Pioneering for You

Product brochure

Wilo-Actun OPTI

Autonomous, optimised water supply using solar power

Innovative solutions for a better tomorrow

Mastering future challenges with digital technologies

Our promise to you

Wilo is a premium supplier of pumps and pump systems for building services, water management and industrial applications. With over 7,700 employees in more than 60 countries, Wilo develops more than just products, systems and services that effectively assist you in your daily work. In this process, “Pioneering for You” is our lasting commitment to a clear customer focus, an unrelenting pursuit of quality and an expression for our special passion for technology.

Sustainably better

One of the most pressing tasks in times of limited natural resources is the responsible consumption of water, a resource that is becoming increasingly scarce. Efficiency, networking and safety have already become paramount today as part of pumping and transporting water.

We aspire to offer you sustainable, user-friendly and high-performance water management solutions that are ahead of their time. We work closely with our customers to create innovative products and systems that perfectly match their requirements and are rounded off with convenient services. The result is integrated solutions you can rely on at all times.

More is more: in-depth digital content

Our added bonus for you: each image featuring the AR symbol in this brochure can be scanned using the Wilo-Assistant app AR scanner. Simply scan the corresponding photo with your smartphone camera – and find out more about our products and solutions.

1

Download the Wilo-Assistant app.

2

Launch the Wilo-Assistant app, tap on the AR logo and scan the content with your smartphone camera.

Raw water intake with solar power

Water supply for remote areas

Water demand is growing worldwide. Reliably supplying the precious resource in arid and remote regions not connected to the power grid is a challenge. Wilo provides a safe, cost-effective raw water intake even in challenging conditions – thanks to the new Wilo-Actun OPTI water supply solution driven by solar power.

Wilo-Actun OPTI offers a sophisticated solution that is independent from the power grid featuring many convincing advantages for our customers:

Thanks to Wilo-Actun OPTI, irrigation becomes autonomous

Efficient water supply for agricultural purposes

In particular in the world's dry regions, agriculture and livestock farming is facing the growing challenge of water scarcity. Suitable areas are often located in remote areas without connection to the necessary infrastructure. However, conventional submersible pumps require a reliable energy supply, either via the local power grid or by using diesel generators. In most cases, this cannot be guaranteed in rural areas as a result of unstable power grids and a lack of adequate road infrastructure for diesel transport.

The solution is to use solar power as the submersible pump's power supply. Combining a photovoltaic system and a submersible pump provides a cost-effective, reliably operating and autonomous system for efficient irrigation in agriculture and livestock farming.

Integrated Maximum Power Point Tracking additionally guarantees maximum water output and efficiency. Depending on the exposure to sunlight, but also in cloudy skies – depending on the time of day, location and weather – the integrated microprocessor calculates the ideal ratio of voltage and electric current to deliver maximum performance. These parameters are then transformed into higher pump speeds and thus a greater supply of water. Thanks to the option to connect to AC power sources, Wilo-Actun OPTI-MS guarantees ideal water output for each growth phase of the food crop – even at night.

AR

Scan the photograph below with the Wilo-Assistant app to find out how we guarantee the water supply even with a diffuse exposure to sunlight.

Autonomous drinking water supply for small settlements

Our solution for reliable drinking water pumping

In rural regions and developing countries, connecting to the local water supply network is often impossible or, quite simply, there is no local water supply network to connect to. Inhabitants of these settlements must often cover long distances to reach a well or transport diesel to operate a pump. This is time-consuming, costly and inefficient.
The solution here is once again a raw water intake from boreholes. In this context, the Wilo-Actun OPTI submersible pump guarantees optimum water supply in any weather thanks to its high motor and hydraulics efficiency as well as dynamic Maximum Power Point Tracking (MPPT). The Wilo-Actun OPTI gives our customers an invaluable advantage over other solar-powered submersible pumps on the market. For the same solar radiation intensity and the same configuration of photovoltaic modules, Wilo-Actun OPTI can pump more water – and thus supply more households.

By using water towers as buffers, it is possible to supply and store a sufficient amount of water during the day to also guarantee supply during the night – without having to rely on costly battery systems. Float switches can also be directly connected to the pump and fill buffers without having to use additional switchgear. In addition, the autonomous system solution for solar-powered water extraction is very convenient with respect to its installation, commissioning and maintenance.
Owing to the integrated frequency converter, the Wilo-Actun OPTI is easy to connect electrically.

AR Find out more about night-time water supply by scanning the photograph below using the Wilo-Assistant app.

