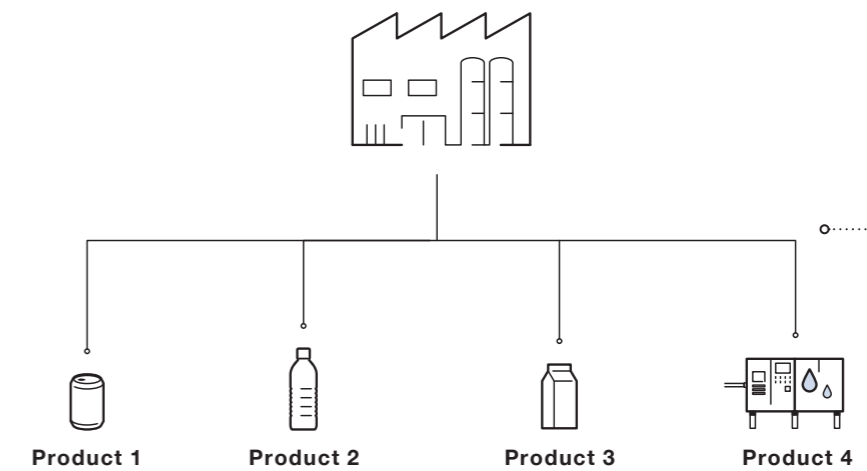




Automate water treatment, save resources

/ Water treatment 4.0 / The worldwide demand for water is increasing, yet this valuable resource is becoming more scarce. The water industry relies on automated and digital concepts to treat water more efficiently, productively and competitively. Two objectives dominate in this field: The reliable supply and disposal as well as the economical use of resources. At process level, we support you with solutions for automating ion exchangers, membrane filtration and media filtration.

Be it process or drinking water: The construction and operation of water treatment plants poses increasing demands. Automation can be implemented in various ways: Distributed or decentralised. Which concept is best suited to your plant? Together we will find the best possible solution for you.



Do you want to automate your water treatment process? And, at the same time, save energy by using intelligent control concepts and cutting-edge measurement methods? Discover on the following pages how you can digitise control of the inflow and outflow of water.

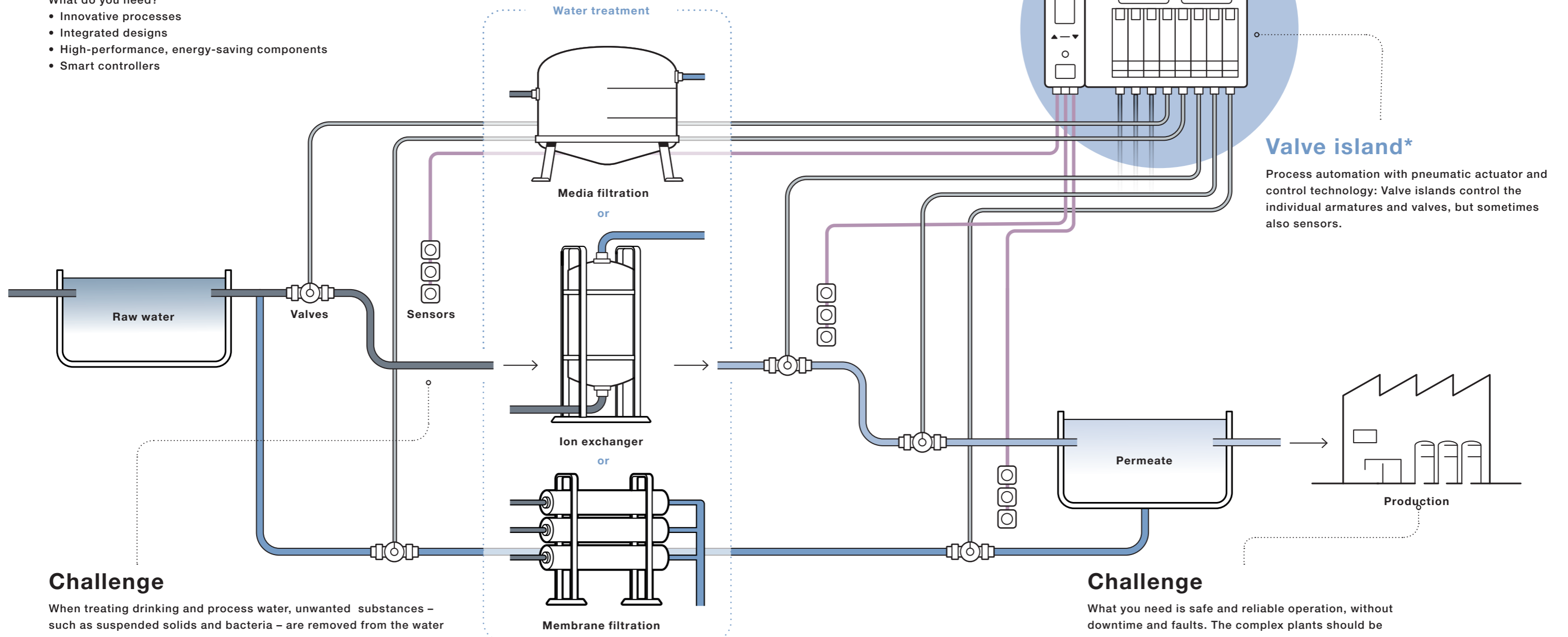
/ Save energy, increase output / Cleverly combined with automated processes, controllers and measurement methods, you can reduce your energy consumption by up to one third. At the same time, you benefit from maximum productivity and consistently high product quality.

