



XYLEM SOLAR SOLUTIONS

# High-efficiency solar powered pumps

# A complete portfolio of solar solutions

Xylem's innovative solar water solutions provide adaptability for dependable underground or surface water access, they are design designed to:

Meet all agricultural needs

Protect you from energy cost fluctuations

Provide rapid return on investment.

This system satisfies all your agricultural needs, including watering crops and livestock, along with household water demands on your farm or ranch.

Dependable access to underground or surface water resources can be challenging. As demand for safe and cost-effective solutions grows, Xylem - in partnership with Lorentz - has provided an answer.

Discover our complete range of solar-powered water solutions.

## The growing demand for solar-powered solutions

Incentives to move away from fossil fuels, the availability of more sophisticated and energy-efficient solutions, and the falling price of solar PV (-90% since 2010) have led to a substantial growth in the demand for solar pumps.

The market size for solar pumps is expected to more than double in the next decade. Sub-Saharan Africa and Asia Pacific are expected to experience the biggest growth in demand, due to the strong impact of climate change and the presence of many smallholder farming communities in remote, off-grid areas.

As a result, Xylem identified the opportunity to enter this booming market, enabling its clients to get a competitive advantage over competitors that don't stock this type of solutions. This is why we are partnering with global solar pumps leader LORENTZ to make high-efficiency solar pumps readily available for our customers, allowing them to have access to a comprehensive range of high-quality solar solutions.

## Boost flexibility and ROI

Solar-powered pumps are perfectly suited to address the water needs of off-grid rural communities, but are also an ideal solution to anyone who prefers using a free and highly predictable power source - reducing their exposure to the volatility of the wholesale energy market.

Solar-powered pumps are ideal for a wide variety of farming applications: from irrigation to watering livestock. They represent a smart, long-term investment that will deliver value for decades to come, eliminating dependence on costly fossil fuels and thus leading to consistent savings.

## Maximise energy efficiency

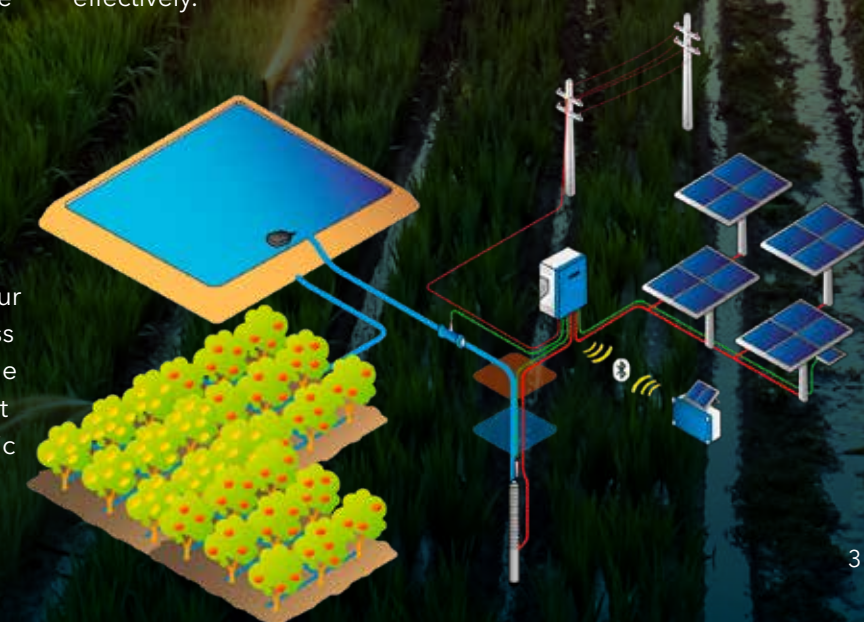
Xylem has developed its complete range of solar solutions with energy efficiency in mind - reaching up to 90% efficiency. This makes our solar solutions more cost-effective to operate compared to competitor alternatives and promotes reliable and uninterrupted operations.

Crucially, higher efficiency means that our pumps require less power - and thus less solar panels installed - to pump the same amount of water. As a result, our efficient solutions lead to reduced costs per cubic metre of water pumped.

## Make the most of solar capacity

Solar energy represents a free, predictable and endless resource, but the fact that it varies depending on the season and time of the day can cause some challenges. With Xylem Solar Solutions, businesses can seamlessly blend solar energy with a second power source - such as electricity from the grid or from a generator - when needed and as required.

While traditional solar/grid switching solutions rely on up to 70% non-solar energy, Xylem Solar Solutions, thanks to their blending mechanisms, allow businesses to reduce the non-solar energy portion to only 35%. In this way, businesses can rest assured that their solar pumps will operate reliably, continuously and cost-effectively.



## Our solutions.

Xylem's new portfolio of high-efficiency solar pumps.

Xylem has developed a complete range of solar solutions to address a wide variety of applications and scenarios.

### Pump in a box 200W

This submersible helical rotor pump features a high-efficiency 200W DC brushless water-filled motor with plugged connections for simple self-install

Maximum 40 m head and maximum 3 m<sup>3</sup>/h flow rate

Outdoor rated controller (IP68) designed for temperatures up to 50 °C (122°F) ambient

Sophisticated built-in MPPT

Accessory inputs for system expansion

On-board data storage and Bluetooth™ connectivity for pump control and information

15 m cable attached to the motor with a plug for the controller

PV module adapter to use with any standard PV module (max. 50VVoc)

Suitable for immersion up to 50 m

Solar panels sold separately

Wide range of compatible accessories like probes, sensors and solar power connection equipment available on demand



### Pump in a box 700W

This submersible helical rotor pump comes with two centrifugal GS and features a high-efficiency 700W DC brushless water-filled motor with plugged connections for simple self-install

GS 100 m 7 m<sup>3</sup>/hr

Outdoor rated controller (IP68) designed for temperatures up to 50 °C (122°F) ambient

Sophisticated built-in MPPT

Accessory inputs for system expansion

On-board data storage and Bluetooth™ connectivity for pump control and information

PV module adapter to use with any standard PV module (max. 50VVoc)

Suitable for immersion

Solar panels sold separately

Wide range of compatible accessories like probes, sensors and solar power connection equipment available on demand

## BUILDING SUSTAINABLE PARTNERSHIPS

# xylem

To expand the availability of solar-powered pumps worldwide, Xylem has partnered with LORENTZ, the global market leader in solar pumping.

