US | Solar Pumps®
HOME FOR ALL YOUR MICRO-DC PUMP NEEDS!

D5
Solar Pump

Variable Speed Stainless Steel Solar DC Pump



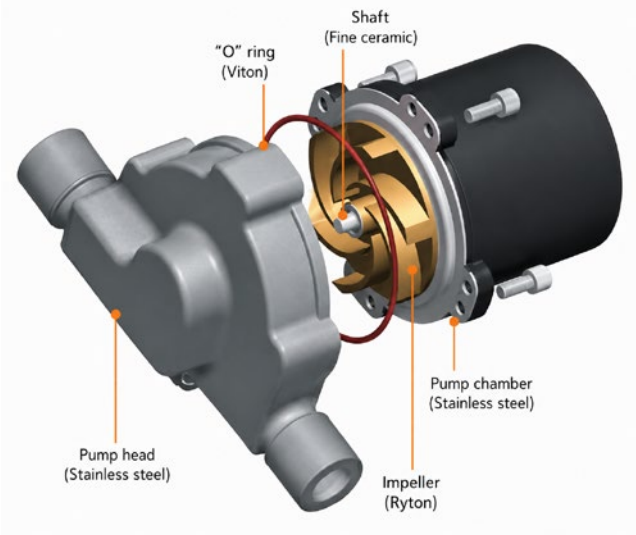
- Directly connects to photovoltaic panel, start-up power requires less than 2 Watt
- Ideal 5W, 10W, 15W, 25W power consumption optional for different sizes SWH systems
- Food grade stainless steel solar hot water pump protects your family's health
- Operates on safe DC power, you will not expose yourself to hazardous grid power voltage
- High efficient ECM brushless DC motor, ideal long life time 20000 hours
- Advanced magnetic drive technology for static-seal, without any leakage for ever
- Can run with hot water (230° F) and at high pressure(145 Psi)

Application

The D5 solar DC pump can be used for most circulation pump applications without connection to the power grid. Highly efficient, the D5 can be connected directly to a photovoltaic panel and is characterized by its small size, high efficiency, and extreme low power consumption. The long life brushless motor technology provides maintenance free and quiet service life. This pump is perfect for single family home thermal solar systems or any circulation pump application where conventional power is not available.

Areas of Use:

- Solar Water Heating Systems
- Hot Water Circulation
- Radiant Floor Heating
- Heat Transfer Applications
- Cooling Systems
- Food Liquid Transfer
- Hot water Transfer Pump for Home Brewing



D5 Solar Pump

Specifications:

Pump

- Max Capacities: 22LPM / 6GPM
- Max Head: 4.5M/14.5'
- Pipe Connections: male'/2" BSP or male 'A" NPT
- Maximum Working Pressure: 10bar (145Psi)
- Maximum Temperature: 110°C (230° F)
- Low noise: 45dB far from 1m distance
- Weight less than 2lbs.

Motor

- DC brushless motor with energy efficiency technology
- Voltage: 6V-24V DC (main:17V DC)
- 5W, 10W, 15W, 25W power consumption optional
- Over-temperature protection
- Dry-running protection
- Overload Protection
- Over voltage Protection

Features

- Economic and powerful, high efficient
- Compact design, easy installation
- No plumb exudation, more safe
- Can sustain continual heavy duty work
- Low or no maintenance
- Whisper quiet operation
- Various protection functions
- DC power supply or battery is applicable
- Billowy flow rate 25LPM at 24V DC is available

Motor

DC brushless motor with energy efficiency technology use MPPT by micro processor, and variable speed & power consumption optional by dial control.
Stable & advanced soft-starting function, very low in-rush current, perfect for working directly with PV panel.

Impeller

Highly efficient and dynamically balanced with fine ceramic bearing for smooth ultra quiet operation.

Construction

Wetted parts are food grade stainless steel, food grade thermoplastic (Viton), carbon and ceramic for superior reliability and corrosion resistance.

Dry-running protection

Drive circuitry can detect no or little liquid in pump chamber and will stop the pump to prevent damage, pump is then restarted manually by disconnecting and reconnecting it to the power supply.

Over voltage protection

When the voltage over 28V, the pump will auto-protect and shut off own power supply, when the voltage falls below 28V, the pump will restart automatically.

Over load protection function

This means that when the current is over the rated current, such as can arise if the impeller is stuck due to debris. The pump will automatically stop to prevent damage, and will restart when the current falls again.



PV operated

For solar system loops, the D5 pump can be powered directly from a PV panel. The sun comes up, heat builds in the solar hot water panel and at the same time electricity is made in the PV panel. The pump slowly starts with the smallest amount of current and pushes the heated water to the

D5 Solar Pump

storage tank. It's all too simple and eliminates all controllers, thermostats and sensors.

