



Pneumatics

Product range overview

Pioneers of Flow.

bürkert
FLUID CONTROL SYSTEMS

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How do sophisticated electropneumatics keep your system running reliably?

Even minor disruptions can put production processes out of step. If you really want to control processes reliably, you need to think beyond individual components. As an expert in fluidics across the entire control circuit, we deliver solutions that are consistently designed with the application in mind.

Our approach is based on our modular pneumatics range. Valve islands, single valves and system solutions are incorporated seamlessly into the overall concept – for results that are space-saving, easy to integrate and precisely tailored to your application. So you benefit from safe, reliable system operation.

We look beyond functionality alone, combining safety, efficiency and sustainable management with a commitment to managing resources responsibly.

Find the right approach for whatever challenge you're facing – space, security or system integration – and start working with a concept that fits your system like a glove.

Pneumatics that optimise your processes

At Bürkert, we call ourselves **Pioneers of Flow** – which means that we think about every process in terms of what it aims to achieve and what its underlying conditions are. Working from this perspective, we create solutions that work in perfect harmony, reduce complexity and make your processes more stable, more efficient and future-proof.



Reliable availability

Unplanned downtimes jeopardise product quality, efficiency and safety. Bürkert pneumatics improve system availability on multiple levels: hardware-based shut-off functions act independently of the bus signal, redundancy concepts maintain communication in the network, even in the event of a cable break, and hot-swappable valves can be replaced during operation. This keeps your system safe and available even under demanding operating conditions.

Scalable system architecture

The Bürkert pneumatic range offers the right expansion options to suit every need, from compact single valve applications and valve islands to fully certified control cabinet solutions – even accommodating potentially explosive atmospheres. By adding process valves or measurement technology from Bürkert, you also benefit from perfectly coordinated components and complete planning certainty – from the initial steps all the way through to commissioning.

Control cabinet

Valve island

Single valve

Long-term investment security

Bürkert pneumatic components are designed to withstand numerous switching cycles and long system runtimes. We make sure spare parts are available over the long term, while software updates keep things running smoothly and compatibility is maintained across product generations. If a system does require servicing work, we only replace individual components – not the whole thing. This keeps costs from adding up and protects your investment throughout the entire life cycle.



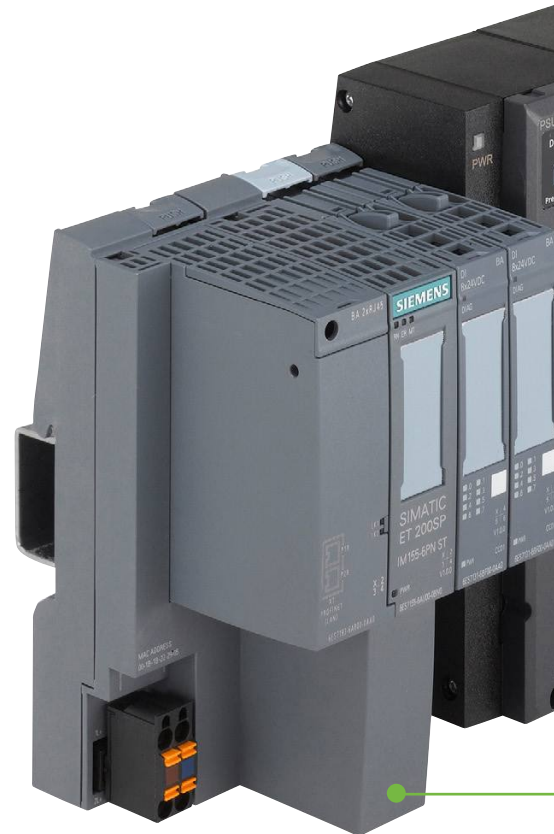
Full transparency during operation

Valve islands clearly indicate the condition of your system at all times – during commissioning, when early warnings need to be issued and while the system is operating. Configurable warning thresholds enable early intervention and turn unplanned downtimes into predictable service windows. If action is needed, the system delivers the relevant information immediately and in plain text directly on the module.

Valve islands

For processes that just work.

Bürkert valve islands combine multiple pilot valves in a single compact unit – either in the control cabinet or close to the process in the field. At the heart of the range are the proven AirLINE products, supplemented by special solutions for hygiene-critical applications in pharmaceuticals and foodstuffs, and for atmospheres classified by ATEX as potentially explosive. The valve islands provide a range of functions that ensure maximum process reliability and seamless integration into existing automation concepts.



