

**Piezoelectric Diaphragm MicroPump**

**DataSheet**

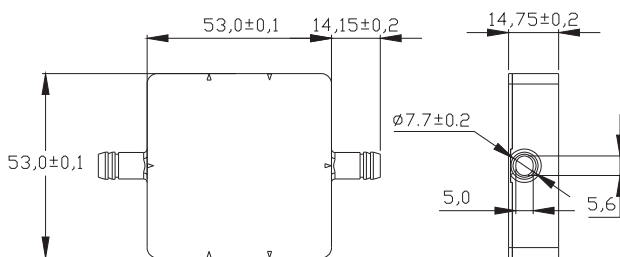
**Specifications**

Dimensions (L x W x T)	53x53x14.75 mm (refer to the drawing also)		
Inlet/Outlet (ID / OD / H)	5.6/ 7.6 / 14.4 mm (refer to the drawing also)		
Mass	45g		
Storage Temperature	-20°C to 70°C (refer to Figure 1 also)		
Operating Temperature	-20°C to 70°C (refer to Figure 1 also)		
Wetted part material		Default	Options
	Body:	POM	PP, COC (COC need extra fee).
	Rubber:	EPDM	Teflon (FKM), NBR, IIR, Silicone.
	Membrane:	Polyimide.	(No other options)
Diaphragm:	304 Stainless Steel	(No other options)	
Power Consumption	Normal version : 0.5 ~ 1 W (depending on flow rate/ driving frequency)		
	LessPower version: 0.05 ~ 0.25 W (depending on flow rate/ driving frequency)		
Flow rate	PS51I/PS51C:Normal version : 100 ~ 500 ml/min by 25°C water (Depending on driving frequency)		
	PS51I/PS51C:LessPower version : 100 ~ 300 ml/min by 25°C water (Depending on driving frequency)		
	GS51I/GS51C:Normal version : 20 ~ 200 ml/min by 25°C air (Depending on driving frequency)		
	GS51I/GS51C:LessPower version: 20 ~ 100 ml/min by 25°C air (Depending on driving frequency)		
Pumping Pressure	PS51I/PS51C:Normal version : 10~20kPa by 25°C water (Depending on driving frequency)		
	PS51I/PS51C:LessPower version : 10~15kPa by 25°C water (Depending on driving frequency)		
	GS51I/GS51C:Normal version : 2~4kPa by 25°C air (Depending on driving frequency)		
	GS51I/GS51C:LessPower version: 2~4kPa by 25°C air (Depending on driving frequency)		
Suction Pressure	2 ~ 4kPa (Dry running)		
Repeat accuracy	±15%		
Life time	>10,000 hours		
Particle Tolerance	<100um		
Liquid viscosity	<500 cP		

Note:

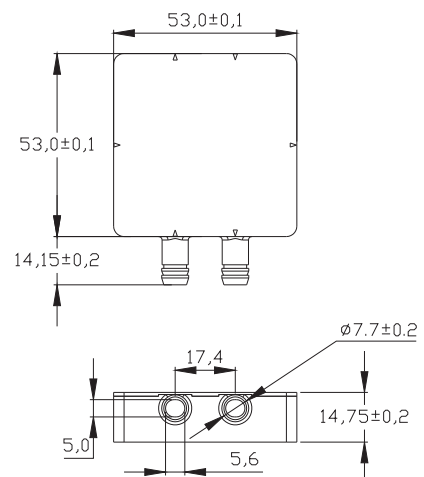
1. EPDM as default. Optional Teflon version is available upon request.
2. Flow rate depends on the tube length and the data tested with 15cm length inlet/outlet tube.
3. Specifications are subject to change without notice.

PS51I/GS51I



Dimension in mm

PS51C/GS51C



# Ordering Information (Please refer Curiejet MicroPump Catalog for version definition)

## Liquid Pumps

- PS51I (Non-Driver)
- PS51I (5Vdc, 300ml,L)
- PS51I (5Vdc, DCT,L)
- PS51I (12Vdc, 500ml,Q)
- PS51I (12Vdc, 500ml)
- PS51I (12Vdc, DCT)

- PS51C (Non-Driver)
- PS51C (5Vdc, 300ml,L)
- PS51C (5Vdc, DCT,L)
- PS51C (12Vdc, 500ml,Q)
- PS51C (12Vdc, 500ml)
- PS51C (12Vdc, DCT)

*/\* For PS51C/PS51I Normal version specified flow rate can be any value between 100ml/min and 500ml/min , for LessPower version specified flow rate can be any value between 100ml/min and 300ml/min , the MOQ should be over 1Kpcs Orders /\**

## Gas Pumps

- GS51I (Non-Driver)
- GS51I (5Vdc, 100ml,L)
- GS51I (5Vdc, DCT,L)
- GS51I (12Vdc, 200ml,Q)
- GS51I (12Vdc, 200ml)
- GS51I (12Vdc, DCT)

- GS51C (Non-Driver)
- GS51C (5Vdc, 100ml,L)
- GS51C (5Vdc, DCT,L)
- GS51C (12Vdc, 200ml,Q)
- GS51C (12Vdc, 200ml)
- GS51C (12Vdc, DCT)