Challenge

Your task is to treat water of the highest quality.

What do you need?

- Innovative processes
- Integrated designs
- High-performance, energy-saving components
- Smart controllers



Challenge

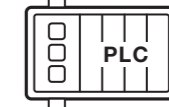
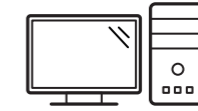
When treating drinking and process water, unwanted substances – such as suspended solids and bacteria – are removed from the water and desired substances – such as additives and dissolved elements – are retained or added. Key sub-areas can be:

1. Media filtration
2. Membrane filtration
3. Ion exchanger

Challenge

What you need is safe and reliable operation, without downtime and faults. The complex plants should be easy to operate and work in a resource-friendly way – with little energy, material and costs.

Operating control level

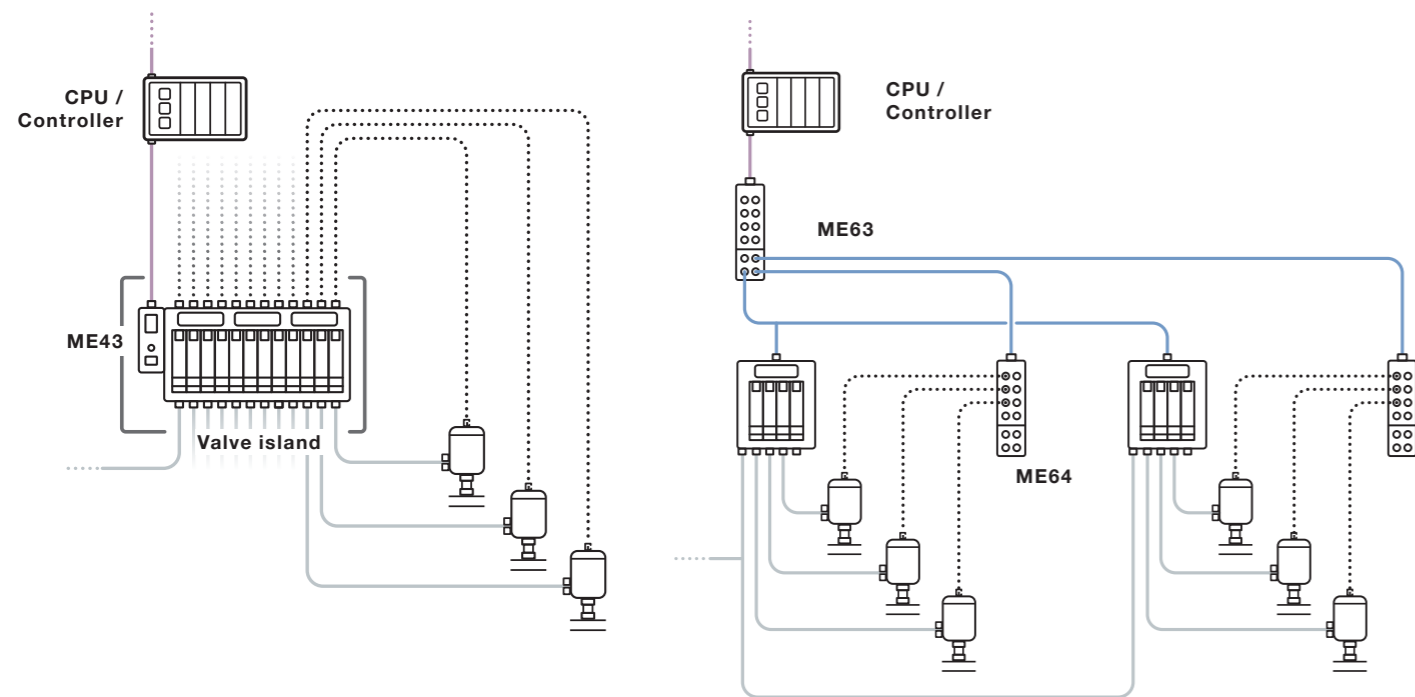


Valve island*

Process automation with pneumatic actuator and control technology: Valve islands control the individual armatures and valves, but sometimes also sensors.

* Example of a distributed automation concept. However, a decentralised solution is also available depending on your requirements. Find out more on the next page.

/ Lean systems for every plant / Regardless of the type of automation, their task is always the same: Controlling the inflow and outflow of water using pneumatic actuator and control technology.



Distributed automation

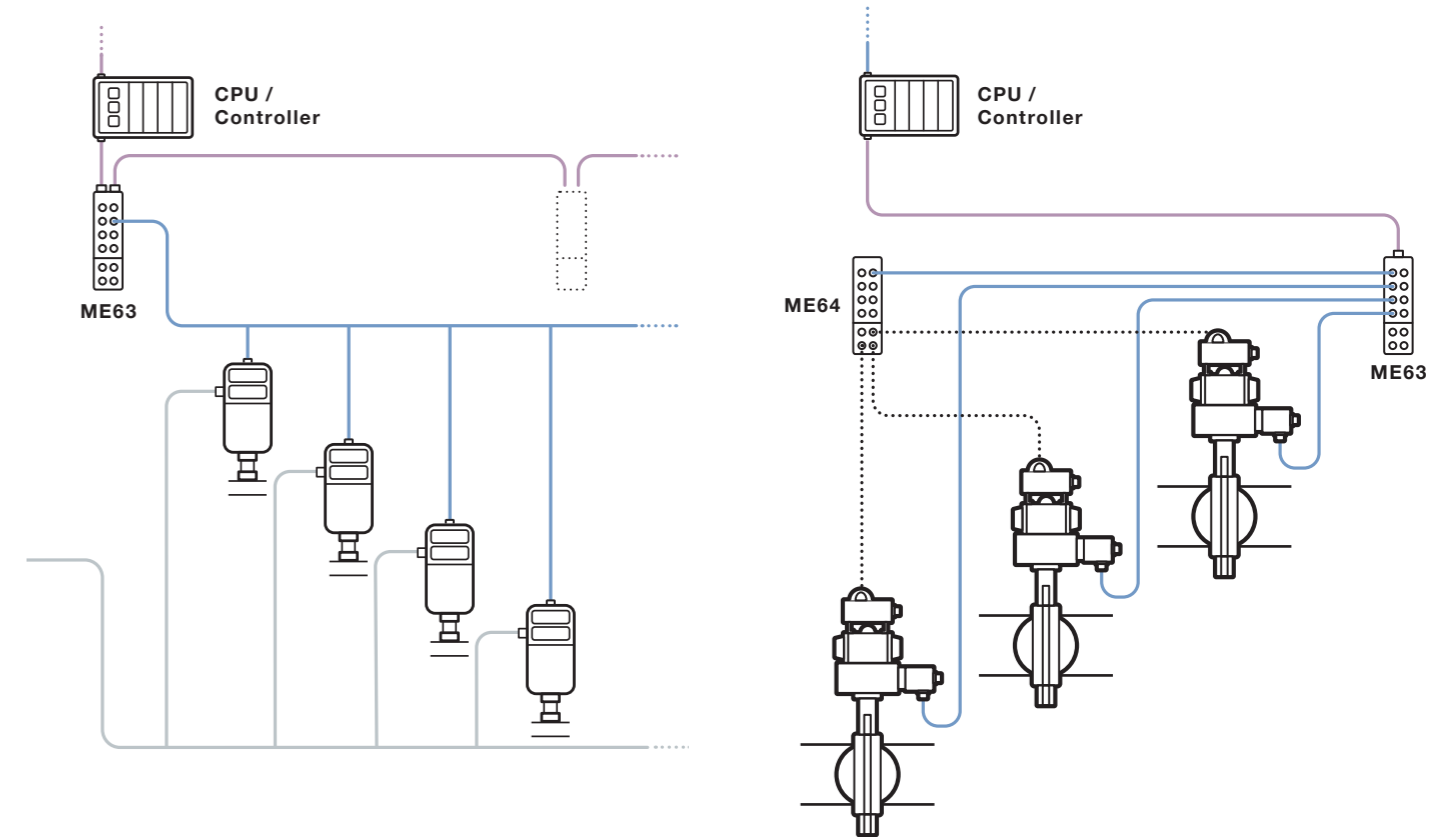
Depending on your requirements, the distributed automation concept can be implemented with or without a control cabinet.

