

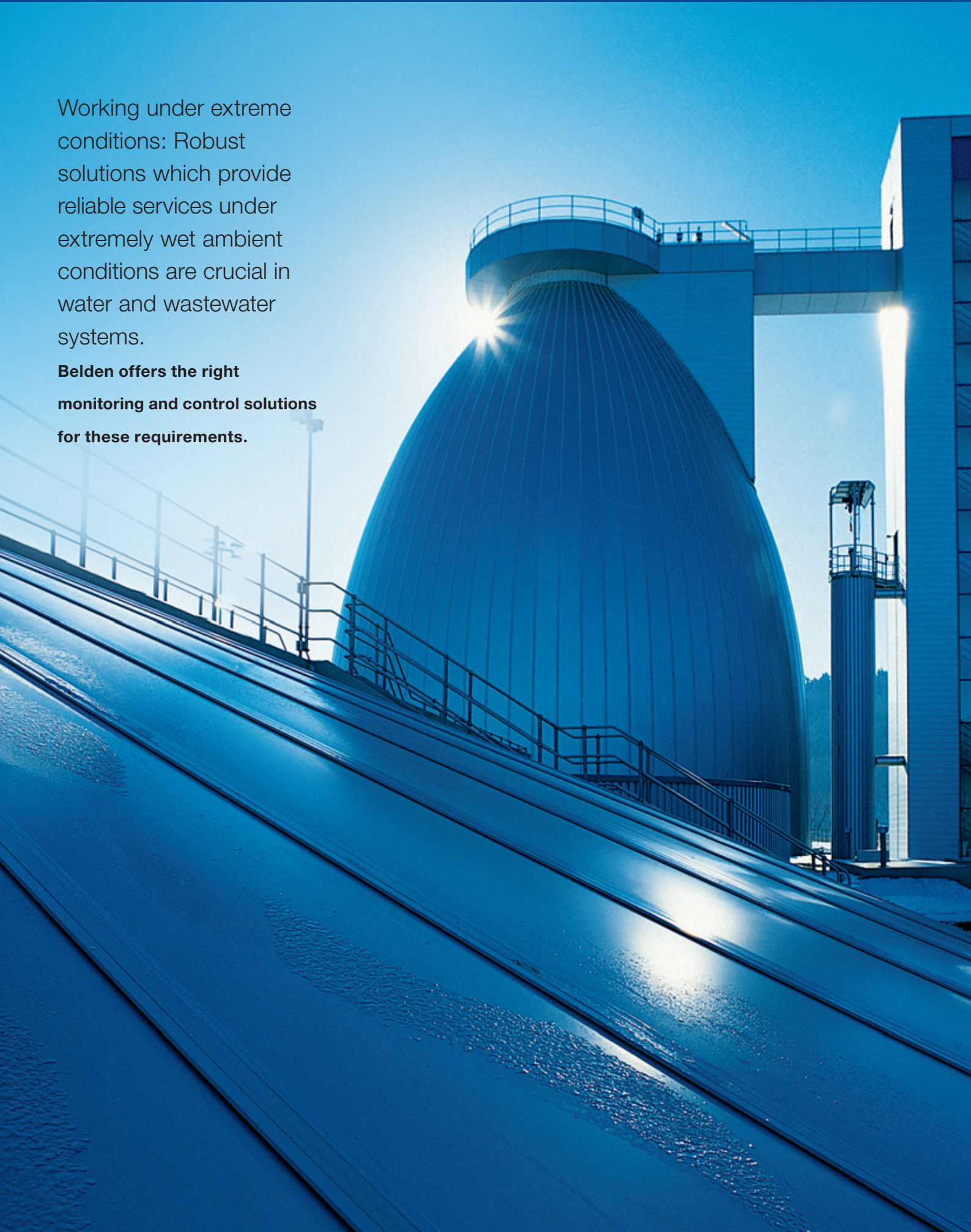
Solutions for the water and wastewater treatment industries



The Belden product portfolio ensures reliable data flow in the harsh environments in water supply and wastewater treatment plants.

Working under extreme conditions: Robust solutions which provide reliable services under extremely wet ambient conditions are crucial in water and wastewater systems.

Belden offers the right monitoring and control solutions for these requirements.



We make sure it all flows – when and where it should

In today's water and wastewater treatment plants, uncompromising reliability and maximum availability under extreme conditions are called for: humidity, grit, sludge and in some cases corrosion-causing gases, such as hydrogen sulfide or chlorine, place enormous demands on components and equipment. Belden's product spectrum was engineered to meet these heavy-duty requirements over the long term, and to ensure top performance and absolute reliability in water supply and wastewater treatment plant networks.

