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LORENTZ 

# PS Centrifugal Solar Pump Systems

## Submersible Pump Systems for 4" and 6" Wells

LORENTZ PS centrifugal pumps are high quality products designed for higher flow drinking water supply, livestock watering, pond management and irrigation applications. PS centrifugal pumps provide large volumes of water economically, without pollution, anywhere.

The LORENTZ PS range of DC powered centrifugal pumps have been designed specifically to pump larger volumes of water efficiently using solar power. These highly efficient pumps can achieve flow rates of 20,000 USG/hour.

Each system consists of a pump, pump motor and a controller. This modular concept keeps all electronics above ground providing simple servicing, ease of access and a low cost of ownership.

### Benefits

- Long life expectancy and proven in service record
- Designed for use in remote and harsh conditions
- Smart modular design for simple and cost effective servicing and repair
- Water filled motors for reliability and to avoid of contamination
- Fast and simple installation
- Cost effective spare parts philosophy
- Very strong IECI against dust powered pumping reducing production costs and reducing output footprint
- Large range of pumps to closely match each application and optimise efficiency

### Features

- Engineered in Germany
- High quality non combustible materials used throughout
- Cost critical direct components
- Solar direct connect with AC connection options
- MPPT technology to maximise power use from PV modules
- IECI/IEC DC business motor, designed for solar, with over 90% efficiency
- Optional data logger

pump system	PS150C	PS600C	PS1200C	PS1800C	PS4000C
max. total dynamic head (TDH) [ft]	65	100	130	330	525
max. flow rate [USG/d]	1,050	3,170	5,550	14,000	20,000
solar operation:					
max. power voltage (Vmp)* [VDC]	>17	>48	>102	>102	>238
open circuit voltage (Voc) [VDC]	max.50	max.150	max.200	max.200	max.375
nominal voltage [VDC]	12-24	48-112	72-96	72-96	168-192
battery operation:					
nominal voltage [VDC]	12,24	48	96	96	n.a.

\* V<sub>mp</sub> modules in standard test condition AM = 1.5, G<sub>0</sub> = 1,000W/m<sup>2</sup>, air temperature 25 °C

To find out more visit [www.lorenz.de](http://www.lorenz.de)

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All specifications and information are given with good intent, errors are possible and products may be changed without notice. While the information is provided, Lorentz does not assume any responsibility for pump errors and malfunctions. A pump's system consists of a controller, motor and pump unit. Multiple pump/s are required to represent the wide range of pump/s offered. Typical Centrifugal 160.

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15/10/20

# Submersible Solar Pumps

Written by Administrator

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## PS Helical Rotor Solar Pump Systems

Submersible Pump Systems for 4" and 6" Wells



LORENTZ PS helical rotor pumps are high quality products designed for drinking water supply, livestock watering and smaller irrigation applications. PS helical rotor pump systems deliver water economically, cleanly and reliably, anywhere.

The LORENTZ PS range of DC powered helical rotor pumps have been designed specifically to pump water efficiently using solar power. The helical rotor pump is simple, efficient and reliable, pumping water with very low levels of solar power from up to 1,150ft below the ground.

Each system consists of a pump, pump motor and a controller. This modular concept keeps all electronics above ground providing simple servicing, ease of access and a low cost of ownership.

### Benefits

- Long life expectancy and proven in service record
- Designed for use in remote and harsh conditions
- Smart modular design for simple and cost effective servicing and repair
- Water filled motors for reliability and to avoid oil contamination
- Fast and simple installation
- Cost effective spare parts philosophy
- Very strong ISO against diesel powered pumping
- Large range of pumps to closely match each application and optimize efficiency

### Features

- Engineered in Germany
- Water temperature specific variants to provide the most efficient outputs
- High quality non-corrosible materials used throughout
- Cast stainless steel components
- Solar direct connect with AC connection options
- MPPT technology to maximize power use from PV modules
- ECHPVE DC brushless motors, designed for solar, with over 90% efficiency
- Optional data logger

pump system	PS100HR	PS300HR	PS1200HR	PS1800HR	PS4000HR
max. total dynamic head (TDH) [ft]	185	590	790	820	1,500
max. flow rate [USGAL]	690	690	660	1,030	660
solar operation:					
max. power voltage (Vmp) <sup>1</sup> [VDC]	>34	>68	>102	>102	>238
open circuit voltage (Voc) [VDC]	max. 100	max. 150	max. 200	max. 200	max. 375
nominal voltage [VDC]	24-48	48-72	72-96	72-96	168-192
battery operation:					
nominal voltage [VDC]	24 and 48	48	96	96	n.a.

<sup>1</sup> V<sub>mp</sub> modules at standard test condition: AM = 1.5, I<sub>sc</sub> = 1,000W/m<sup>2</sup>, cell temperature 25 °C

To find out more visit [www.lorentz.de](http://www.lorentz.de)

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## PSk2 Centrifugal Solar Pump Systems

Submersible Pump Systems for 6", 8" and 10" Wells



LORENTZ PSk2 systems are our next generation of solar water pumps designed to deliver the highest volume of water across a wide range of lifts. PSk2 pumps perform equally well in irrigation projects and for a wide area of drinking water applications where they reliably meet the most demanding requirements, economically and without the use of fossil fuels or a grid connection.

PSk2 provides all of the features and functions that larger scale water projects require including a wide range of sensor inputs and inbuilt monitoring and management. PSk2 is also compatible with LORENTZ CONNECTED services for cost effective remote monitoring and management. Although technically advanced, PSk2 is simple to specify, install and maintain and provides exceptional performance driven by LORENTZ long experience of off grid solar pumping.

### Benefits

- Very strong ROI against diesel powered pumping, reducing water production costs and reducing carbon footprint
- Advanced power management techniques to deliver the most water based on the power available
- Comprehensive inputs and outputs to provide a cost effective single unit solution
- Wide range of products to closely match each application and optimize efficiency
- Fast specification, installation and configuration allow for fast implementation and minimal downtime
- Smart modular product design for simple and cost effective product repair
- Powerful inbuilt monitoring and control features provide detailed operational information and simple access to advanced features

### Features

- Engineered in Germany using high quality non-corrosible materials
- IP54/NEMA 3A corrosion resistant housing
- 6-48Hz motor speed control
- Wide range of inputs to influence pump behavior
- Integrated monitoring and management including onboard recording of 5 years performance data, instant device access via PumpScanner Android™ App and integration to LORENTZ pumpMANAGER remote management service
- Inbuilt insulation measurement and pump control based on power available
- Integration with the LORENTZ SmartPSU for grid generator connection and power blending

pump system	PS9k2	PS15k2	PS21k2	PS25k2	PS40k2
max. total dynamic head (TDH) [ft]	395	460	395	395	650
max. flow rate [USGAL]	35,950	62,100	57,600	59,040	62,400
solar operation:					
open circuit voltage (Voc) [VDC]	max. 850	max. 850	max. 850	max. 850	max. 850

<sup>1</sup> V<sub>mp</sub> modules at standard test condition: AM = 1.5, I<sub>sc</sub> = 1,000W/m<sup>2</sup>, cell temperature 25 °C

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