

WE LEARN FROM YOU EVERY DAY –
AND THINK OUTSIDE THE BOX.

We have your water quality under control

Ongoing water monitoring – state-of-the-art and highly compact

When it comes to dealing with liquids and gases, Bürkert has become a sought-after partner all over the world.

Why? Probably because we have been learning for and from our customers for more than 70 years now. This enables us to always think that crucial step ahead and around the bend.

For your added value. Let us prove it to you – we look forward to your challenge.

We make ideas flow.

bürkert
FLUID CONTROL SYSTEMS

Bürkert Fluid Control Systems

Christian-Bürkert-Straße 13–17
74653 Ingelfingen
Germany

Phone: +49 7940 100
Fax: +49 7940 1091204

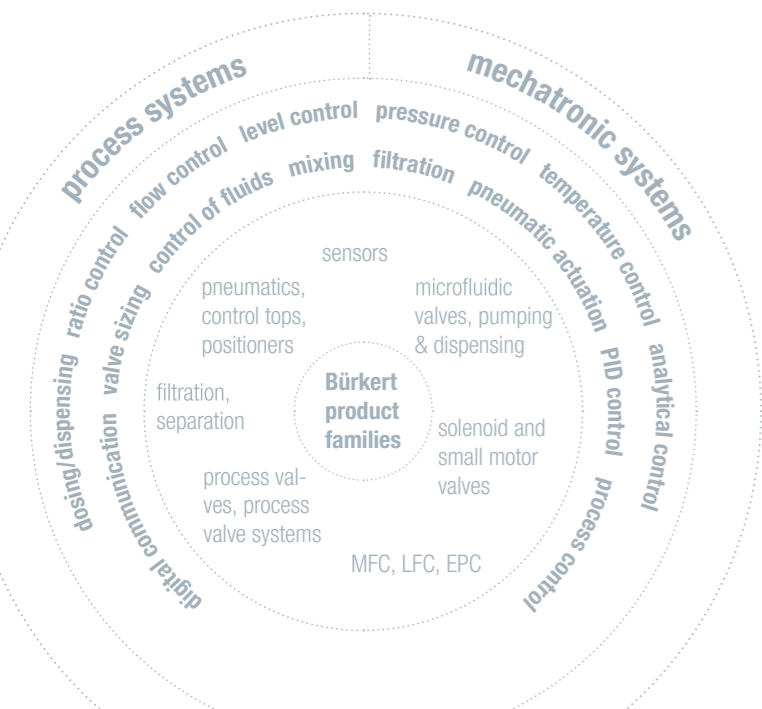
info@burkert.com
www.burkert.com

WE SPEAK YOUR LANGUAGE. FLUENTLY.

We love a good challenge. That is because we are simply fascinated by everything that flows. No matter if our customers require solutions for measurement, control or both – we always find unconventional ways of developing individual solutions.

Whether it is about flow, level, pressure, dosing, analysis, filtration, temperature, mixing or the automation of processes – liquids and gases have to be measured and controlled. These are the fundamental fluidic variations upon which industrial process technology is based, and Bürkert's specialty with its expertise and entire range of solutions and services.

What makes us special? At Bürkert, we start with your fluidic challenge and draw on the basic physical principles. This way we make use of the fluidic relationships and our experience with physics, duplicating them across the most diverse applications and industries and hence solving the same or similar challenges. You in turn benefit from a deep pool of expertise, which we accumulate from multiple industries and apply individually to your needs. For the ideal solution to your specific challenge.



RELIABLE MONITORING OF YOUR WATER'S QUALITY

Water, essential to mankind's survival, is already a scarce resource. With an increasing global population and ever more sources of pollution, the task of providing people with hygienically safe drinking water is becoming more challenging all the time. In order to provide water with this degree of purity, measurement devices are needed that allow for reliable, online analysis of physical, chemical and microbiological parameters.

4 Water under control

Permanent monitoring throughout the whole water treatment process – also required by law.

6 Your solution

The 8905 Online Analysis System allows you to monitor your water quality easily and exactly – at any time.

8 Intelligent communication

Intelligent communication between the individual components and products allows for fully automated processes.

9 Communication tools for your workflows

Intelligent digitalization networks machines, sensors and actuators, making for maximum benefit.

