



DANIEL-LM s.r.o. | AquaTech North
Bohemia

Advanced Recycling of Backwash Water from Sand Filters ACPool

Revolutionary nanotechnology for commercial swimming
pools and water parks – reducing operating costs by up to
80%

Benefits for Operators

Dramatic Cost Savings

- Savings on water and energy bills of up to **200 CZK per m³** of treated water
- Return on investment within **months to a few years**

Guaranteed 80% Recovery Rate

- We return up to **80% of backwash water** back into circulation at drinking water quality
- Certified process meeting the most stringent European standards (**EN 12873-3**)

Passive Disinfection Without Excess Chemicals

- Catalytic breakdown of combined chlorine and effective **reduction of organic contamination**
- Significant reduction of **carbon footprint** and environmental friendliness

A photograph of the ACPool nanostructured filtration system in a laboratory setting. The system consists of a tall, cylindrical stainless steel vessel with three distinct sections, each containing a blue liquid. To the left of the vessel is a control panel with a digital display and several buttons. To the right is a smaller, black rectangular unit with a circular port. The entire setup is connected by various pipes and hoses. The background is a dark, industrial-looking space with some equipment visible in the distance.

Nanostructured Filtration Technology

The ACPool system represents the cutting edge of circular water management. At the heart of the system is a highly efficient advanced adsorbent utilising immobilised carbon nanostructures on a solid carrier.

Key Technology Features:

Removal of a wide spectrum of organic micropollutants even at extremely low concentrations.

Long service life and effortless regeneration of the filling directly within the process line (without the need for removal).

Triple microbial barrier guaranteeing absolute hygienic safety.

Multi-Barrier Water Treatment Process

01

Accumulation and primary sedimentation of wash water.

02

Pre-filtration (sand fill and sleeve microfilter).

03

Adsorption and catalytic decomposition on nanostructured material (1st microbial barrier).

04

Intermediate accumulation, flow balancing and controlled chlorination.

05

Secondary disinfection using medium-pressure UV technology (2nd microbial barrier).

06

Selective desalination using reverse osmosis (partial stream of treated water).

07

Final disinfection and hygienic protection (3rd microbial barrier).

Model Example of Savings at a Water Park

Real operational data for a wash water volume of 11 m³/day (360 days/year)

3,960

m³/year

Volume | Inlet water temperature 8 °C | Pool water temperature 28 °C

3,168

m³/year

Annual water savings

74

MWh/year

Annual energy savings

Financial savings on water

14 785,70 EUR / year

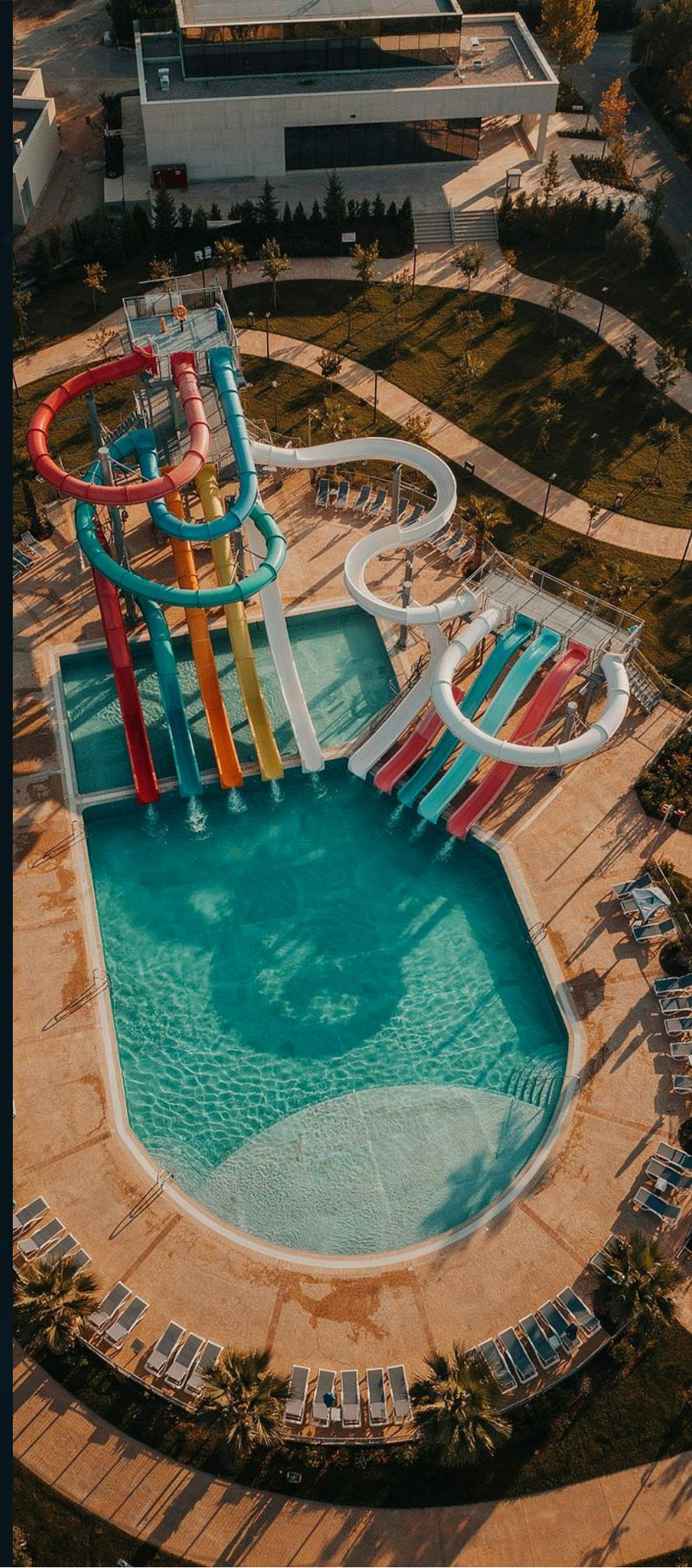
Financial savings on energy

1 5192,74 EUR/ year

TOTAL ANNUAL SAVINGS

29 978,44
EUR /
year

average saving of 7,56 EUR / m³





Engineering Tailored to Your Operations

Bespoke development: You are not buying a compromise. Based on our proven experience, we configure the ideal ratio and density of nanofibres.

Every unit is dimensioned precisely according to the spatial and capacity requirements of your technology.

We provide a complete design, savings dimensioning, installation, and certified warranty and post-warranty service.

We'll Prepare a Savings Calculation for Your Pool

Contact our specialists for an audit and a no-obligation proposal.

Contact:

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