Optimum flow rate, easy installation, maximum reliability

Many benefits, one solution: Wilo-Actun OPTI

Reliable water extraction in remote regions is now autonomous:
Wilo-Actun OPTI offers a reliable solution for a completely autonomous water supply running on solar power.

→ **Optimum water output**
Dynamic Maximum Power Point Tracking (MPPT) featured in Wilo-Actun OPTI also ensures permanent, maximum water output even in poor weather conditions.

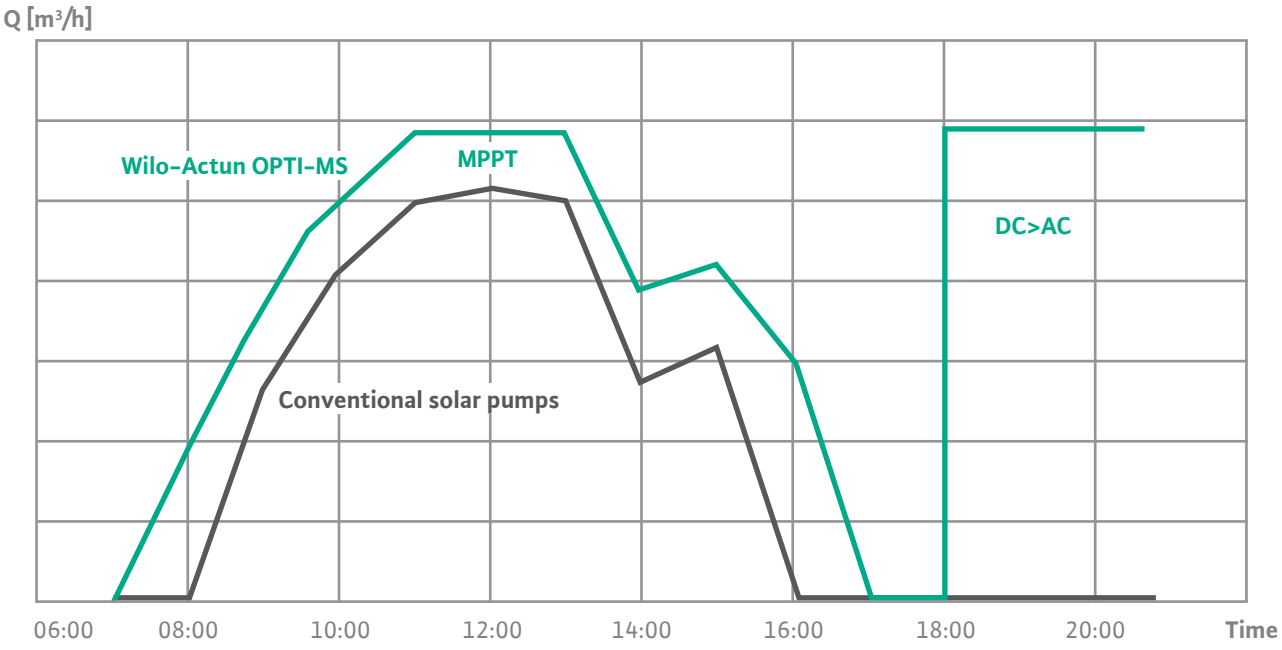
→ **Maximum efficiency**
The high hydraulic efficiency and maximum efficiency of the permanent magnet motor guarantee ideal water supply at almost no operating costs.

→ **Easy commissioning**
Thanks to the integrated frequency converter, the pump must no longer be configured during commissioning and is thus immediately ready for operation following the simple electrical connection.

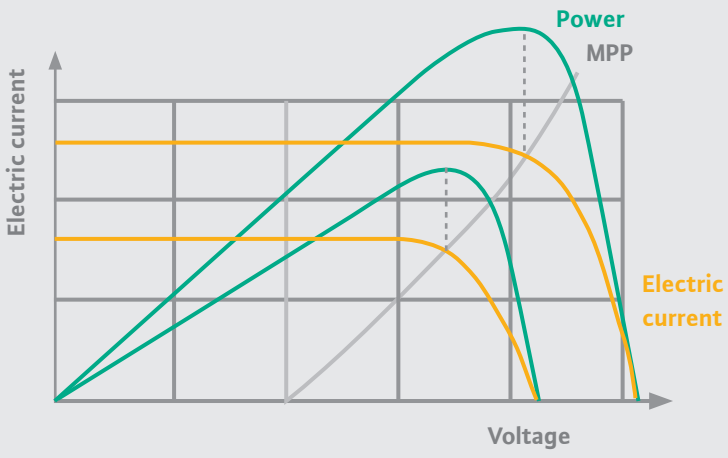
→ **Maximum service life and operational reliability**
High-grade stainless steel, encapsulated motor versions and mechanical seal guarantee a long service life. Inbuilt safety features protecting against overheating, excess current, overvoltage and undervoltage as well as dry running protect the system from damage.