Choose the right automation solution for your needs:

Valve island type	8644	8647	8650	8652	8653
LCD		x		x	x
HotSwap	x	x	x	x	
Check valve	x	x	x	x	x
AirLINE Quick	x	x		x	
ATEX Zone 2	x	x		x	
ATEX Zone 1			x		
IP65 (without control cabinet)					x
PROFINET	x	x	x	x	
PROFIBUS	x			x	
EtherNet IP	x	x		x	
IO-Link					x
Pressure sensor		x	x	x	
Diagnostic functions		x	x	x	x
Shut-off function	x	x	x	x	
PROFINET S1	x	x	x	x	
Media Redundancy Protocol (MRP)		x	x	x	
PROFINET system redundancy S2		x	x	x	
PROFINET system redundancy R1		x	x		

Hint: Some functions available as an option.



Safety shut-off

Hardware-based shut-off function directly on the valve island – for maximum operational reliability up to Performance Level C:

- Shut-off of single valves, modules or complete valve blocks
- Economical solution without expensive parts
- Quick to install or retrofit
- For standard and Ex environments

LC display

All diagnostics and status information is provided directly on the module, enabling quick assessment of the system condition and easy maintenance:

- Switch position of the pilot valve (indicated by an icon)
- Optional: switch position of the process valve (indicated by an icon)
- Diagnostic messages in plain text
 - Short circuit detection
 - Wire break detection
 - Switching cycle counter (pilot & process valve)
 - Current pressure value
 - Module safety shut-off indicator

Pressure sensor

Continuously monitors and evaluates supply pressure for early fault detection and reliable process protection:

- Continuous pressure measurement (0–10 bar)
- 4 freely adjustable limit values
- Status indicator: fault / warning / OK
- Pressure availability shown at a glance on the device and in the controller

Availability & maintenance

Enables intervention and replacement during operation – for minimum downtime and maximum system availability:

- HotSwap function for rapid valve replacement during operation
 - Supports 24/7 operation
 - Works without the need to switch off electronics and compressed air
- Configuration in Run (CiR)

Redundancy

Ensures fail-safe communication in the PROFINET network – for maximum system availability and uninterrupted operation:

- PROFINET S1
- Media Redundancy Protocol (MRP)
- PROFINET system redundancy S2
- PROFINET system redundancy R1

➔ **Configure your
valve island online now**



Product innovation

What makes pneumatic automation easier and more integrated?

The AirLINE SP Type 8647 and AirLINE Ex Type 8650 valve islands have the answer. These electropneumatic systems combine Bürkert pneumatics and Siemens I/O technology on a single platform, encompassing both hardware and software.

Designing pneumatic systems usually requires components from a range of manufacturers. This means more work on software integration and interface management, and presents a challenge when it comes to making diagnostics consistent from the field to the control level. The limited installation space available in the control cabinet is another obstacle.

With the Type 8647 AirLINE SP and Type 8650 AirLINE Ex valve islands, this level of complexity is a distant memory. They bring together pneumatics and I/O technology in a single system that saves space and eliminates separate components, additional wiring and interface problems. Project planning and commissioning are carried out in the familiar Siemens software environment, allowing teams work faster and with fewer sources of error.

At the same time, extensive diagnostics and redundancy functions, plus hot-swappable valves, ensure that systems remain reliably available. The concept stays consistent throughout – from non-Ex areas to Ex zone 1/21.

The long-standing partnership between Bürkert and Siemens also has advantages for your investment security: both product worlds are coordinated over the entire life cycle, spare parts are available over the long term and regular software updates keep everything running smoothly.

In short, this is pneumatic automation for today and for tomorrow.



Did you know?

Bürkert is an official Siemens Product Partner – SIMATIC Automation Systems. Bürkert and Siemens have been working together for more than two decades. This means that Bürkert pneumatics are integrated into Siemens electronics on both the hardware side and the software side.