10 From the field

Continuous monitoring of the water quality in a waterworks requires a modular and space-saving solution – Bürkert can supply it.

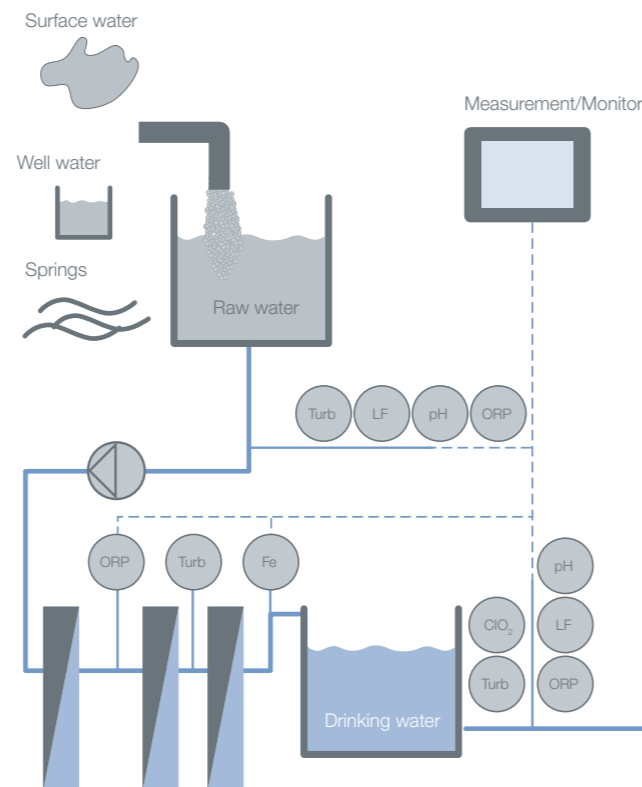


WATER UNDER CONTROL HIGHEST QUALITY THROUGH PERMANENT MONITORING

Monitoring plays an essential role in the water treatment process. This is also reflected in the legal requirements. Certain measurements are to be carried out at given intervals, with exact requirements depending on the country and the sector – for instance, the pharmaceutical or foodstuffs industries. Strict compliance is only possible where highly available measurement technology can guarantee process reliability. Bürkert's measurement technology and the products associated with it are capable of satisfying the legal requirements in every respect. In addition, plant operators also use our Online Analysis System to monitor the water quality continuously between the measurements required by law. Such permanent surveillance in the various process sections also enables you to verify the efficiency of the plant and thus identify optimization potential at an early stage. Whether legally required or going beyond that: The Online Analysis System provides you with all the important data at a glance and when you need it.

YOUR BENEFITS

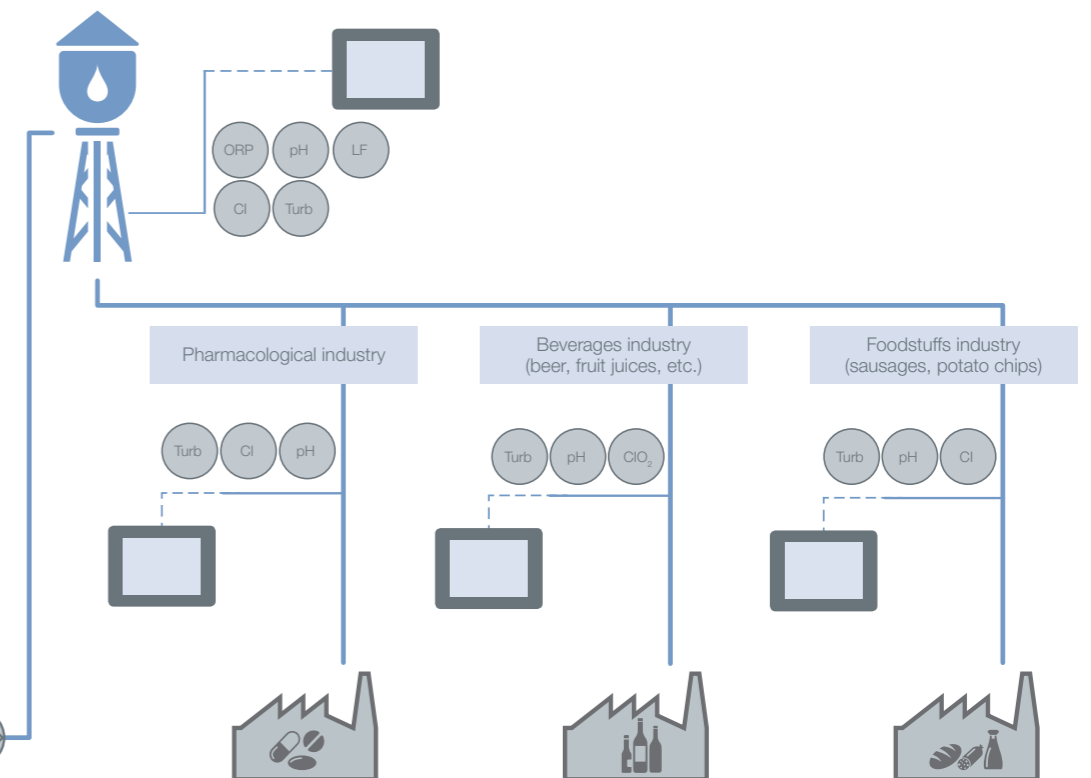
- Secure and documentable processes through continuous monitoring and data storage
- All measurement data available at a glance thanks to an easily read display
- Environmentally friendly and sustainable operation thanks to low measurement water quantities



