

Dive into the world of
EFFICIENT SWIMMING POOL WATER TREATMENT

ProMinent[®]



YOUR SWIMMING POOL

Our technology.

Planning a new swimming pool or are modernizing an existing one?

Need a tailored solution for a large pool or an entire pool complex?

ProMinent offers cost-effective, comprehensive solutions for water disinfection and management. With extensive experience and expertise, we analyze your needs, provide in-depth advice, and deliver customized components to ensure optimal pool operation.

Measuring & control technology

- Controller DULCOPOOL Pro
- Multi-pool controller DULCOMARIN 3
- Metering system DULCODOS Pool

Sensor technology

- Sensors DULCOTEST
- Sensor bypass armature Modular BAMA

The disinfection process

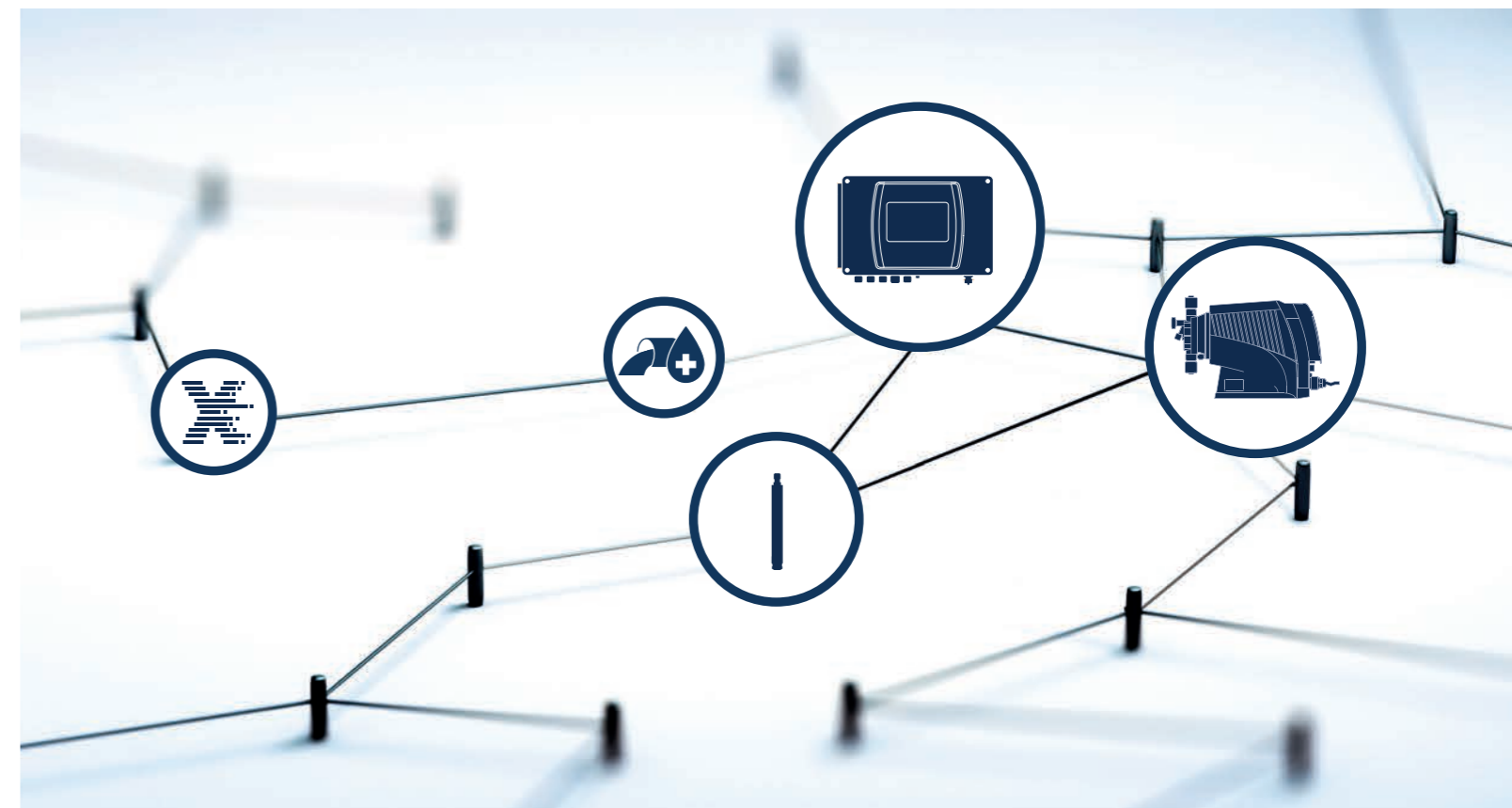
- Electrolysis systems CHLORINSITU
- UV system DULCODES MP
- Ozone systems OZONFILT
- Chlorine dioxide system Bello Zon