With its Hirschmann™ and Lumberg Automation™ brands, Belden offers comprehensive service and support, along with products of the highest quality.

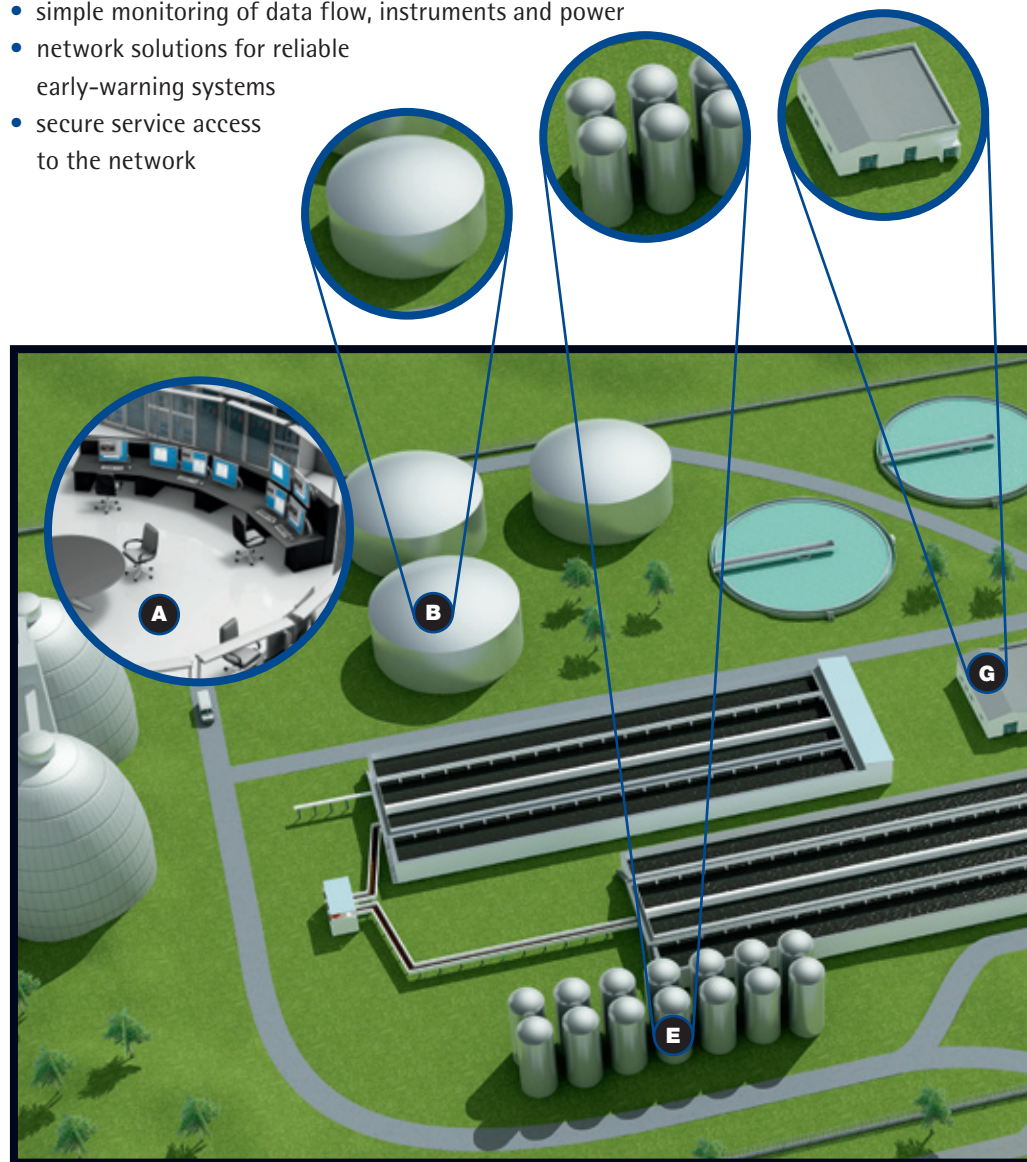


Always in the know with Belden

Modern water treatment plants require a high degree of automation to ensure maximum operational efficiency. This is why computer-controlled equipment monitoring and remote monitoring from a central control room are indispensable. Network security plays a decisive role as well. For instance, in preventing a network malfunction or breakdown due to sabotage or manipulation. Belden, as an experienced supplier, offers a wide range of products to take on these challenges:

- switches for easy mounting in control cabinet
- wireless and security solutions
- processes run 24 hours, 365 days a year
- simple monitoring of data flow, instruments and power
- network solutions for reliable early-warning systems
- secure service access to the network

Everything in sight:
The solutions from Belden provide a reliable overview of the infrastructure of water and wastewater solutions.