Secure water supply even during changeable weather conditions thanks to dynamic MPPT.

From irrigating agricultural land, to livestock farming and supplying small settlements with drinking water, the Wilo-Actun OPTI-MS submersible pump guarantees optimised water output owing to high motor and hydraulic efficiency and dynamic maximum power point tracking (MPPT). The innovative solution gives our customers an invaluable advantage over other solar-powered submersible pumps on the market. For the same solar radiation intensity and the same configuration of photovoltaic modules, Wilo-Actun OPTI-MS can pump more water – thanks to dynamic MPPT and a highly efficient permangent magnet motor – and thus supply a larger area, more animals or a larger number of households.



Dynamic MPPT
If there is a change in the exposure of the solar modules, the maximum performance point (MPP), current and performance are offset in relation to the voltage. The MPPT algorithm identifies the ideal ratio between electric current and voltage to consequently dynamically actuate MPP. As a result, the available exposure to sunlight is optimally converted into electrical power to maximise the water supply.

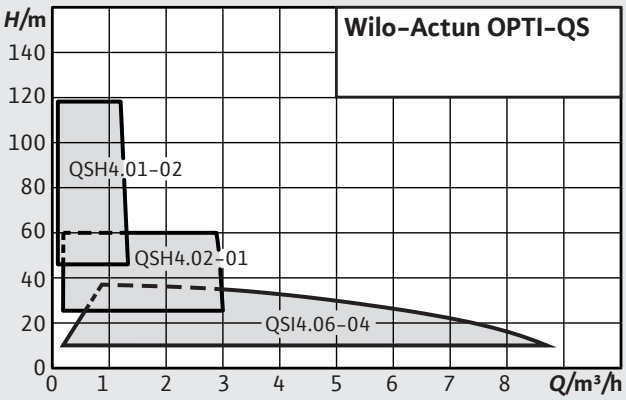


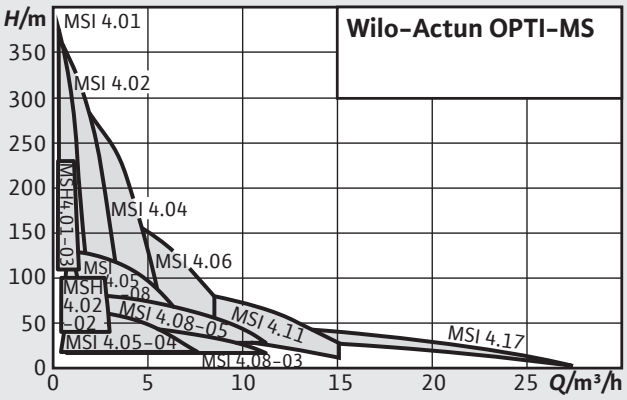
Wilo-Actun OPTI: facts and figures

So much power in our solar-powered submersible pumps

Wilo-Actun OPTI is available in the QS (Quick Solar) and MS (Multipower Solar) versions.
Wilo-Actun OPTI-MS can be operated with DC at voltages of 90 to 430 V and with AC at voltages between 90 and 265 V.

The QS version is exclusively suitable for DC operation with voltages between 70 and 190 V.





More functionality for Wilo-Actun OPTI-MS thanks to Wilo-MS Control:

Always an eye on important operating parameters

- → Monitoring of electrical parameters (current, performance, voltage).
- → Records and saves all alarm signals during operating hours.
- → Connection to a pressure or flow sensor to control the pump.
- → Connection to a pressure or float switch.
- → Digital alarm output for remote control.
- → Installation in humid and dusty environments possible thanks to IP55 protection class.