Digital management of chemicals

- Digital overall solution DULCONNEX
- Radar level sensor DULCOLEVEL

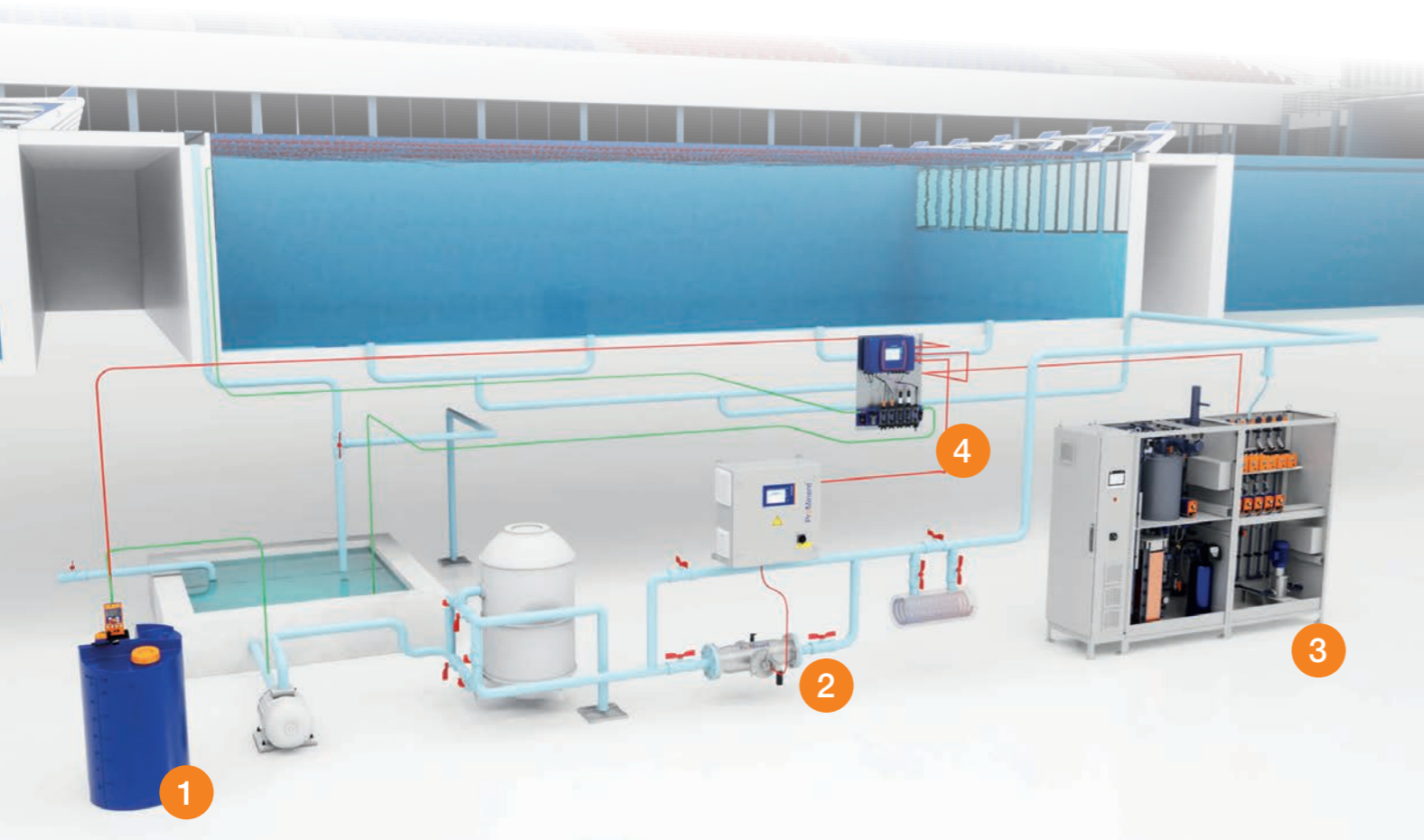
It's easiest when everything gels!

