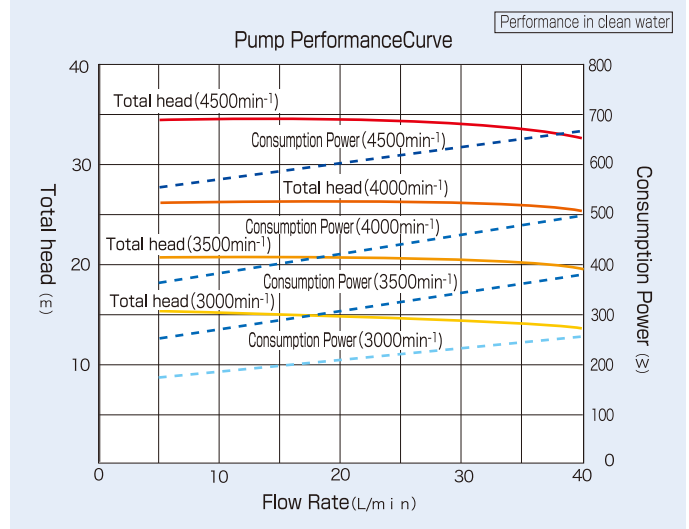
**DUF-50**

Exclusive driver is necessary for the operation of pump. Contact us.

**Outline Dimension**



**Characteristics**



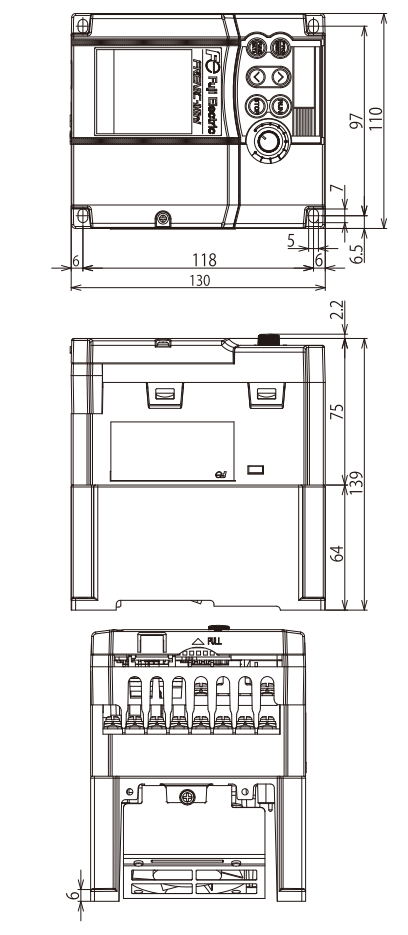
**Specification**

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	μm	dB(A)	kg
<b>PDH-403</b>	400	3 φ 200V	30	32	700	Less Than 20	Less Than 65	6.4

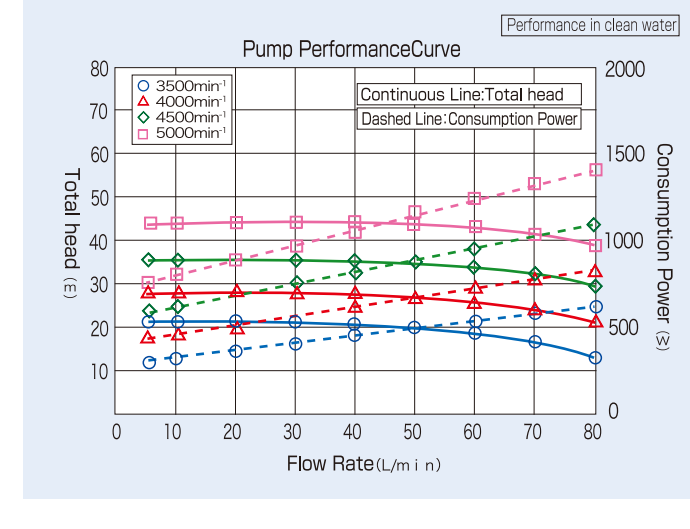
■ Range of Ambient Temperature : 0~50°C ■ Range of Liquid TemperatureFlow Rate : 0~120°C ■ Location to be set : Indoors

Exclusive driver is necessary for the operation of pump. Contact us.