[Learn more](#)



Reliable and available – integrated diagnostics, redundancy and hot swapping



Time-saving project planning in the familiar Siemens environment



Less work – one system instead of many individual components



More compact control cabinets for easy placement in existing systems



Type 8644

- Can be combined with an extensive selection of WAGO I/O modules
- Pilot valves can be replaced during operation (HotSwap)
- Check valves
- Tool-free snap-on installation on standard rail



TYPE 8644

AirLINE – electropneumatic automation system

The Type 8644 pneumatic valve island combines fieldbus technology, pilot valves and I/O modules in a compact unit. This combination saves space in the control cabinet and offers flexible expansion options. With a direct connection to the extensive module range of the WAGO I/O System 750, it is ideal for applications in the process industry with specific automation requirements.



Easy integration
thanks to direct WAGO
connection



Space-saving
installation on
the bottom of the
control cabinet with
AirLINE Quick



Modular design –
flexible adaptability



Compact design –
saves space in the
control cabinet



Type 8647

- Pilot valve replacement during operation (HotSwap)
- Check valves
- Compact design thanks to direct rear wall bus connection
- Keeps running in the event of a malfunction – PROFINET redundancy S2/R1



TYPE 8647

AirLINE SP – electropneumatic automation system

As a Siemens Product Partner, Bürkert combines the Type 8647 AirLINE SP valve island directly with the SIMATIC ET 200SP – for a solution that provides compact hardware and consistent software integration (STEP 7 Classic, TIA Portal, PCS 7, PCSneo). This keeps pharmaceutical and chemical systems available during continuous operation and ensures that every process is transparent.



Siemens integration
makes engineering
and commissioning
easier



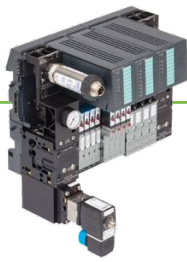
Full transparency in
the control system –
up to PCS 7 as an
option



Fast diagnostics and
maintenance with
direct indication on
device



Safety-related shut-
off protects people
and processes



Type 8650

- HotSwap function
- Check valves
- Pressure sensor
- Pressure switch
- Safety-related shut-off
- Diagnostic functions



Type 8652

- LC display for rapid diagnostics and maintenance
- Pilot valve replacement during operation (HotSwap)
- Check valves
- Digital inputs
- Safety-related shut-off
- Ex variants: ATEX / IECEx Zone 2, CCC, cURus HazLoc CL I, II, III Div 2Fff



TYPE 8650

AirLINE Ex – electropneumatic automation system for potentially explosive atmospheres

The Type 8650 AirLINE Ex valve island significantly reduces complexity in Ex zone 1/21 process automation. It combines Bürkert pneumatics and Siemens ET 200iSP in a fully integrated system, reducing space requirements, wiring and maintenance. Ideal for demanding applications in the chemical, pharmaceutical and process industries.



Safe use in potentially explosive atmospheres up to zone 1/2



Full integration – meaning less work from planning to maintenance



Less wiring, reducing sources of error in the Ex concept



Integrated diagnostics, accelerating on-site troubleshooting

TYPE 8652

AirLINE – electropneumatic automation system for compact control cabinets

Type 8652 AirLINE automates pneumatic functions centrally in the control cabinet and accelerates diagnostics and maintenance via the LC display. The valve island is suitable for integrated process automation with high availability requirements.



Future-proof networking – Industrial Ethernet, PROFIBUS DP, CANopen and b5S



PROFINET S2 system redundancy increases system availability



Process reliability through pneumatic functions



Optimised for installation at the bottom of the control cabinet



Type 8653

- Field-compatible design in IP65/67
- LC display for rapid diagnostics and maintenance
- Innovative assembly concept
- Valve manual override



TYPE 8653

AirLINE Field – a compact valve island, even outside the control cabinet

Type 8653 AirLINE Field automates pneumatic functions directly in the field close to the actuator. The compact valve island shortens hose routes, reduces dead volume and compressed air consumption, and improves response times – ideal for decentralised automation without a control cabinet.



Fieldbus interface:
CANopen, IO-Link or
bûS (Bürkert system
bus)



**Lower compressed
air consumption in
operation**



**Faster switching and
reaction times**



**Direct installation
in the field without
a control cabinet
(IP65/67)**



Type MKRS

- For extending safety-related shut-off
- Additional shut-off valve
- Pressure switch for additional shut-off functions



TYPE MKRS

Redundancy block for safety-related shut-off

Type MKRS extends Type 8644 by including redundant functions for safety-related shut-off. The redundancy block integrates pressure monitoring directly into the system and supports compact safety concepts for pneumatic automation solutions.



