



Smart MPPT

Save up to 70% on energy bills with solar power and our breakthrough technology.

Czech Tech. Lower Bills.

Smart MPPT – Intelligent Water Heating from Photovoltaics

- ✓ **The only system on the market with simultaneous heating from both solar and the grid** – no switching needed.
- ✓ **Up to 100% hot water coverage in summer, high efficiency even in winter.**
- ✓ **SMART mode** – saves energy by adapting to your exact consumption.
- ✓ **Mobile app and remote control** via Wi-Fi.
- ✓ **Water heater temperature up to 80 °C** – maximizing solar energy utilization.
- ✓ **Adjustable outlet temperature 45–60 °C** – mixing valve ensures user safety and comfort.
- ✓ **Works even off-grid** – island operation.
- ✓ **Safety and reliability:** anti-legionella function, passive regulator cooling, isolated heating circuits.

Czech Tech. Lower Bills.

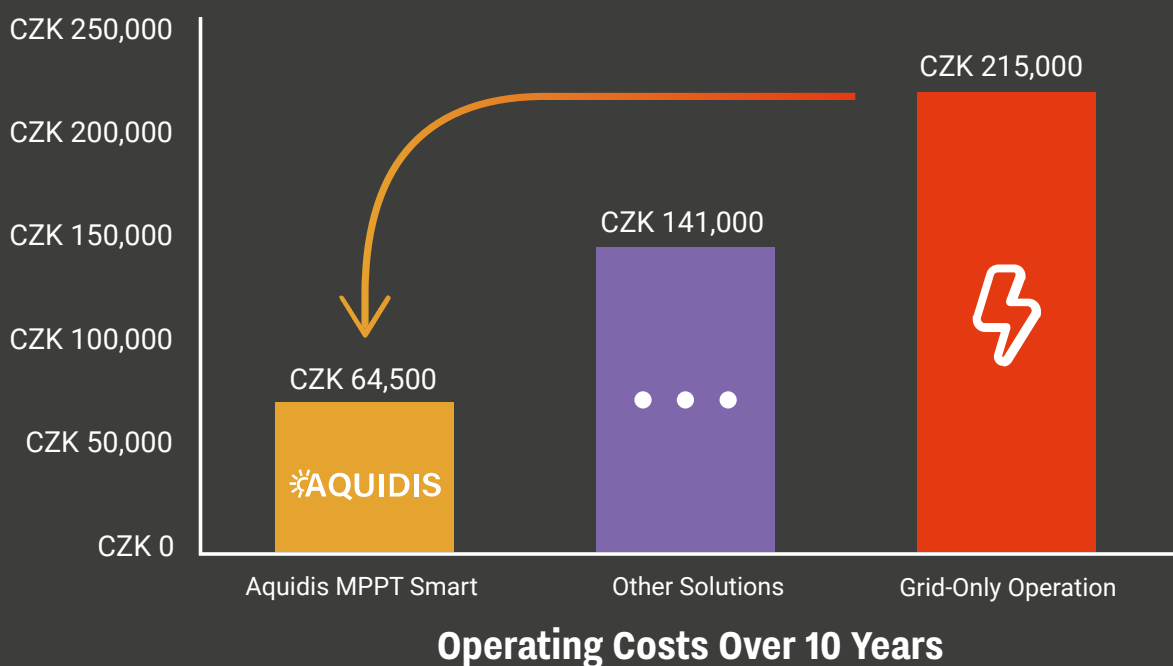
Harness the power of the sun – efficiently and worry-free.

At Aquidis, we've developed a **comprehensive system for heating water using solar energy – Smart MPPT.**

This is an exceptional product of Czech innovation, delivering outstanding performance in water heating while offering simple, user-friendly control.

Our system includes 4 to 6 photovoltaic panels, a specially adapted water heater, and a revolutionary solar controller – all developed in-house by our own engineers.

Save up to 70% on Operating Costs – Thanks to the Power of the Sun



The declared savings and related graphs are approximate and may not reflect all real-world scenarios. They are based on a model situation of a 4-person household (approx. 40 L of hot water per person per day, standard L profile according to EN 50440), with 6 photovoltaic panels with a total installed capacity of 3 kWp, a 140 L storage water heater, and a maximum water temperature of 80 °C for the Aquidis solution using parallel DC+AC heating with SMART mode. This is compared with another solution using a maximum water temperature of 60 °C and DC/AC switching, as well as with a system without photovoltaic heating. Electricity price used: 7.5 CZK/kWh. Data sources: PVGIS (European Union Photovoltaic Geographical Information System) + internal calculations and simulations.