A Control room

Network Management Software

- operator edition for network supervision
- engineering edition for device configuration
- OPC and ActiveX for SCADA integration



B Chemical/water storage tanks

E

G Pumping station

Flow rate and filling level meter:

Receptacle connectors

- M12 male and female connectors for front mounting
- male connector for sensors
- housing of stainless steel
- 4-, 5- and 8-poles
- IP69K protection class



Flow rate and filling level meter: Actuator/sensor connectors

- M12-male and female connectors with stainless steel hexagon threaded joint
- high resistance
- IP69K protection class



microFX

- IP67 Ethernet connector
- industrial M12 technology
- optical and electrical contacts



Scalable Mobile

Control System

- control solution for mobile plant application
- available in IP20 or IP66/67 housing
- safe load indication for cranes
- EN 13849-1 PL d compliant (SIL-2)



C Basin

BAT family

- wireless access points and clients
- bridge functionality
- redundant WLAN links for reliable data transfer
- IP67 protection class



D Security gate

EAGLE20

- high-speed VPN, firewall and routing solution
- transparent and routing mode
- various media connection options
- 9.6V up to 60VDC redundant inputs



F Administration office

MICE family

- modular switch family
- extensive range of hot-swappable media modules
- maximum flexibility by comprehensive selection of connectors



MACH100

- modular fanless Industrial Ethernet rack mount switch
- hot-swappable modules
- optional redundant power supply



MACH1000

- rack-mount ruggedized switch
- maximum uptime in extreme environmental conditions
- extended temperature range: -40°C up to +85°C



MACH4000

- Gigabit backbone routing switch
- up to 48 Gigabit Ethernet ports and three 10Gigabit Ethernet ports
- highly redundant



FiberExpress Systems

- FiberExpress Manager easy patch cords routing and management in a minimum space
- FiberExpress Bar: a compact, modular and resilient linking panel
- Optimax connectors for fast, secure and reliable field installable fiber termination



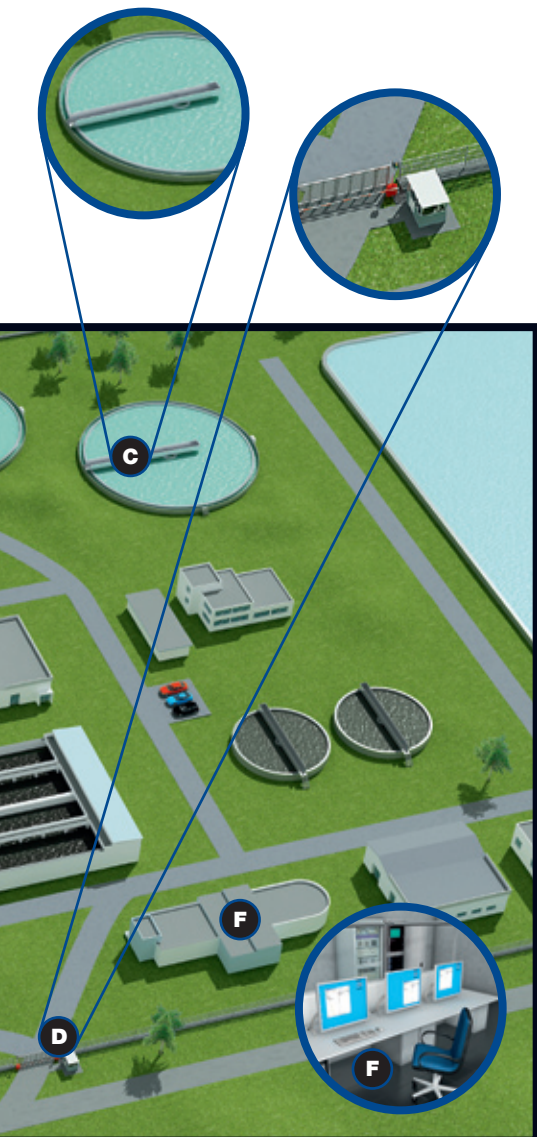
Industrial Ethernet Connectivity

- superior performance and excellent reliability in the industrial environment
- withstands harsh industrial environments and conditions
- quick installation
- increased flexibility with stranded conductors