And that's a given with ProMinent components. They are perfectly matched to one another and ensure smooth interactions. This produces individual solutions, which surpass the application's needs.



DISCOVER THE WORLD of efficient pool water treatment.

All operators want their pool water to constantly achieve high levels of hygiene and cleanliness as visitor numbers fluctuate and they want their systems to run economically. This can be achieved by using state-of-the-art technology, perfectly matching up the various components and receiving good advice.



- 1 Metering
- 2 Breaking down disinfection by-products
- 3 Disinfecting
- 4 Measuring and controlling

MEASURING AND CONTROL TECHNOLOGY determine the pace.

Measurement, control and regulation are the basic functions in the process of treating water. To make successful systems out of individual components, ProMinent has conducted over 60 years of research and development in order to perfect every single product. To ensure that these products are perfectly matched to one another, the range includes digital solutions, which optimise operation.

To make water treatment even more convenient, we recommend the Radar Level Sensor DULCOLEVEL for chemical storage. It digitally monitors and records the liquid levels in chemical tanks and provides all the required data in real time.

Metering system DULCODOS Pool
The right system no matter what you need



The metering system DULCODOS Pool is the convenient solution for pH adjustment and disinfection of swimming pool water with liquid chlorine products. DULCODOS Pool Professional ensures crystal-clear water quality and cuts operating costs thanks to Eco!Mode. In Eco!Mode, the circulating volume of the swimming pool pumps is optimised depending on the water quality, enabling you to efficiently save energy. This minimises the use of chemicals, saves money and protects the environment.

- Simple, quick assembly
- Outstanding water quality
- Versatile monitoring functions and communication interfaces
- Central control of peripheral devices and functions too

The metering system DULCODOS Pool is configured individually for the application in hand. The metering system is accurately prepared by means of the identity code. This approach delivers the best possible result for hygienically pure swimming pool water. The modular sensor bypass armature BAMA included in the set-up enables simple and rapid sensor replacement and calibration.

CONTROLLERS

For standalone pools and multi-pool complexes.

Controller DULCOPOOL Pro

Measuring parameters

pH, ORP, free chlorine, total chlorine, bromine and ozone

- Simple and quick to install
- Configuration via PC tool
- Configuration can be downloaded and uploaded using a USB stick for documentation purposes and to clone the device settings
- Intuitive menu navigation
- 5" touch display
- Extensive monitoring functions
- Maintenance calendar

Versatile interfaces

- Connection to SmartHome systems via Modbus RTU and TCP interface
- Remote access via web interface
- Control of additional functions such as fountains, backflushing, circulation and temperature control using eight different timers



The multi-parameter controller DULCOPOOL Pro controls various sizes of swimming pool ranging from private and hotel pools to Olympic-sized pools and all the attractions that come with them. It enables all types of chlorine and other important disinfection parameters to be measured. Up to five parameters can be monitored simultaneously.

Multi-pool controller DULCOMARIN 3

Measuring parameters

pH, ORP, free chlorine, total chlorine, combined chlorine, conductivity and temperature

- Energy- and cost-efficient control
- The DULCOMARIN 3 can be accessed from any Internet-compatible device
- Simple calibration of the sensors with video support
- Status messages and alarms issued by e-mail
- View and assess the time-based curve of the measured values of all pools on the integrated screen plotter
- Simple, unrestricted LAN and Wi-Fi connection

Versatile interfaces

- LAN/Ethernet and optional Wi-Fi, USB interface for future software expansion and for the transfer of data logger files.
- Connection to a PLC or building management system as standard via OPC UA, BACnet IP and Modbus RTU and with an optional gateway to PROFINET and KNX.



The measuring and control system DULCOMARIN 3 controls the entire range of swimming pools – from private pools to water parks. As a multi-pool system, DULCOMARIN 3 can be used for up to 16 filter circuits. DULCOMARIN 3 is available in two designs. The DULCOMARIN 3 Compact design is the right device for one filter circuit. Networking is provided by the LAN-based cNet.

SENSOR TECHNOLOGY

For precise values.

Monitoring a limit value or building a closed control circuit is easy with ProMinent sensors - in an enormous range of measuring applications.