EVERYTHING UNDER CONTROL – RELIABLE MONITORING OF EVERY PHASE OF YOUR PROCESS

Right at the beginning of the process it is necessary to establish the quality of the raw water in all its possible variations through measurement and evaluation, e.g. of the turbidity or pH value. Depending on the result, treatment criteria are then adjusted, e.g. the pH value is set, flocculating agents are added, rinsing processes started etc. The use of chlorine, chlorine dioxide, UV radiation and ozone guarantees reliable disinfection of the drinking water according to the country and climatic zone concerned. Here, too, quality monitoring is important and essential. Monitoring the

water quality within the distribution network ensures that the limit values are maintained up to delivery to the consumer. By means of their own measurements made when the water is received, major end users such as pharmaceutical or beverage companies ensure that water quality is also maintained even after delivery. For instance, the pharmaceutical industry requires a certain level of water quality for reliable control of the subsequent processes, and local drinking water limit values must be maintained during every processing step in the foodstuffs industry.



SIMPLE AND EXACT WATER ANALYSIS

Bürkert's Online Analysis System guarantees water quality measurement at a consistently high level of reliability. As an additional feature over and above the mandatory laboratory analyses you have an instant overview of all important pa-

rameters at a glance. Through the permanent monitoring, the system flags and stores possible anomalies. This helps to prevent disruption and ensures a high degree of drinking water quality at all times.



• **High resolution 7" touchscreen**
Intuitive operation and easy-to-read visualization.



• **Hot-Swap technology**
Sensor cubes can easily be removed for maintenance purposes, even during operation.



• **Simple electrical connection technology**
No individual wiring or tubing for the sensors – just one connector for the whole system. Sensors are inserted using click-in technology.



• **Comprehensive parametrization**
Chlorine, chlorine dioxide, pH value, redox potential, conductivity, turbidity, iron, flexible combination of up to 60 sensor cubes.



• **Type MZ20 cleaning system**
Fully automated cleaning of the cubes with freely definable cleaning operations.



YOUR BENEFITS

- Compact, modular construction (50 x 28 x 19 cm)
- Time savings thanks to the easy installation and maintenance
- High degree of flexibility thanks to simple integration into existing control systems (PLC, EPC)
- Efficient operation with low measurement water consumption on account of miniaturized measurement technology (MEMS – Micro-ElectroMechanical Systems)

MODULARITY – SUITABLE FOR YOUR APPLICATION

View all your measured values at a glance on the customer-specific control cabinet solutions. Measuring water switchovers are also possible. The robust control cabinets with degree of protection IP65 protect the components and are available as a lockable variant.

The individual field units can be installed in a distributed manner depending on the customer application. Thanks to digital communication between the devices, it is possible to read all the measured values from a central location.



• **Distributed measurement**
Flexible and application-related measurements possible at any point of the process.

• **Fieldbus unit**
Communication to central PLC, where all parameters are evaluated.

• **Application-specific sensor technology**
The sensor cubes can be varied depending on the number and type of parameters to be measured.