**Outline Dimension**



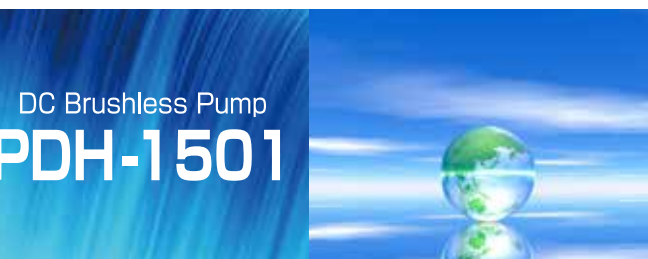
**Characteristics**



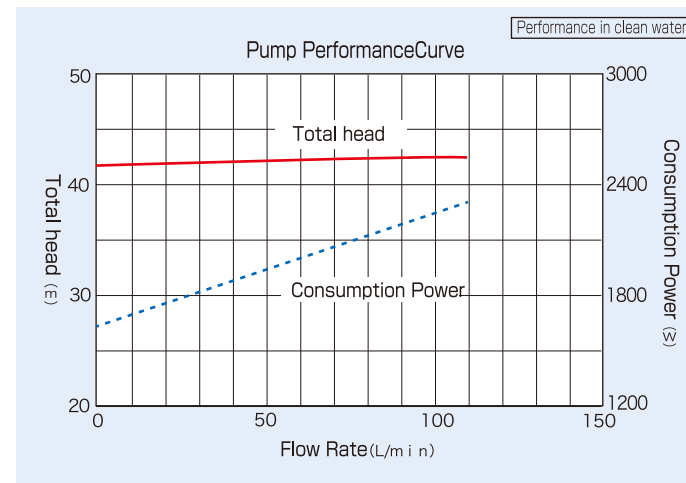
**Specification**

Item	Rated Output of Motor	Rated Voltage	Flow Rate	Head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	μm	dB(A)	kg
<b>PDH-752</b>	750	3 φ 200V	40	40	1100	Less Than 20	Less Than 60	10.8

■ Range of Ambient Temperature: 0~50°C ■ Range of Liquid TemperatureFlow Rate: 0~120°C ■ Location to be set : Indoors ■ Sensorless Driving Type



### Characteristics



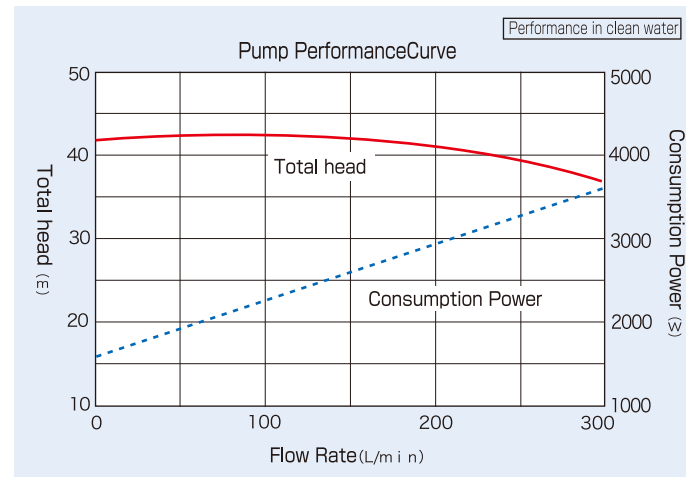
### Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	$\mu m$	dB(A)	kg
<b>PDH-1501</b>	1500	3 $\phi$ 200V	80	40	2400	Less Than20	Less Than65	(24)

■Range of Ambient Temperature : 0~50°C ■Range of Liquid TemperatureFlow Rate : 0~120°C ■Location to be set : Indoors



### Characteristics



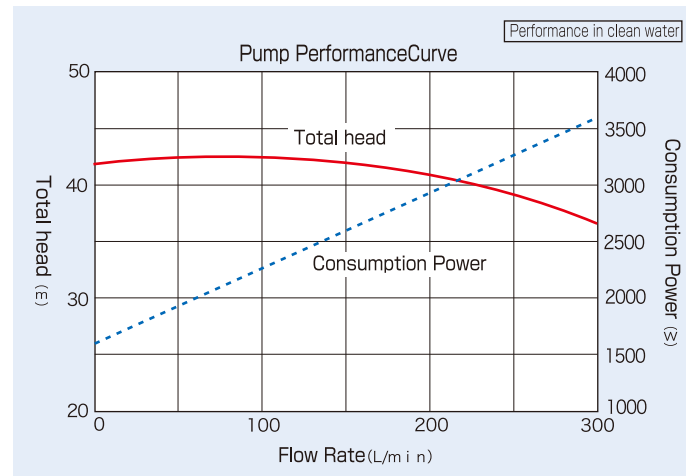
### Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	$\mu m$	dB(A)	kg
<b>PDH-2201</b>	2200	3 $\phi$ 200V	150	40	3600	Less Than20	Less Than65	(24)

■Range of Ambient Temperature : 0~50°C ■Range of Liquid TemperatureFlow Rate : 0~120°C ■Location to be set : Indoors



### Characteristics



### Specification

Item	Rated Output of Motor	Rated Voltage	Flow Rate	head	Rated Consumption Power	Vibration	Noise	Weight of Product
Model Name	W	V	L/min	m	W	$\mu m$	dB(A)	kg
<b>PDH-3701</b>	3700	3 $\phi$ 200V	220	40	3100	Less Than20	Less Than65	(24)

■Range of Ambient Temperature : 0~50°C ■Range of Liquid TemperatureFlow Rate : 0~120°C ■Location to be set : Indoors

To : Sanso Electric Co.,Ltd. [FAX]

Date    Month    Date    Year

## Enquiry Sheet

Name of Company		Dept.	
Name		Position	
Address			
T E L		F A X	
E-Mail			
Item	Specification (To be Confirmed)	Remarks	
Usage			
Main Power Source	Single Phase · Three Phase · DC	Other Switching Power Source Solar Cell Specification	
Voltage (V)	( V )		
Site	Indoors · Outdoors · To be Installed		
Type of Liquid			
Temperature Range ~ °C	~ °C		
Pump Performance	Total Head (m) Flow Rate (L/Min)		
Other Remarks			

※Use by coping.