Sensors DULCOTEST

Precise measured values in real time

Parameter

- pH
- ORP
- Electrolytic conductivity
- Turbidity
- Dissolved oxygen
- Free chlorine
- Combined chlorine
- Total chlorine
- Chlorine dioxide
- Chlorite
- Bromine
- Ozone
- Hydrogen peroxide
- Temperature



The product family DULCOTEST is application-based and ensures precise measuring of a wide range of values. These measured values are delivered in real time and can be flexibly connected to the various process interfaces via bypass, immersion or in-built fittings.

Sensor bypass armature Modular BAMA

Configurable up to 9 modules

Configuration with float flow control for swimming pool water which is clear and has low levels of solids.



ProMinent sensors for water treatment can be found in the modular bypass armature BAMA, which is simply installed in a bypass of the main process line. It can be perfectly laid out in various variants for special water treatment applications. This variant of the BAMA allows all flow-dependent sensors in the 5...25 l/h range to be operated for clear water. This is very beneficial for applications without scope for returning sample water.

THE DISINFECTION PROCESS

For reliable hygiene.

Germs and bacteria are successfully kept in check in the swimming pool water's cleaning process. For reliable hygiene in your system through the use of various procedures.

Electrolysis systems CHLORINSITU

Capacity range 100 g/h - 10 kg/h



- Cost-effective disinfection thanks to reduced salt and power consumption
- No storage or handling of harmful chemicals
- Energy is saved through the use of just one frequency-controlled circulating pump
- The very low chloride and chlorate values mean no negative impact on pool users

Electrolysis

The chlorine generated on site from natural sodium chloride can either be metered into the water as hypochlorous acid or temporarily stored with the sodium hydroxide solution generated in the form of sodium hypochlorite. The fresh active chlorine is generated under a constant vacuum. Using a vacuum system design ensures maximum operating safety and reliability.

UV system DULCODES MP

Capacity range of up to 569 m³/h

Recirculation of 600 J/m²



- Reduction in chloramines resulting in fresh water savings
- Simple installation thanks to the compact inline system and fast retrofitting
- Automatic switching on and off based on the chloramine value, for example used in conjunction with DULCOMARIN 3.
- Environmentally friendly since the procedure uses no chemicals

UV radiation

Cost-effective solution designed for the decomposition of combined chlorine. UV MP systems are a cost-effective way of reliably breaking down combined chlorine (chloramines) in the pool water and safely killing off chlorine-resistant germs. The system pays for itself quickly due to freshwater and energy savings. The UV system can be integrated directly into existing pipework and installed in any position. Then even people with sensitive eyes and noses can once again enjoy bathing.

Ozone systems OZONFILT

Capacity range 5 g/h - 735 g/h



Ozone

In difficult conditions, such as when there are high levels of urea and germs, using ozone systems can increase disinfection protection and minimise use of chlorine as the disinfectant. The most intensive oxidising agent approved for use in water treatment processes is added before the filter stage. Chloramines, trihalomethanes (THM) and organic contamination are removed by the ozone. The pool water and air in the pool hall remain free of odours.

- Highly efficient thanks to maintenance-free generator concept and virtually infinite service life
- Flocculant savings
- Crystal-clear water
- Lower circulation volumes needed
- Second disinfection barrier (e.g. suitable for therapy pools in accordance with DIN 19643)

Chlorine dioxide system Bello Zon

Capacity range 6 g/h - 120 g/h



Chlorine dioxide

The chlorine dioxide system Bello Zon CDLb ensures efficient, environmentally friendly operation with minimal use of chemicals. The chlorine-free chlorine dioxide solution generated in the batch procedure can be metered for filter backwashing at various points using buffer tanks and metering pumps. In the filter, it penetrates existing or new biofilms and reliably removes them. Furthermore, unwanted by-products, such as chlorophenols, AOX or trihalomethanes (THM), are not produced. The same chlorine dioxide system can also be used as a reliable tool in preventing legionella in the pipework.

- Effective combat of legionella in filters and piping systems
- Excellent efficiency due to minimal use of chemicals
- Cost-effective way to provide several points of injection
- Outstanding operating safety and reliability as the process has its own control function

DIGITAL SOLUTIONS

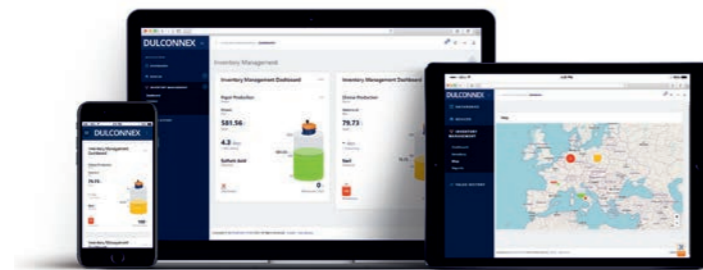
Connected at all times.