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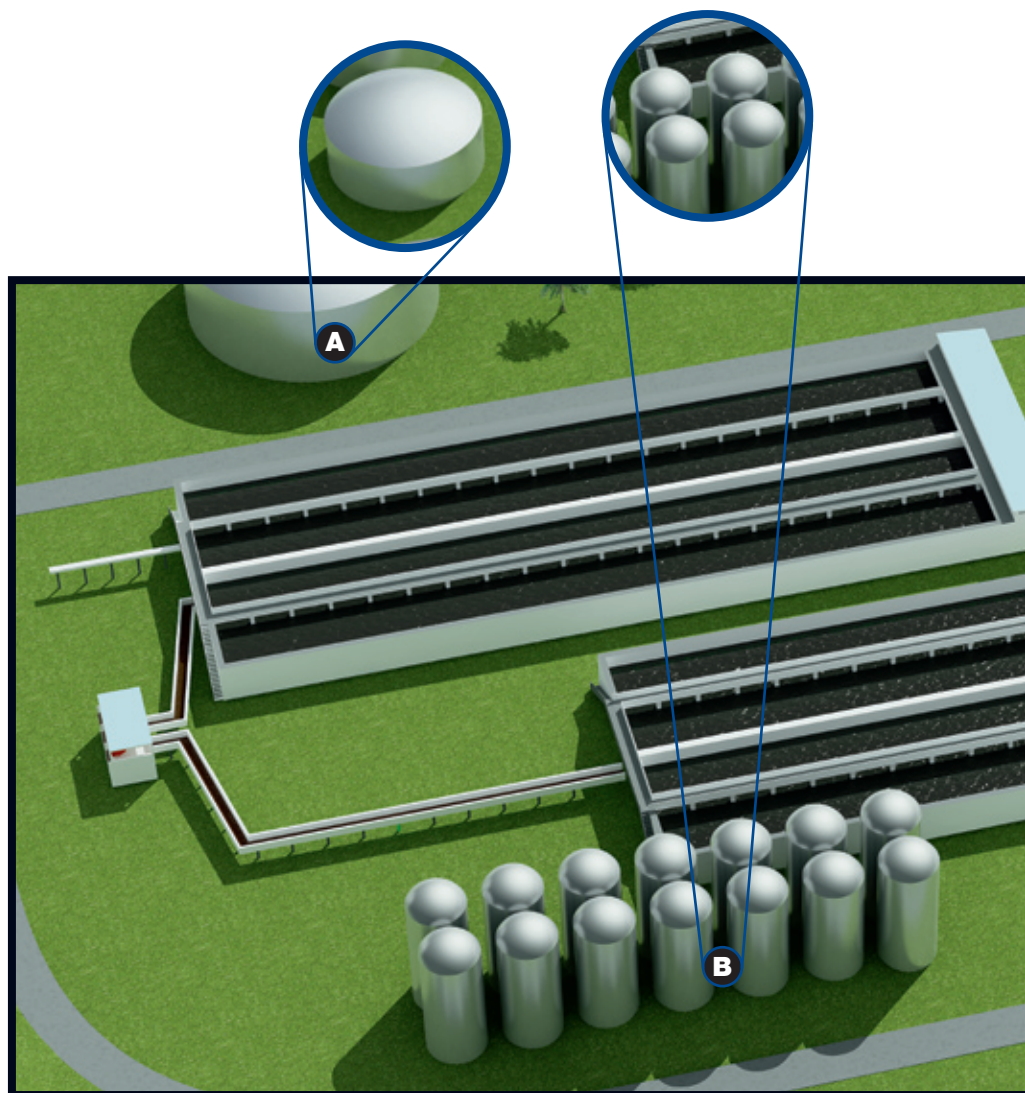


Reliable tank control and monitoring

In water tanks or tanks in which chemical substances are stored, reliable and secure flow-through monitoring and control are essential. Products from Belden, Hirschmann™ and Lumberg Automation™ deliver a wide selection of options to ensure outstanding performance even under extreme application conditions:

- measuring and monitoring tank filling levels, flow-through rates and water temperature
- monitoring oxygen content, pH values, etc.
- signal transmission over long distances from tank to control room
- reliable monitoring even under extreme conditions
- switches for easy switchboard assembly

Belden offers a wide range of solutions for tank monitoring and control under extreme conditions.