*/\* For PS51C/PS51I Normal version specified flow rate can be any value between 20ml/min and 200ml/min , for LessPower version specified flow rate can be any value between 20ml/min and 100ml/min , the MOQ should be over 1Kpcs Orders /\**

## Evaluation Purpose (Liquid Pumps)

- EVDC51I-5VL:PS51I( 5Vdc,DCT,L)+ N22(5Vdc,FC)
- EVDC51C-5VL:PS51C ( 5Vdc,DCT,L)+ N22(5Vdc,FC)
- EVDC51I-12V:PS51I ( 12Vdc,DCT)+ N22(12Vdc,FC)
- EVDC51C-12V:PS51C(12Vdc,DCT)+ N22(12Vdc,FC)

- EVSF51I-5VFTL:PS51I(5Vdc,FT,L)
- EVSF51C-5VFTL:PS51C(5Vdc,FT,L)
- EVSF51I-12VFTQ:PS51I(12Vdc,FT,Q)
- EVSF51I-12VFT:PS51I(12Vdc,FT)
- EVSF51C-12VFTQ:PS51C(12Vdc,FT,Q)
- EVSF51C-12VFT:PS51C(12Vdc,FT)

## Evaluation Purpose (Gas Pumps)

- EVGDC51I-5VL:GS51I (5Vdc,DCT,L)+ N22(5Vdc,FC)
- EVGDC51C-5VL:GS51C (5Vdc,DCT,L)+ N22(5Vdc,FC)
- EVGDC51I-12V:GS51I (12Vdc,DCT)+ N22(12Vdc,FC)
- EVGDC51C-12V:GS51C (12Vdc,DCT)+ N22(12Vdc,FC)

- EVGSF51I-5VFTL:GS51I (5Vdc,FT,L)
- EVGSF51C-5VFTL:GS51C(5Vdc,FT,L)
- EVGSF51I-12VFTQ:GS51I (12Vdc,FT,Q)
- EVGSF51I-12VFT:GS51I (12Vdc,FT)
- EVGSF51C-12VFTQ:GS51C(12Vdc,FT,Q)
- EVGSF51C-12VFT:GS51C(12Vdc,FT)

Notes:

"DCT" means "Dual Control" version.

"L" means "Less Power" version.

"FT" means "F-tunable" version.

"Q" means "Quiet" version.

\*Submersible(S) version optional.

\*Other materials, like PP or COC to replace POM plastic, and NBR, IIR, FKM to replace EPDM sealing rubber are available and can be specified upon request.

## Wiring Information

	Normal	LessPower(L)
<b>Notice Before Wiring</b>	For Dual Control products to avoid actuator decay in a short time, please connect <b>green</b> wire with frequency input before inputting DC power.	<b>Black:</b> Don't touch <b>red</b> wire(DC voltage), to avoid IC break down. <b>Red:</b> Don't input voltage larger than 5.5Vdc.
<b>Specified Flow rate</b>	<b>Black:</b> Gnd <b>Red:</b> Voltage(5Vdc) input, power supply <b>Orange:</b> Voltage(12Vdc) input, power supply <b>Yellow:</b> Disable by inputting digital "High" ("High"=2-5V), Enable by inputting digital "Low". Without any inputting, the pump runs continuously.	<b>Black:</b> Gnd <b>Red:</b> 5Vdc input only, power supply <b>White:</b> On/Off control by inputting logic High/Low signal,(High: >+1.2V; Low: <0.2V) Default to "On" without inputting.
<b>Dual Control (DCT)</b>	<b>Black:</b> Gnd <b>Orange:</b> 12Vdc input, power supply <b>Yellow:</b> Control for the AC driving voltage (DC analog 0-0.5V), driving voltage decreases with the DC analog, and thus the flow rate decreases with the DC analog. This input is not necessary in case the user doesn't want to control the driving voltage. As keeping the lead open, the pump is driven at the default driving voltage. <b>Green:</b> Control for the AC driving frequency(by 5V or 12Vdc PWM frequency, 50% duty),input frequency will be the driving frequency. This input is always required in order to run the pump,and the frequency below 60Hz is recommended. Operations over the recommended range may induce the performance permanent decay.	<b>Black:</b> Gnd <b>Red:</b> 5Vdc input, power supply <b>White:</b> On/Off control by inputting logic High/Low signal, (High: >+1.2V; Low: <0.2V) <b>Yellow:</b> Control for the AC driving voltage (DC analog 0-1.3V). The driving voltage increases with the DC analog, and thus the flow rate increases with the DC analog. This input is not necessary in case the user doesn't want to control the driving voltage. As keeping the lead open, the pump is driven at the default maximum driving voltage. <b>Green:</b> Control for the AC driving frequency (by 5V or 12Vdc PWM frequency, 50% duty). Without any inputting, the pump will run at the default driving frequency that almost generates maximum flow rate. The inputting frequency divided by 4 will be the driving frequency(i.e. Fdrv=fin/4). The inputting frequency below 240Hz is recommended as the driving frequency over the recommended may induce permanent decay of the performance.