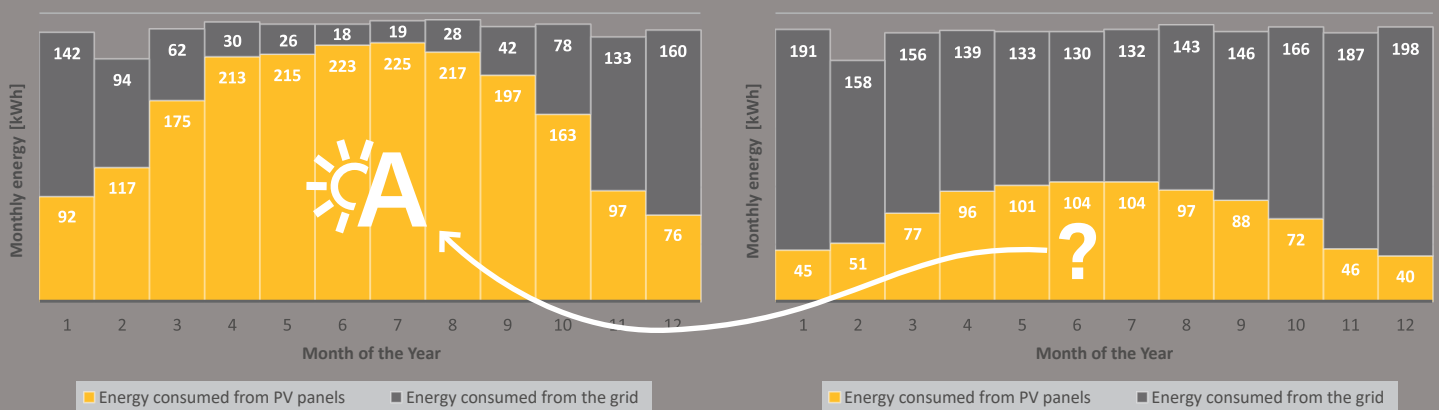
Double the Hot Water — Powered by the Sun

With our system, you can harness up to twice as much solar energy compared to standard solutions from other providers.

Thanks to the higher thermal capacity of the water heater and the parallel operation of solar and grid heating — without the need for switching — our system maximizes the use of photovoltaic energy, even in low sunlight conditions.

- Annual savings on operating costs: **up to CZK 15,300**
- More cost-effective than other solutions: **save up to CZK 7,600**
- Lower grid dependency, higher return on investment
- Greater share of renewable energy = reduced carbon footprint

Choose the smarter solution — and get 2× more solar energy



What Makes Our System Unique?

- **Simultaneous use of grid and solar energy:** The only system on the market that allows parallel operation of photovoltaic panels and electric grid backup without switching. This means even minimal sunlight can be used to heat water, while the system ensures comfortable temperatures using grid power when the sun isn't shining.
- **Self-learning SMART mode:** Adapts to your household's needs and ensures a reliable supply of hot water at all times. The result: lower costs and faster return on investment.
- **Mobile app control:** Monitor performance, heating status, and energy usage anytime, anywhere.
- **Remote management via Wi-Fi and access to real-time statistics at your fingertips.**
- **Independent off-grid operation:** Water is heated entirely by solar energy, with no need to draw electricity from the grid.
- **Automatic firmware updates** through our dedicated service center in the Czech Republic.

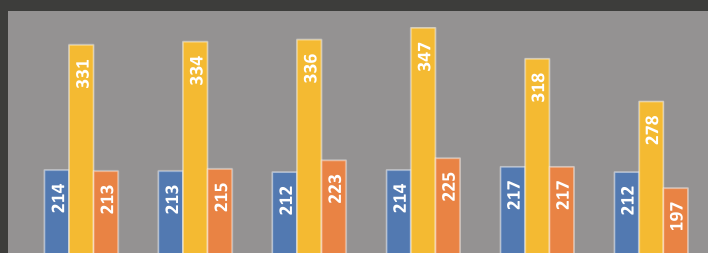
Complete Water Heating Solution from Czech

- ☀️ 4–6 PV panels
- 💧 Specially modified water heater
- 🔌 Revolutionary Smart MPPT solar controller
- 📱 Mobile app control: Monitor performance, heating status, and savings anytime, anywhere