Using the smart complete solution DULCONNEX, all components in a system are networked. This allows metering pumps, disinfection systems, controllers and sensors to interact in an optimised manner – increasing process reliability and system efficiency. The new mathematics module can be used to check the plausibility of processes and identify potential for optimisation. Third-party systems can be integrated too, giving our customers the greatest flexibility possible.

Digital networking
of all system components



Radar level sensor
for digital management of chemicals



Digital monitoring of the chemical storage needed for the water treatment process is also available. The radar level sensor DULCOLEVEL detects tank levels and provides all the data needed.

SINSHEIM SPA AND POOL COMPLEX

Always state of the art.

Task – the best water quality at all times

Sinsheim spa and pool complex is a big hit with bathers of all ages: relax in one of the 13 themed saunas, guaranteed fun for the whole family in a palm tree paradise with a huge panoramic roof and plenty of action in the 25 m sports pool with its 3 m diving board. Ensuring first-class and perfectly hygienic water quality around the clock, 365 days a year in a complex calculated to accommodate up to 2500 bathers at any one time is a real challenge for the operators. What's more, the entire system for treating and disinfecting the water in all the pools needs to be monitored and controlled centrally.



Key data

- Treatment of 4000 cubic metres of water with a peak load of up to 2500 bathers at any one time
- Water disinfection with two UV systems DULCODES MP and three membrane electrolysis systems CHLORINSITU III
- Central measuring and control system DULCOMARIN 3 for all pool circuits
- A total of 19 pool circuits and four central devices DULCOMARIN 3

Solution – tried and tested in continuous use

Products from ProMinent have been in use at the Sinsheim spa and pool complex for over a decade. The professional complete solution comprises DULCOMARIN 3 controllers and measuring and control plates for capturing parameters of relevance to health 24/7. The online sensors for free chlorine, pH, ORP and conductivity have an important role to play in perfectly setting the salt content in the saline pool. Numerous metering pumps in various variants and several peristaltic pumps ensure precise metering of disinfectant.

The experts from Heidelberg are continuously driving forward the development of new technology. And this is why the existing UV systems were recently replaced with newer and even more high-performing versions of the DULCODES MP type. Combined with the UV systems to eliminate micropollutants, three membrane electrolysis systems CHLORINSITU III are responsible for disinfecting the water. Because the disinfectant is generated in situ from water, salt and electricity, there is no need to handle highly toxic chlorine gas.

An ultra-modern communication system for networking the systems used in the pool technology serves to permanently transfer data between the metering pumps, measuring and control systems as well as the sensors. All relevant measured values are thereby continuously checked and recorded centrally in the DULCOMARIN 3 control system to ensure the precise metering of disinfectant and therefore perfect water treatment.

Result

- Reliable components ensure perfectly hygienic water quality at all times even during peak loads
- Enhanced safety and low-cost generation of disinfectant on site with the membrane electrolysis system CHLORINSITU III
- Central monitoring and control of all water circuits with measuring and control system DULCOMARIN 3
- Rapid transfer of data thanks to the networking of all controllers, sensors and pumps via an ultra-modern communication system
- Replacing the existing system with enhanced UV systems DULCODES MP means that operating costs are reduced once again and less maintenance is needed





Advice

As with all ProMinent products, we can provide comprehensive, expert advice for the controllers and metering systems before you make a purchase. This gives you peace of mind that the system is perfectly matched to your application. And there is nothing to stop you from achieving a smooth connection to your process.



Service

ProMinent experts are available after your purchase too. Whether you need spare parts, want to learn more about the technology in seminars or if you need technical support, the Service area of our website provides a range of individual services for you. To make your working day go without a hitch, your processes run smoothly and for your product to retain its value.

Customer services - **unlimited.**



Expertise

The ProMinent Group of companies has a global presence. ProMinent develops and manufactures components and systems for metering liquids and solutions for water treatment and water disinfection.

With over 60 years of experience in the patenting and manufacture of products for liquid metering, we have access to a wealth of experience and technical knowledge in the various potential uses in a huge range of different industries. You will find specialists in your application at each of our subsidiaries. They will be happy to advise you.

ProMinent Group

info@prominent.com
www.prominent.com