When it comes to choosing a control cabinet, Bürkert offers you a space-saving and compact solution thanks to the valve island Type 8652 with AirLINE Quick. The system makes it possible to position the valve island directly on the wall or the floor of the control cabinet. The distributed automation structure, with control cabinets as close as possible to the process or AirLINE Field, leads to shorter lines and cables, but also to lower compressed air and energy consumption.

Another option is the valve island Type 8653, which requires no control cabinet at all.

Using the valve island, process units with a high valve concentration can be perfectly monitored. Fewer hoses, lines and cable trays are required thanks to the close proximity to the process. Another advantage: Your automation solution can be extended easily and quickly at any time.

With or without a control cabinet: Short distances and a flexible, space-saving design ensure fast installation and reliable processes. The short distances also improve switching times and reduce compressed air and energy consumption.



Decentralised automation

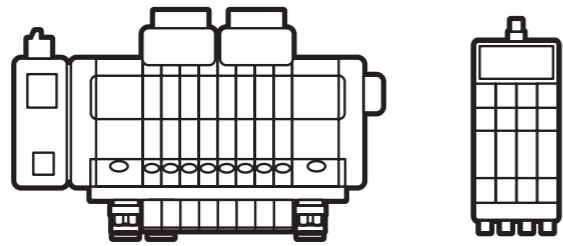
Lean and fast switching: In this concept, each process valve is controlled individually and supplied via a control unit or control head. The control heads and the associated digital communication turn the valves into intelligent field devices. They are compatible with all modern protocols, thus enabling process transparency and easy access to diagnostic data. In addition, the control head indicates the switching status of the process valves via LEDs. This simplifies on-site process monitoring, saves troubleshooting time and ensures plant availability. Important advantages: The intelligent, fast-switching valve systems are particularly

flexible, clearly arranged and reliable. They can be started up, maintained and extended quickly. The control heads are installed directly on the valve, which reduces the need for compressed air, pneumatic hoses, cable trays and further shortens process valve switching times. This also helps to reduce your energy costs.