**Redundant shut-off –
for added process
reliability**



**Integrated pressure
monitoring – status
directly at a glance**



**Supports compact
safety concepts**



**Standard rail mount-
ing – easy integra-
tion into systems**

Pneumatic valves

Single valves offer maximum flexibility when designing decentralised pneumatic systems. Whether they're installed in the system, directly on the cylinder or in harsh environments, they run precisely and reliably – even under the toughest conditions.

A range of directional valve types, materials and variants are available to suit your needs – covering everything from standard applications to potentially explosive atmospheres and extreme environmental conditions.

The information that follows outlines the available valve types and their specific characteristics in detail.

Properties:

- High flow rates with low power consumption
- Flexible use: individually or on valve blocks
- Standard, Ex-i, Ex-m and NAMUR variants
- Variants for use at temperatures down to -40 °C and in outdoor applications

The right valve for every application



Stainless steel valve for applications with extreme environmental conditions



Valves stackable as valve block



Valve for applications in potentially explosive atmospheres

Technology innovation

How do you achieve higher performance levels without completely overhauling your system?

Safety standards are constantly evolving – and meeting them results in additional work, downtime and costs. With its safety-related shut-off function directly on the valve island, Bürkert offers an economical alternative that is flexible, can be retrofitted and works independently of the regular controller.

Bürkert's patented shut-off function is based on a concept that is as simple as it is effective:

An emergency stop button triggers an external relay in the event of a safety incident. This interrupts the solenoid power supply, regardless of the bus signal. The valve shuts off immediately and the actuator is depressurised.

The function can also be retrofitted on each valve slot and makes it possible to shut off the following:

- Single valves
- Modules
- Complete valve blocks

This also makes it an economical alternative to purely software-based concepts such as PROFIsafe.

The solution supports the requirements of EN ISO 13849 and applications up to Performance Level C. This means that it protects not only the system, but also – most importantly – the people who work with it every day. So you can add more safety as you require it – rather than having safety levels dictated by the effort or expense involved.



Did you know?

A second electrical connection on the valve enables shut-off on the hardware side – working independently of bus actuation and ensuring reliability even in the event of a PLC failure.



[Learn more](#)



Can be retrofitted on any valve slot in the valve island



Shut-off independent of PLC and bus signal



For standard, PROFINET and Ex environments



Significantly less effort than PROFIsafe solutions



Type 5420

- Explosion protection approvals
- Approvals for North America
- Short switching times
- IP65 protected
- Extensive temperature range



TYPE 5420

4/2-way solenoid valve for pneumatic applications

Type 5420 is a pilot-operated 4-way seat valve with servo diaphragms. A minimum differential pressure of 2.5 bar is required for switching. The valve can be mounted on dual-channel connection plates with a common pressure supply.



Compact valve



Push-over coil



Exhaust air throttleable



Hose, thread and flange connection



Type 5470

- IP65 protected
- Extensive temperature range
- Explosion protection approvals
- Approvals for North America



TYPE 5470

3/2-way or 4/2-way solenoid valves for pneumatics

The Type 5470 valves consist of a Type 6106 pilot rocker solenoid valve and a pneumatic valve. A tiltable core, similar to a rocker, pivots in the body of the pilot valve. This switches the valve. The slight tilting movement of the rocker is wear-free and requires no basic lubrication. Type 5470 R is available as a 3/2-way and 4/2-way valve. The valves can be stacked individually using a module flange. They can be snapped together with the connection modules to form valve blocks. A range of variants are available for working ports 2 and 4.



Stackable as a valve block



Low electrical power consumption



Numerous pneumatic connections



Robust valve technology



Type 6518

- G 1/4" and NPT 1/4" socket and NAMUR flange
- IP65 protected
- Fast valve switching times
- Approvals for North America



Type 6519

- G 1/4" and NPT 1/4" socket and NAMUR flange
- IP65 protected
- Fast valve switching times
- Approvals for North America



TYPE 6518

Pilot-operated 3/2-way solenoid valve for pneumatic systems

Type 6518 is a 3/2-way valve. The valve can be used individually or in blocks. It operates without constant air consumption and is used to control single-acting actuators. High-quality materials allow the valves to be used even in outdoor and chemically aggressive environments. With valve circuit function C, a safety level of SIL2 can be achieved in accordance with IEC 61508, depending on the architecture of the safety system.