A Chemical/water storage tanks

B Fieldbus repeaters

- for the most common fieldbus protocols
- protocol specific fieldbus repeaters available



OpenRail family

- Industrial Ethernet switches
- redundant power inputs
- available with conformal coating
- extended temperature range: -40°C up to +70°C



MICE family

- modular switch system
- extensive range of hot-swappable media modules
- maximum flexibility by comprehensive selection of connectors
- Gigabit router option



OCTOPUS family

- ruggedized switch family for extreme conditions
- open system with standardized M12 technology
- IP67 protection class and EN 50155 approvals



BAT family

- wireless access points and clients
- bridge functionality
- redundant WLAN links for reliable data transfer
- IP67 protection class



Valve connectors

- reduced height resulting in lower space requirements
- standard version with molded, captive seal
- up to +80°C and IP65/IP67 protection class



microFX

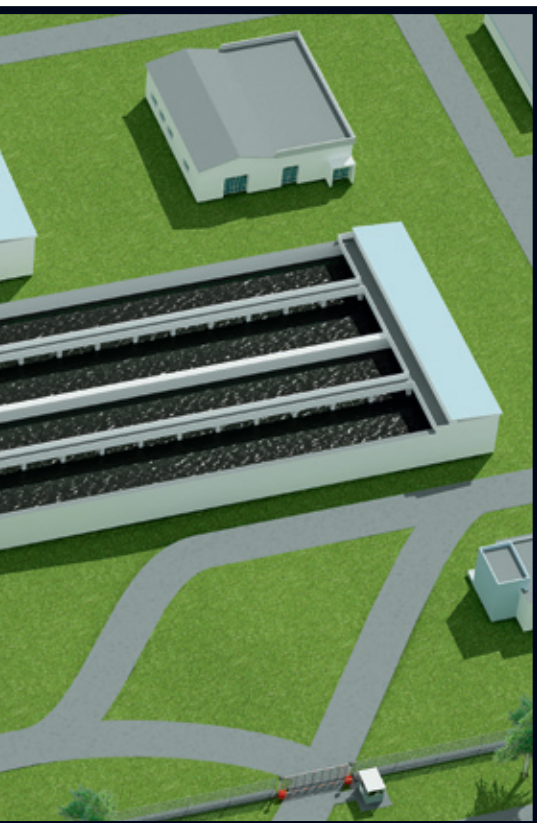
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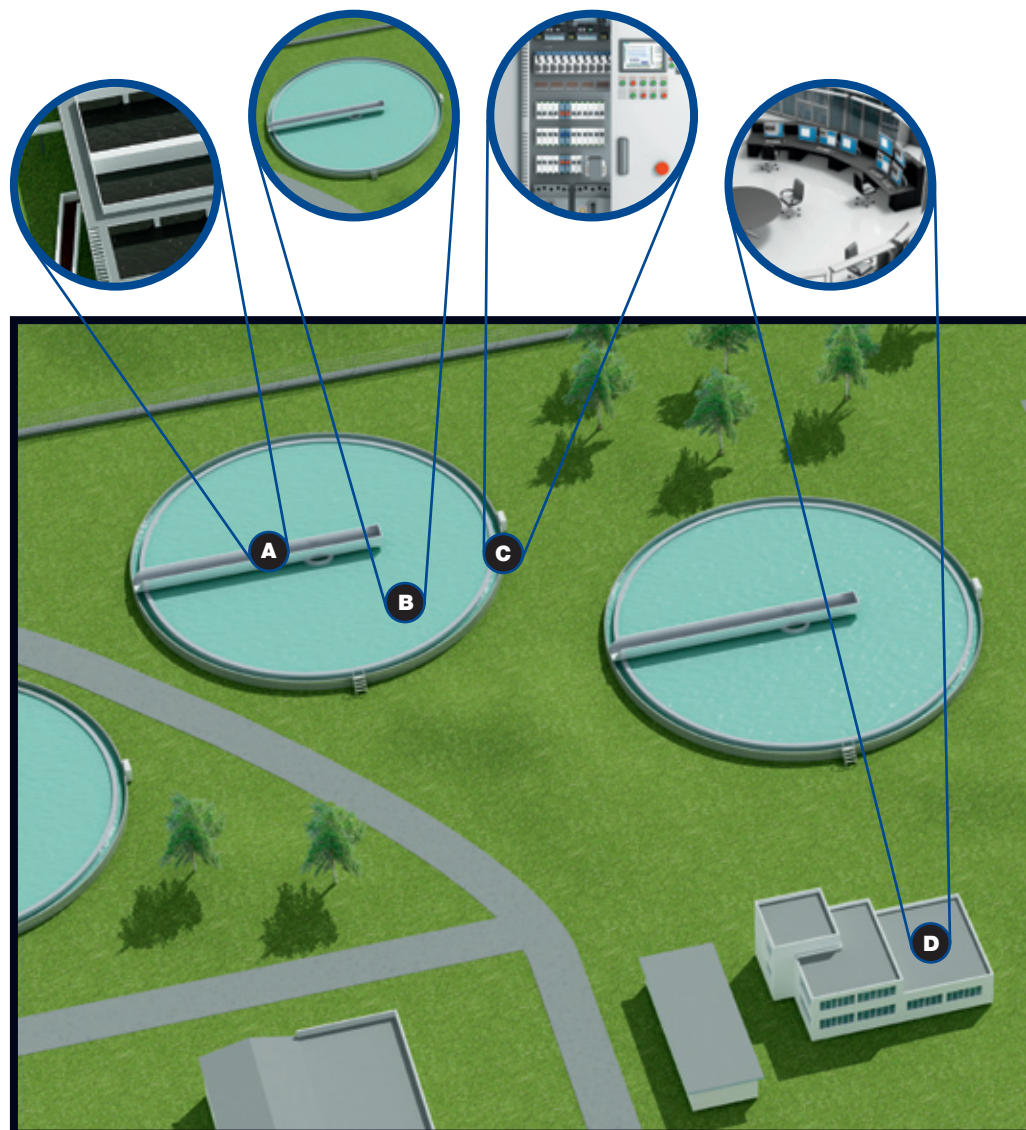