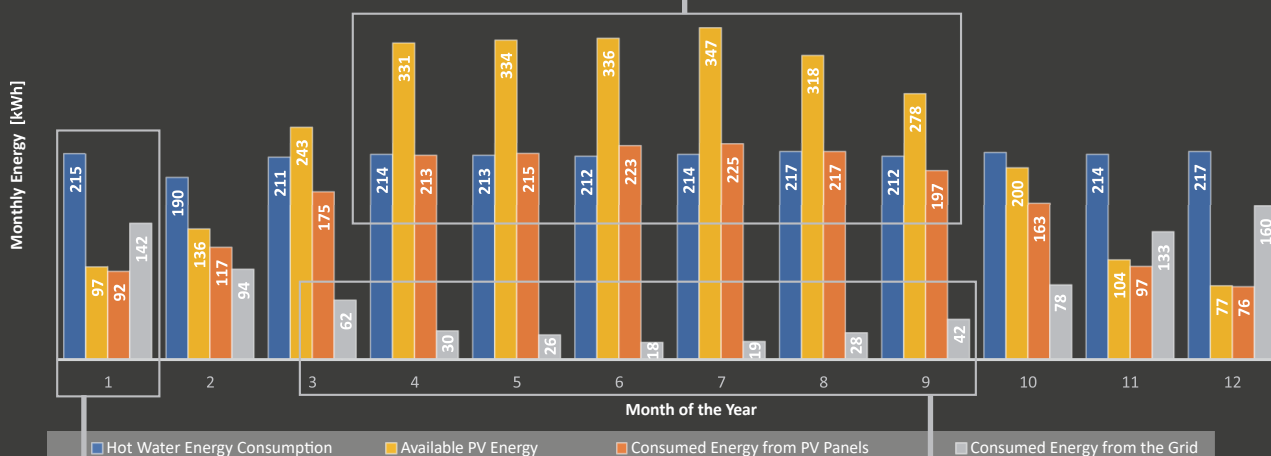
High Efficiency Even Under Challenging Conditions

- The Smart MPPT offers the highest efficiency compared to other controllers. Thanks to the ability to heat water in the water heater up to 80 °C, the system remains highly effective even in winter – it heats the water during the day, keeping it ready for use in the evening when the sun is no longer shining.
- In summer, the system covers up to 100% of hot water demand, even in less favorable weather conditions. The outlet water temperature can be adjusted between 45–60 °C using a thermostatic mixing valve, ensuring both safety and maximum comfort.
- Unlike other solutions that lack a mixing valve, our system makes full use of the water heater's thermal capacity, significantly reducing the need for electric reheating from the grid.

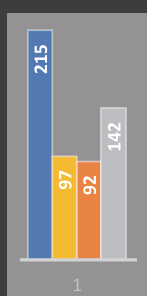
Enough Hot Water – Even When the Sun Takes a Break



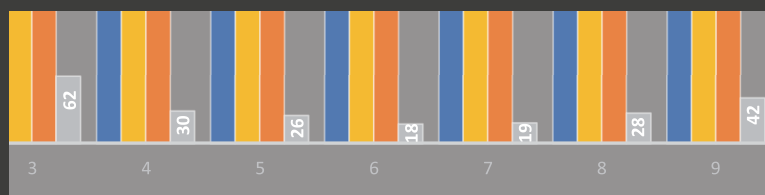
Solar Energy – Monthly Overview



Significant Savings Even in Winter



Minimal Grid Reheating for Maximum Efficiency



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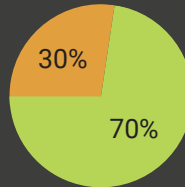
An example for a 2-person household was modeled using standard profile M according to EN 50440, which corresponds to approximately 40 L of hot water per person per day.

4-PERSON HOUSEHOLD SOLUTION:



- Installation of 6 panels (3 kWp)
- Water heater with a 140 L tank

OPERATING COSTS:



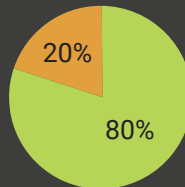
With Aquidis, your operating costs will be CZK 15,000/year (70%) lower compared to a solution without photovoltaics.