	High flow rate		Low electrical power consumption
	Single or block installation		Explosion protection approvals

TYPE 6519

Pilot-operated 3/2-way, 5/2-way or 5/3-way solenoid valve for pneumatic systems

Type 6519 is a 5/2-way or 5/3-way valve. The valve can be used individually or in blocks. It operates without constant air consumption and is used to control double-acting actuators. High-quality materials allow the valves to be used even in outdoor and chemically aggressive environments. With the monostable valve circuit functions D and H, a safety level of SIL2 can be achieved in accordance with IEC 61508, depending on the architecture of the safety system.

	High flow rate		Low electrical power consumption
	Single or block installation		Explosion protection approvals



Type 6524

- Commonly used on valve blocks or valve islands
- Extensive approvals in combination with the valve islands



TYPE 6524

3/2-way or 2 x 3/2-way solenoid valve for pneumatic applications

Valve type 6524 is equipped with manual override as standard. In the case of the 2 x 3/2-way valve variant, two valve functions can be installed in the same installation space, doubling the channel density. The valve is also available with a second connection (pressed-on cable), enabling a safety-related shut-off function.



Compact design



Second connection for shut-off function



Low electrical power consumption



Short switching times



Type 6525

- Commonly used on valve blocks or valve islands
- Extensive approvals in combination with the valve islands



TYPE 6525

5/2-way solenoid valve for pneumatic applications

Type 6525 makes it possible to switch high pressures with low power consumption and short switching times. All the valves are equipped with manual override as standard.



Compact design



Second connection for shut-off function



Low electrical power consumption



Short switching times

System innovation

What if your next control cabinet arrived fully tested?

Specification, procurement, assembly, certification – now there's an easier way. From compact control boxes with a small number of valves to highly complex system panels with control intelligence, Bürkert combines pneumatics, electronics and valve technology to create ready-to-install control cabinet solutions that suit your application perfectly.

Bringing together pneumatic actuators, digital feedback and control functions from a range of sources takes time and creates interface risks – during specification, procurement and certification. This is where Bürkert control cabinet construction comes in. As an approach, it extends from simple control cabinets with a small number valves to ATEX-certified system solutions for potentially explosive atmospheres.

Thanks to a consistently compact design, a high level of functional density can be achieved in even the smallest of spaces. Innovative safety circuits can be directly integrated – for maximum process reliability without additional planning work.

Instead of having to undertake complex individual integration, you get a fully tested, fully documented control cabinet that's a complete system – and is ideal for pharmaceutical, food, water or chemical applications.

Let's work together and find out how much engineering work we can save you.



Did you know?

From the initial design to certification, every Bürkert control cabinet is created using our own ATEX-certified control cabinet construction process – for a single point of contact and one continuous process. This significantly reduces the amount of engineering work you have to do.

[Learn more](#)



Extensive, tailored approvals and certifications



Proven solutions and many years of experience



Pneumatics, electronics and controller from a single source



More compact with maximum functional density in the smallest of spaces

Customisation & development

THE BÜRKERT SYSTEMHAUS FACILITIES
ARE RESPONSIBLE FOR THE EFFICIENT,
INNOVATIVE AND COST-EFFECTIVE
DEVELOPMENT OF YOUR FLUIDIC SOLUTIONS





Our state-of-the-art Systemhaus facilities specialise in developing fluidic assemblies and solutions according to your precise requirements. A motivated and dedicated team of sales consultants, industry specialists and engineers will work hand in hand to make your project a success – with every aspect of the process under one roof! All of our production infrastructure is located on site, which allows us to respond quickly and flexibly. This combination and concentration of expertise and resources in one place translates into huge gains in efficiency and quality for you.

Why choose Bürkert as your solution partner?

- Interdisciplinary collaboration between Bürkert experts ensures seamless communication and prevents loss of information – for exceptionally efficient processes
- All process steps, ranging from development, prototype assembly and tool construction through to production, take place in one location – for fast-paced development and seamless quality
- We don't think in terms of narrowly defined industry contexts; we are always exploring new possibilities with regard to handling liquids and gases – for new, original solutions that surpass the standards in your industry
- We will use suitable system platforms for your individual solution – for a short time to market and significant cost savings.

