

# Pools & Wellness Advanced Pool Water Treatment with ART CARBON Technology

Water recovery, chloramine reduction and microbial stability  
support for modern pool and wellness operations.

Less water loss. Less odor. Lower operating burden.

# Pool Water Is Not Only About Clarity

Modern pool and wellness facilities must manage more than clear-looking water.

Operators face:

- high water consumption
- energy costs for heating fresh water
- backwash water losses
- chloramine formation
- pool odor and visitor discomfort
- microbial pressure in whirlpools and children's pools
- pressure to reduce OPEX without reducing comfort

The future of pool technology must improve both water quality and operating economy.



# One Platform. Three Main Operational Needs.

ART CARBON-based pool technologies address three key challenges:

- ACPool — Backwash water recovery from sand filters.
- ACDeC — Reduction of combined chlorine / chloramines in swimming pools.
- ACDeC Whirlpool — Microbial stability support for whirlpools, hot tubs and children's pools.
- Optional: ACCLO for chlorates, perchlorates and nitrates control.



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# Turning Backwash Water into Operational Value

## Operational value:

Backwash water from sand filters is often treated as waste. ACPool is designed to recover and treat a significant part of this stream so it can be returned to the pool operation under controlled conditions.



## Operational value:

- less fresh water consumption
- less heating demand
- less wastewater discharge
- better operating economy

# The Most Expensive Water Is the Water You Heat and Send to Drain

- up to 80% backwash water recovery depending on configuration and conditions
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**35%**

**HEAT SAVINGS**

**25%**

**OPEX REDUCTION**

Pool economics are strongly driven by water and energy.  
ACPool can support:

- up to 80% backwash water recovery depending on configuration and conditions
- lower demand for fresh make-up water
- lower heating demand
- lower wastewater discharge
- improved operating economy

Final savings depend on pool size, water price, energy price and operating intensity.



# Less Chloramine Load. More Comfortable Pool Environment.



The typical "pool smell" is not a sign of clean water. It is often linked to combined chlorine / chloramines — substances associated with odor, irritation and operational instability.

ACDeC uses the catalytic properties of ART CARBON to help reduce combined chlorine load and support more stable swimming pool operation.

Less odor potential. Less irritation potential. Better visitor experience.

# Catalytic Decomposition on ART CARBON

ACDeC is installed on a bypass of the main circulation loop.

Typical configuration:

- booster pump
- mechanical pre-filtration
- flow and pressure control
- ART CARBON catalytic reactor columns
- return to balance tank or circulation loop

The goal is to support stable operation without overloading the main circulation system.



# Verified in Real Pool Operation

Pilot data from a children's pool operation showed lower long-term average combined chlorine values with ACDeC 2.0 compared with UV-only operation.

## Example average values:

ACDeC 2.0	UV only
0.234 mg/l	0.316 mg/l

Lower value = better result.

Final performance depends on pool type, hydraulic conditions, bather load, water chemistry and operating regime.

# Microbial Stability Support for Warm Water Zones

Whirlpools, hot tubs and children's pools operate under demanding conditions:

- higher temperature
- higher organic load
- smaller water volume
- rapid microbiological changes
- higher visitor sensitivity

**ACDeC Whirlpool** is designed to support microbial control and reduce operational stress in these critical water zones.

Warm water needs smarter stability.



# Targeting Chlorates, Perchlorates and Nitrates

Some pool operations using hypochlorite solutions or chlorine-based disinfection may face accumulation of chlorates, perchlorates and nitrates.

## Targeting Chlorates, Perchlorates and Nitrates

ACCLO is an advanced bypass technology concept based on ART CARBON, catalytic AQUA VIVA cartridges and reverse osmosis for targeted salt removal.

It is relevant where pool chemistry requires deeper process control.



# Water Quality, Comfort and Economy Must Work Together

ART CARBON-based pool technologies can support:



- lower water consumption



- lower heating demand



- reduced backwash water loss



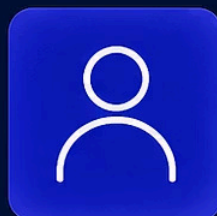
- reduced chloramine load



- more stable microbiology in critical zones



- better visitor comfort

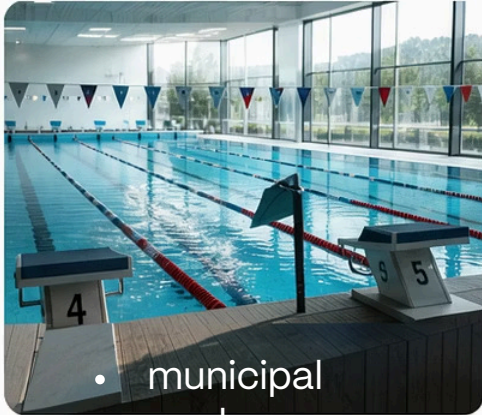


- lower operational stress for staff



- stronger sustainability profile

# Where the Technology Makes the Most Sense



ART CARBON-based pool solutions are especially relevant for:

- public swimming pools
- municipal pools
- wellness and spa facilities
- hotels with pools
- aquaparks
- children's pools
- whirlpools and hot tubs
- facilities with high water and energy costs

Where water is heated, circulated and chemically managed every day, operational efficiency matters.

# We Do Not Start with Technology. We Start with the Pool Operation.

Before proposing a solution, we assess:

- pool volume
- visitor load
- backwash water balance
- chloramine levels
- water and energy prices
- existing filtration system
- technical room space
- operational goals

Only then do we recommend ACPool, ACDeC, ACDeC Whirlpool, ACCLO or a combined configuration.



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Cleaner pool water is not only about chemistry. It is about intelligent water treatment.