Soft start-up

The D5 Solar DC pump has a soft start-up feature which reduces high in-rush current. When the photovoltaic panel provides sufficient power, the pump goes through the alignment phase by turning the rotor into the position required for start-up. The processor then waits until the capacitor is sufficiently charged. This enables a start-up with minimal power (less than two watt). Cycling due to unsuccessful attempts is minimized. Even after prolonged shutdown, the pump will start reliably.

Over-temperature safety device

The D5 Solar DC pump comes with an integrated over-temperature safety device which shuts off the pump electronics when reaching temperature over 110°C (230°F).

When the temperature of the pumped fluid is below 95°C (203°F) the pump will function normally. The temperature of the electronic components is influenced by the temperature of the pumped media as well as by the speed setting. After reaching a critical temperature 95°C (203°F) the pump will lower its speed automatically in order to avoid a total shutdown.

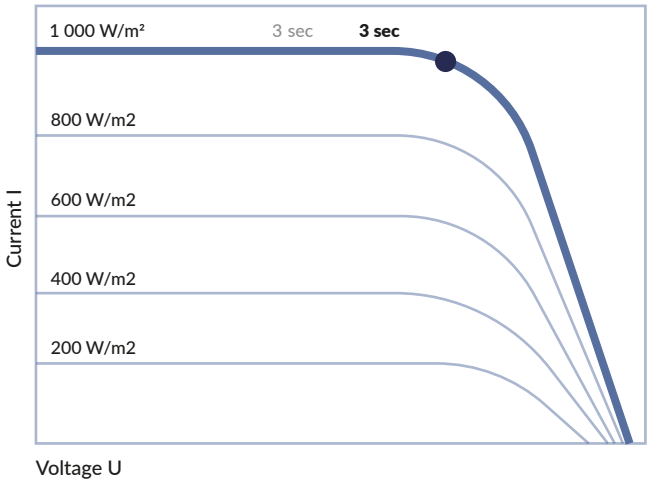


Maximum Power Point (MPP) tracking

Every three seconds the processor will modify its operating point on the voltage-current curve of the PV panel to find the point of maximum performance.

At this point, the pump achieves the maximum rpm and therefore the maximum performance. There is no need for a separate performance device.

The eco solar pump will always find its best operating point under any given light and temperature conditions. By employing MPP tracking every three seconds, the D5 pumps always automatically achieve maximum performance at any given insolation.



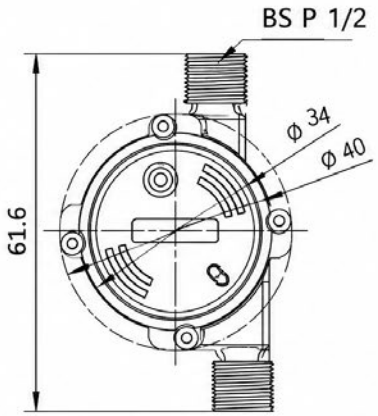
Safe pump to our health

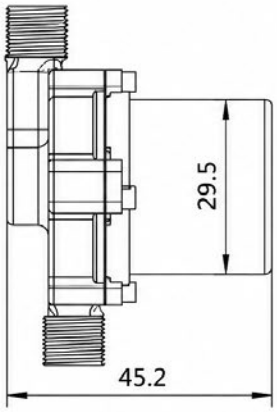
The D5 pump is currently the world's only all-stainless steel solar hot water circulating pump. Made of food grade stainless steel it is very safe and reliable, perfect to protect your family's health. Food grade stainless steel is a healthy and safe metal for people. It is acid resistant and has no dangerous element exudation. The medical equipment and food machinery widely used is the best example. The traditional copper-lead brass products contain a certain percentage of lead, even expensive products are no exception. Especially in cheap brass products, the high lead content can adversely affect our physical health. The body absorbs lead, leading to anemia, damaging the central nervous system and other organs. This is an especially serious hazards for children.



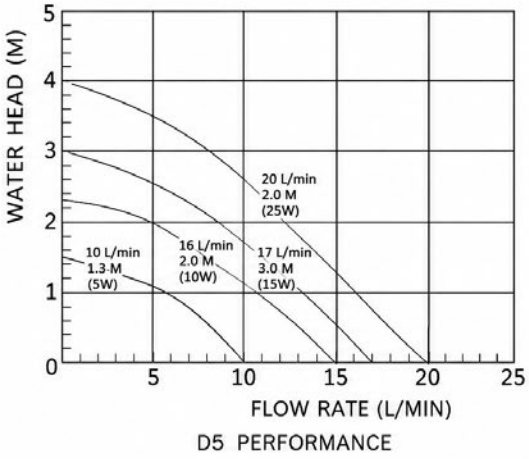
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Dimensional drawings(mm)





Pump curves



D5 Solar Circulation pumps for Solar water heater systems