• **7" display with touch function**
For simple and intuitive operation.

• **Individual and application-related sensor technology**
Up to 60 sensor cubes can be varied and adapted to the number and type of parameters to be measured.

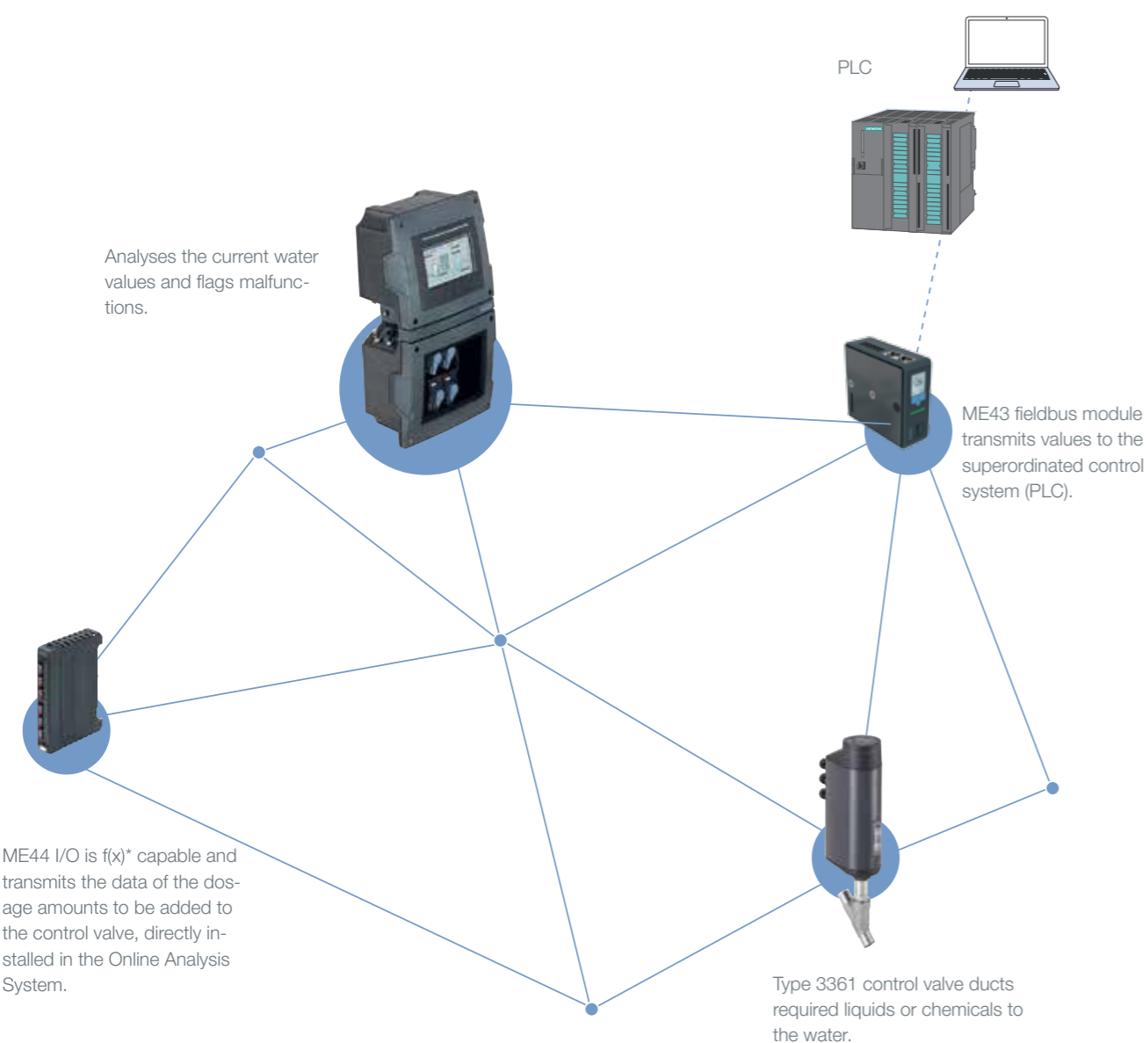
• **Automatic cleaning units**
All the parts wetted with measuring water are cleaned automatically without any manual intervention.