Everything under control – including in the basins

For monitoring filter and storage basins which are often located far from the control room, the products from Belden, Hirschmann™ and Lumberg Automation™ show their strengths under extreme conditions, while delivering reliable performance:

- signal transmission from the basins to the control room
- simple configuration and diagnosis
- easy integration of additional applications
- increased plant reliability
- fluid level measurement in filter reservoirs
- monitoring of storage basins via wireless and security solutions

Whatever happens in the basins outside, Belden ensures the right monitoring and control solution, even over great distances.





A Rake

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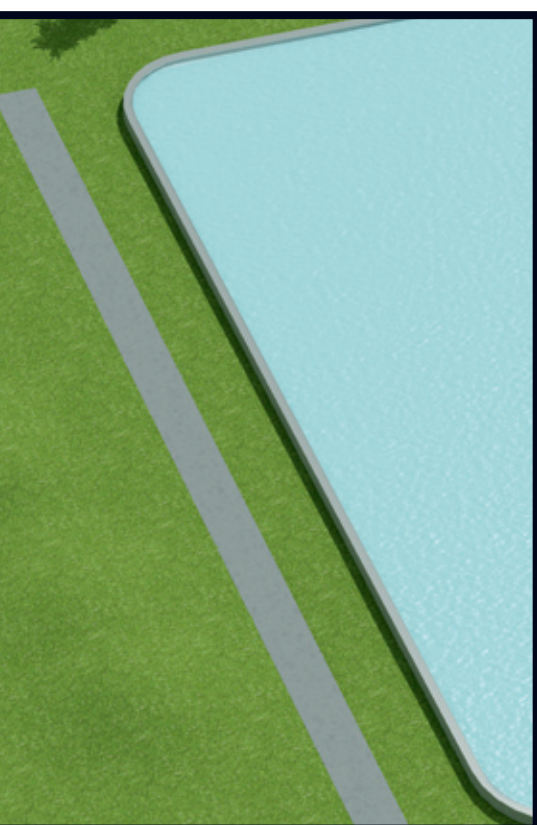
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B Basin

Percolation and filling level meter: Actuator/sensor connectors

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Percolation and filling level meter: Receptacle connectors

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Network Management Software

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D Cabinet

ATEX MICE

- modular system – MICE switch with microFX media module and op-is microFX transceiver
- MICE switch for installation in Ex Zone 2
- Op-is approved fiber optic connector and cable for ATEX Zone 1



OZD Profi G12 ATEX1

- high performance 12 Mbps optical fiber repeater
- authorized for Ex Zone 1
- preventive maintenance via SCADA



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GLOBAL LOCATIONS

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www.belden.com/industrial