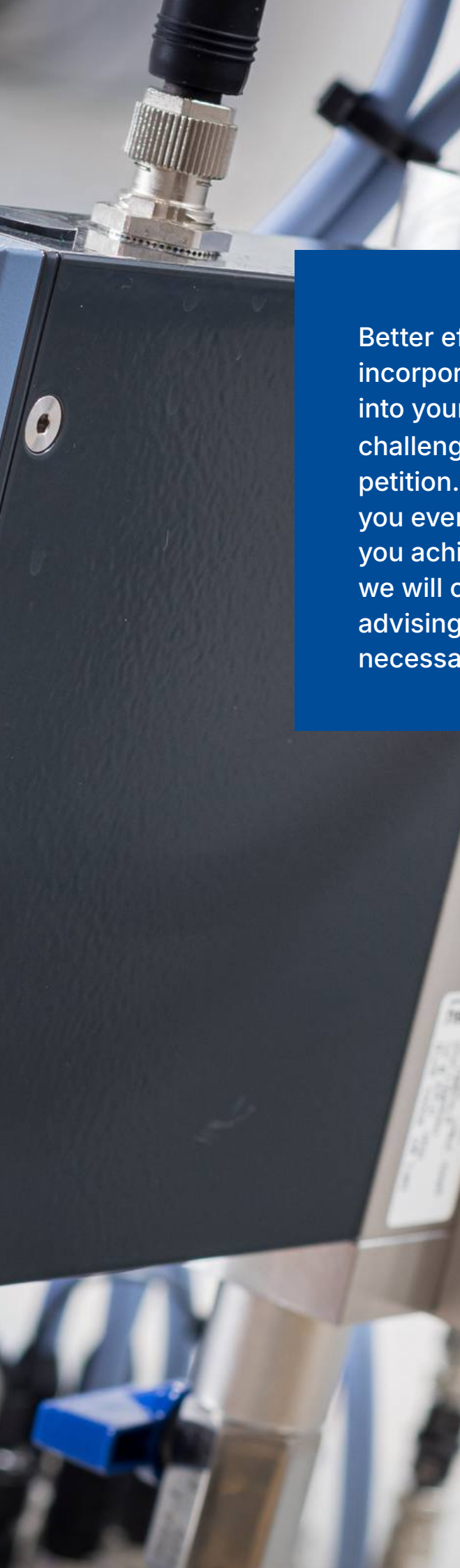
With our extensive capacity and full range of services, we will take responsibility for as much of the development process as you want us to and will coordinate all interfaces in order to provide pioneering, integrated solutions.



Automation & digitalisation

FLEXIBLE, NEUTRAL,
COMPLETE: OUR APPROACH
TO FIND THE BEST SOLUTION





Better efficiency, quality and cost-effectiveness: incorporating optimised automation and digitalisation into your processes, applications and fluidic challenges will ensure that you stay ahead of the competition. As your expert partner, Bürkert will support you every step of the way. Our priority is to make sure you achieve the best possible results. This means that we will consider different manufacturers when advising you – the components we recommend won't necessarily come from us.

Why choose Bürkert as your solution partner?

- We understand your processes, applications and challenges – and will use these insights to develop automation solutions perfectly tailored to your tasks.
- Our advice is neutral and objective – which gives us the freedom to truly find the perfect solution for you.
- Our experts will use innovative approaches and select creative solutions to keep you one step ahead of the competition.
- Unlike other partners, we are not just here to supply components – we will work with you to ensure your success by means of a complete automation and digitalisation concept.
- If you wish, we can take care of the concept, planning and implementation – all from a single source. You won't have to worry about interfaces, compatibility or fine tuning.

When it comes to finding the best solution, we always give 100% – whether you want to assign individual subtasks to us or entrust us with the entire automation and digitalisation process from initial advice right through to start-up.

Approvals

National and international approvals

Our valves have a wide variety of national and international approvals to accommodate all kinds of industries. These include approvals for explosion protection and country-specific approvals.

Our data sheets contain all the information about the approvals in detail.



[!\[\]\(b18c17fc657b587c69a5722b7427ea01_img.jpg\) Data sheets](#)

Bürkert eShop



Your benefits at a glance:

 **Bürkert eShop**

- 24/7 availability of the eShop
- Documents such as data sheets, CAD drawings, operating instructions and EU declarations of conformity always at hand
- View current prices, conditions, delivery times and stock levels at any time
- Download and track orders, delivery notes and invoices at any time
- Create shopping lists and save shopping carts
- Order common items via quick order

Discover these and many other advantages in our Bürkert eShop!



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