2-PERSON HOUSEHOLD SOLUTION:



- Installation of 4 panels (2 kWp)
- Water heater with a 100 L tank
- Hot water consumption approximately 80 L per day

OPERATING COSTS:



With Aquidis, your operating costs will be CZK 9,500/ year (80%) lower compared to a solution without photovoltaics.

Save up to **CZK 7,600 per year** with our system compared to other solutions.

The extra investment pays for itself in **just 1.5 years** — and from then on, it's pure savings.

Why Choose Aquidis

- We offer a unique solution with high savings, easy installation, and long-term reliability.
- Select from six intelligent modes — ranging from maximum energy savings to instant heating — and enjoy complete control.

Still unsure? Contact us. Together, we'll turn solar energy into savings.

Thought Through to the Last Detail

- Passive cooling without moving parts ensures silent operation and long service life, even in demanding conditions.
- The anti-legionella function enhances hygienic safety.
- Separation of grid and PV panel circuits provides increased operational safety.



Hot Water, the Smart Way.

Smart MPPT

Use solar energy to reduce your domestic hot water heating costs. The solar controller is designed for photovoltaic water heating using a resistive load. It is also compatible with NZÚ and NZÚ Light programs.

The complete set includes:

- **Solar controller** – Optimized for Maximum Solar Energy Utilization.
- **Water heater** – Fitted with heating elements for water heating from both the photovoltaic system and the power grid.

Thanks to a unique water heater modification, our system enables parallel heating of domestic hot water from both solar panels and the power grid. Instead of switching between energy sources, the system uses two galvanically isolated circuits. This ensures maximum use of solar energy, with grid energy used only when the sun isn't shining.

This technology ensures efficient use of all available energy sources and maximizes the return on your investment, delivering long-term energy cost savings and improving the overall economic efficiency of the system.

Easy Installation and Maximum Flexibility

You only need 4 to 6 photovoltaic panels with a maximum output of 4000 Wp.

For the NZÚ Light program, 4 panels with a minimum output of 500 Wp each are sufficient.

With our controller, you can easily monitor and manage the system using a mobile app, thanks to the integrated Wi-Fi interface. Stay informed with real-time system status and receive automatic updates directly from the Cloud.



Smart MPPT Specifications

- Hot water heating from as few as 4 photovoltaic panels
- Parallel operation of heating from PV panels and the power grid
- Remote controller management via Wi-Fi and web application
- Graphical display showing, for example: panel power, water temperature, operating mode
- 3 integrated temperature sensors in the water heater for smart thermostat functions
- Island mode support – PV-only water heating
- Silent operation thanks to passive cooling
- High MPPT controller efficiency over 99%
- Integrated electronic thermal fuse protects the water heater from overheating
- Overheating protection for the controller
- Anti-scald protection
- Auxiliary contact for hot water heating signalization
- Czech-made product

Technical Specifications Smart MPPT

- DC input voltage: 50 – 350 VDC
- AC input voltage: 230 VAC
- Maximum output power from panels: 3000 W
- Maximum installed solar panel capacity: 4000 Wp
- Maximum AC output power: 3000 W
- Maximum solar current: 16 A
- MPPT operating voltage range: 80 – 300 V
- MPPT efficiency: >99%
- PV panel connection: 2 × MC4
- Regulated PV output: terminal block
- Grid connection: 230 VAC power cable
- AC output: terminal block
- Temperature sensor connection: RJ-45
- Protection rating: IP52
- Dimensions (H × W × D): 200 × 270 × 80 mm
- Weight: 2 kg

Technical Specifications Water Heater

- Tank capacity: 100 L / 120 L / 140 L
- AC heating element power: 2100 W / 230 VAC
- DC heating element power: 2100 W / 150 VDC
- Type of heating elements: dry
- Temperature sensors: 4× temperature sensor, RJ-45 connection
- Maximum operating pressure: 0.6 MPa
- Maximum temperature: 80 °C



Water heating time from 10°C to 55°C at nominal power

Capacity	[L]	PV Only	PV + 230V AC
	120	3h 2min	1h 31min
	140	3h 32min	1h 46min

6 Operating Modes



ECO

Heating exclusively from photovoltaic panels.



COMBI

Hybrid heating from PV and grid power.



SMART

Self-learning mode.*



BOOST

One-time quick heating to the desired temperature.



HOLIDAY

Scheduled vacation: PV-only heating active.



COMFORT

Scheduled hot water heating that smartly combines energy from PV panels and the power grid.*

* Available in updates



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