Wilo-Actun OPTI-MS
As progressive cavity pump
or centrifugal pump

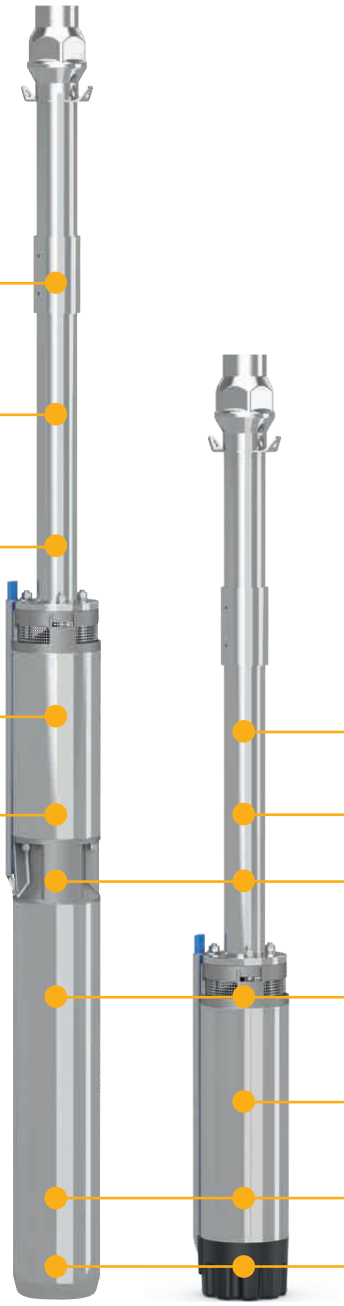
Remote monitoring and
remote control

90 – 430 VDC/90 – 265 VAC
operating voltage

Signal cable input for switches or
communication with Wilo-MS
Control Module

Highly efficient permanent magnet motor

Optional use with AC power sources



Wilo-Actun OPTI-QS
As progressive cavity pump
or centrifugal pump

70 – 190 VDC operating voltage

Wilo-QS Stop Module as external
accessory

Water level sensor

Dynamic MPPT

Highly efficient permanent magnet motor

Integrated protective equipment

Integrated frequency converter

Solutions for raw water intake in areas with a stable power grid

The right solution for any demand

Wilo also offers matching solutions for a raw water supply in well developed areas. For irrigation, we recommend the Wilo-Actun FIRST submersible pump for boreholes with 4 inches and the powerful Wilo-Xiro SPI for boreholes between 6 and 10 inches.

Wilo-Actun ZETOS is suitable for drinking water supply from boreholes between 8 and 10 inches and Wilo-Sub TWI for boreholes between 4 and 10 inches.

Raw water intake from boreholes for irrigation

Wilo-Actun FIRST (4")
Wilo-Actun FIRST is the perfect solution for anyone seeking a corrosion-resistant borehole pump with a high performance range and repair-friendly motors.

Wilo-Xiro SPI (6" – 10")
The durable Wilo-Xiro SPI borehole pump is the perfect solution for universal and flexible use in areas with a stable power grid.

Raw water intake from boreholes for drinking water supply

Wilo-Sub TWI (4" – 10")
Wilo-Sub TWI is the ACS-certified drinking water supply solution with optimised hydraulics and an ample performance range between 1 and 250 m³/h.

Wilo-Actun ZETOS (8" – 10")
Wilo-Actun ZETOS convinces with its sensational efficiency of up to 85 percent – the highest in this segment. This makes it ideally suited for an energy-saving water supply in almost any process.

Wilo-Services

A full-service package for you as our partner

With Wilo as your partner, you are not only sure of choosing high-quality product solutions, but you also benefit from a comprehensive, carefree package of individual services. This means that we reliably support you in every project phase from design and configuration, right through to commissioning and maintenance.

We don't want you to choose just any old solution – we want you to find the one that meets your exact requirements. As a result, we work through your requirements with you before the purchase and, based on this, we prepare the individual product solution that is most economical for you.

BEFORE PURCHASING

We make the design and selection process simple for you

- → On-site support
- → Consulting support
- → Product selection
  Wilo-Solar Select configuration software (refer to the yellow box below for more information)
- → Installation drawings
- → Documentation

DURING THE PURCHASE

Get your purchase right with Wilo

- → Certification
- → Acceptance testing at the plant
- → Commissioning
- → Start-up

AFTER PURCHASING

We are here for you – even after the purchase

- → Customised, reliable maintenance concepts
- → Rapid repair service
- → Fast spare parts solutions
- → Efficiency check
- → Specific training courses

Simpler digital design with Wilo-Select SOLAR

It goes without saying that the geographical conditions on site play a crucial role when using submersible pumps with solar power. Wilo offers its customers the option to individually adapt their solution to the corresponding conditions and guarantee reliable operation and maximum efficiency. For this purpose, go online and benefit from our practical and easy-to-use configuration software to make configuring your Wilo solution as easy as possible.

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