/ Pinpoint advice / Which type of automation is best suited to your application? Working in close cooperation with you, we analyse your needs and offer support when designing your plant automation. Whether sensor, valve island, control head or fully configured control cabinet – you get an all-round coherent solution.

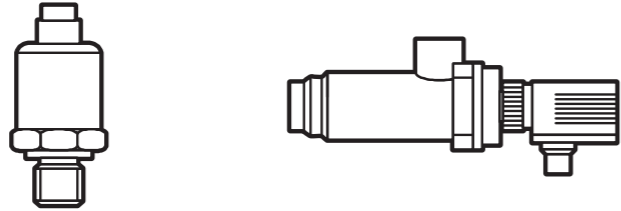
Valve islands

Depending on the concept and application, suitable valve islands are available, either with the appropriate PLC connection or with the practical AirLINE Quick function.



Sensors

Choose from a wide range of sensors for automated water treatment: Flow sensors, level (ultrasonic, radar), analysis and pressure.



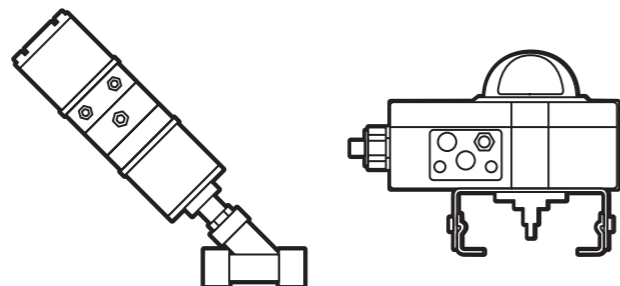
Valves

Burkert offers a wide range of globe, seat, ball, butterfly valves for distributed or decentralised automation concepts



Control heads

With the decentralised concept, each process valve has its own intelligent control head. Bürkert has the right solution for you.



/ Automated water treatment / Sensor technology, valve technology, pneumatics, control cabinet technology and control heads from Bürkert enable reliable processes and preventive maintenance with the help of numerous monitoring and diagnostic functions. You save resources, receive relevant information and benefit from the automatic documentation of your data.

Flexible communication connection



To ensure the automation solution fits into any existing system, we offer you an extensive range of relevant communication protocols.

Simple installation



Bürkert components can be integrated quickly and easily. A minimum number of installation steps minimises the risk of errors.