• **Compact control cabinet**
Tailored control cabinets protect your measurement technology against external influences.

INTELLIGENT COMMUNICATION ALLOWS FOR FULL AUTOMATION OF PROCESSES

A uniform communication interface makes it possible to network various devices with each other and exchange and manage process or servicing information. With the 8905 Online Analysis System, this networking functions down to the sensor / actuator level. This means that the entire process can be controlled easily and efficiently: Uniform inter-

faces for device communication and intuitive HMIs make this possible. The system is characterized by its ease of commissioning and parametrization. Thanks to its modular structure it can be extended as required, but still saves space.







CLEVER TOOLS FOR INDUSTRY 4.0

The digital revolution has brought about a high degree of process automation in production processes. Now Industry 4.0 is here with the second digitalization phase in which machines, sensors, actuators and people are networked

with each other and can exchange information with each other. With EDIP – the Efficient Device Integration Platform – Bürkert opens up the world of intelligent networking for its products in this age of digitalization.

powered by
EDIP

EDIP is the new device platform that unifies the operation, communication and interfaces of the process devices. The platform consists of the three components communication, software and hardware.

-  **Standardized interfaces for simple device integration**
-  **Less configuration work required for simple and fast start-up**
-  **Graphical programming for individual process sequences**
-  **Individual and flexible for short delivery times**
-  **Intuitive user interface for ease of use and convenience**
-  **ONE tool for start-up, diagnostics and service**



The Communicator enables the configuration, diagnosis and parametrization of EDIP devices and networks. Cyclical values can easily be identified and displayed graphically.



The Type 8922 f(x) graphical programming makes it possible to modify processes locally and individually without the need to intervene in the process control system.



“This delivers clear cost savings due to fewer inspections of measurement points and lower maintenance expenditure. Staff members have more time for more important tasks.”

Horst Geiger, Technical Director of the Öhringen Waterworks



WATER QUALITY MONITORING – COMPREHENSIVE ANALYSIS IN A SMALL SPACE

For the past 25 years, the city of Öhringen has regularly invested in modern water treatment facilities to guarantee a reliable and clean supply of water for its population of some 22,000. It has done so in the knowledge that this represented a commitment that spanned generations, and one that had to be developed reliably, for the long term and taking future requirements into account – a challenge that Bürkert was happy to accept. A modern water analysis system must reliably evaluate water qualities from various sources, initiate control and regulation tasks, introduce early warning and alarm systems and monitor the condition of the treatment technology.

The Online Analysis System in practice

Hitherto, the Öhringen waterworks was only able to measure overall turbidity, pH value, residual ozone and chlorine

dioxide content at the inlet and outlet of the waterworks and all data was transferred using analogue signals – which meant there was extensive potential for optimizing the plant. In order to ensure a reliable and continuous display of all the important drinking water parameters at a glance, our customer selected a solution that also takes account of future requirements: the Type 8905 Online Analysis System. For the waterworks supervisor, the status of the water quality and technology is visible at all times via a display – with very low sampling water consumption. In the Öhringen waterworks, an entire wall of measuring equipment has now been replaced with a tailor-made, compact stainless steel cabinet containing 14 sensor cubes and two automatic purification units to ensure reliable water analysis in a very compact space. Unlike the glass probes widely used previously, the microchips for the sensor cubes do not require regular re-

placement. This results in maintenance-free and reliable operation. In total, the Online Analysis System analyses seven different measuring water samples for turbidity, pH value, redox potential, conductivity and chlorine dioxide using the corresponding individually configured sensor cubes. Thanks to automatic purification units, all parts in contact with water samples can be cleaned without manual intervention.

Good things come in small packages

The miniaturisation of sensor elements is the key innovation of the Online Analysis System. The ultra-compact sensor cubes can easily be installed in the basic module. They register their respective configuration and sensor specification automatically with the system using the EDIP – Efficient Device Integration Platform. This modular design makes it possible to retrofit new sensor cubes easily and in any combi-

nation. Thanks to this miniaturization, the individual sensor cubes only require very small water samples to deliver reliable results.

AT A GLANCE

Company	Öhringen Waterworks
Application	Water quality monitoring
Requirement	Reliable and detailed water analysis
Solution	Compact analysis system with low sampling water consumption and early warning system
Added values	Cost and time-saving water quality monitoring