Xylem brings a full range of high-efficiency water technology products as well as expertise of world-class water technology specialists to the partnership. With a commitment to excellence and a broad range of products and services, we manage every aspect of your project, from concept to execution. Whether you need pump system design, procurement, installation, or commissioning, our expert team has you covered.

Additionally, our team of specialists will optimise your infrastructure to enhance performance and energy efficiency. Through the fine-tuning and modernisation of your systems, we help you reduce energy consumption and cut costs.

This makes us the perfect partner for LORENTZ. The company, founded in Germany in 1993, focuses solely on solar water pumping, and develops and manufactures the widest range of solar pumps in the market.

LORENTZ's innovative design, high-quality manufacturing and flexible supply chain ensure the solar pumps they produce and deliver are fit to suit the requirements of millions of people worldwide, who rely on these essential products for their crops, animals and daily activities.

# Helical Range

This solar helical DC pump is available in three sizes: 600W, 1800W and 4000W

Full SS construction

Water temperature specific variants to provide the most efficient outputs

High quality non corrodible materials used throughout

Solar direct connect with AC connection options

MPPT technology to maximise power use from PV modules

DC brushless motors, designed for solar, with over 90% efficiency

Inbuilt data logger with wireless access

Multi LED display for simple operation

Suitable for immersion up to 250 m

Solar panels sold separately

Wide range of compatible accessories like probes, sensors and solar power connection equipment available on demand



# Submersible Borehole Range

Xylem Solar Submersible borehole range features DC permanent magnet high efficiency motors

Full SS external construction

4 " and 6" up to 4 kW power

High quality non corrodible materials used throughout

An incredible range, available covering duty points from 321 mt up to 40 m<sup>3</sup>/hr

Superior sand handling capability thanks to E GS floating impeller technology  
MPPT technology to maximise power use from PV modules

DC brushless motors, designed for solar, with over 90 % efficiency

Inbuilt data logging

Multi LED display for simple operation

Solar panels sold separately

Wide range of compatible accessories like probes, sensors and solar power connection equipment available on demand



# Controller Range

Solar inverter for Xylem pump AC up to 75 kW

All Xylem Solar controllers can operate on solar, from generator or grid power, or in hybrid configuration

PSk 7 kW and PSk 15 kW have integrated modular power class systems to allow customers the choice for hybrid - meaning they can seamlessly blend solar with grid or generator power sources

The system includes a sensor which measures the available irradiation and makes decisions based on the available power. The sensor also avoids unnecessary stop and start cycles, extending the life of the pump and motor

Configuration, operations and viewing data is intuitive. Common configuration is done with only three clicks via a dedicated app, and there is full access to configure system behaviour based on the additional sensor inputs



## Applications.

**XYLEM SOLAR SOLUTIONS ARE  
IDEAL TO PROVIDE RELIABLE AND  
CONTINUED ACCESS TO SAFE WATER  
FOR A VARIETY OF APPLICATIONS**

# Irrigation

Irrigation systems face two main challenges in the current climate. Firstly, they traditionally rely on grid electricity or diesel generators, which can be expensive and contribute to greenhouse gas emissions. In many rural areas, grid access is limited, unreliable or unavailable. Secondly, the systems also depend on rainfall, which is becoming increasingly unpredictable and erratic, posing risks to farming operations.

Solar pumps offer a reliable and cost-effective alternative. They can be sized to meet a farm's specific water needs, and operate during peak sunlight hours when water demand is highest for crops. This reduces reliance on fossil fuels, cuts energy costs and supports reliable farming throughout the year.

In this way, solar pumps reduce energy costs and improve water management when being programmed for precise irrigation cycles.

Livestock require consistent access

# Livestock watering

to clean water, especially in hot and dry climates. Traditional methods like windmills or transporting water by truck can be unreliable, costly or labour-intensive.

Solar pumps provide a dependable source of water for animals in remote pastures and rangelands. This reduces the risk of dehydration and mortality, improves animals' health and productivity, reduces costs and labour related to water transport, and allows for more flexibility in grazing management.



# Ground water supply

Millions of people worldwide lack access to safe drinking water, particularly in remote areas. Contaminated water sources can lead to serious health problems.

Solar pumps, an effective and economical alternative to hand pumps, can draw water from wells or boreholes, providing clean water for drinking, cooking and sanitation. This can significantly improve public health and quality of life in these communities, reducing waterborne diseases, improving access to clean water for basic needs, and promoting overall community health.



# Domestic water use

Even where grid access isn't a challenge, electricity costs for water pumping can be a burden. Moreover, some regions may have limited or no access to reliable electricity for basic water needs.

Solar pumps can be used in homes to pump water for showering, doing laundry, washing dishes and other domestic uses. This can lead to significant cost savings on electricity bills and provide water security in areas with unreliable grid access.

# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

**For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com)**



Learn more  
about Xylem  
Solar Solutions



[www.xylem.com](http://www.xylem.com)

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