Rapid implementation



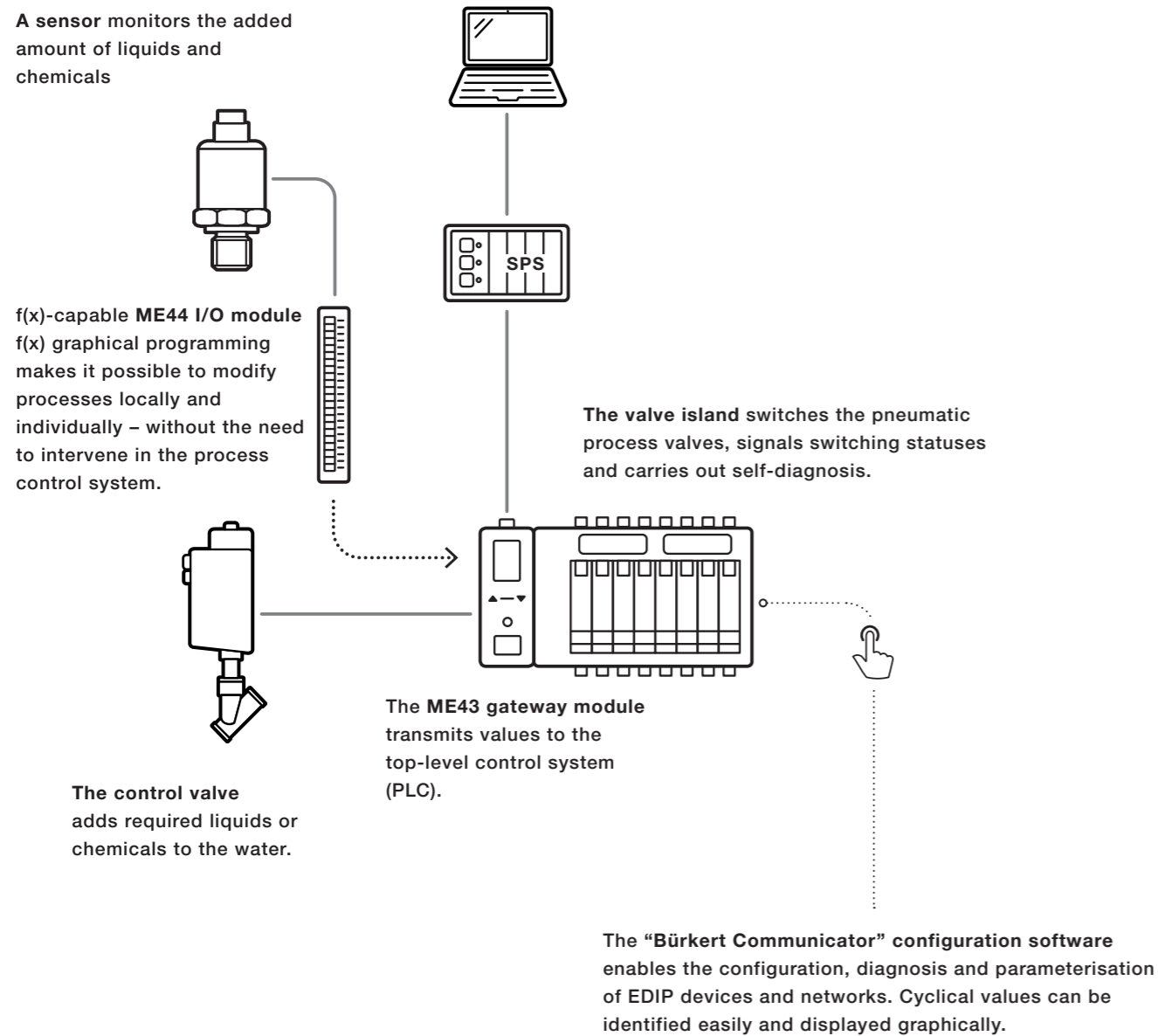
Bürkert automation solutions help you to implement projects in the shortest possible time. The high availability of standard devices is definitely worth the effort.


Reliable processes



Bürkert systems operate extremely efficiently, with scheduled maintenance and fast troubleshooting.

/ Intelligent communication / Automation should make your processes simpler and more efficient. Bürkert automation concepts ensure this. The fieldbus module Type ME43/ME63 functions as a standardised interface for devices. It transfers their communication to common industry standards. The technology minimises planning and installation effort, material usage and the risk of errors.

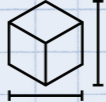


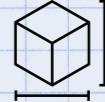

Example calculation

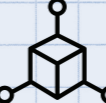
Less space, time, components and accessories required: The valve islands AirLINE Quick ensure fast, seamless installation and start-up. They are located directly on the wall or floor of the control cabinet – this helps to reduce the number of compressed air hoses and the cabinet volume. The example compares the installation of AirLINE Quick Type 8652 and a standard rail in a stainless steel control cabinet.

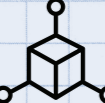
Installation on a standard rail

Installation with AirLINE Quick


60 x 60 x 21 cm
control cabinet size

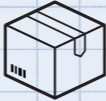

60 x 38 x 21 cm
control cabinet size


75,600 cm³ control cabinet volume


47,880 cm³ control cabinet volume

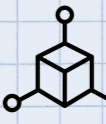

208.80 euros installation costs

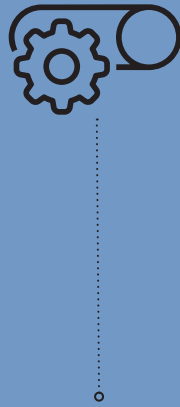

43.50 euros installation costs


2,297.20 euros material costs


2,108.01 euros material costs


354.49 euro
less costs


27,720 cm³
less space required



Water Process Automation

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