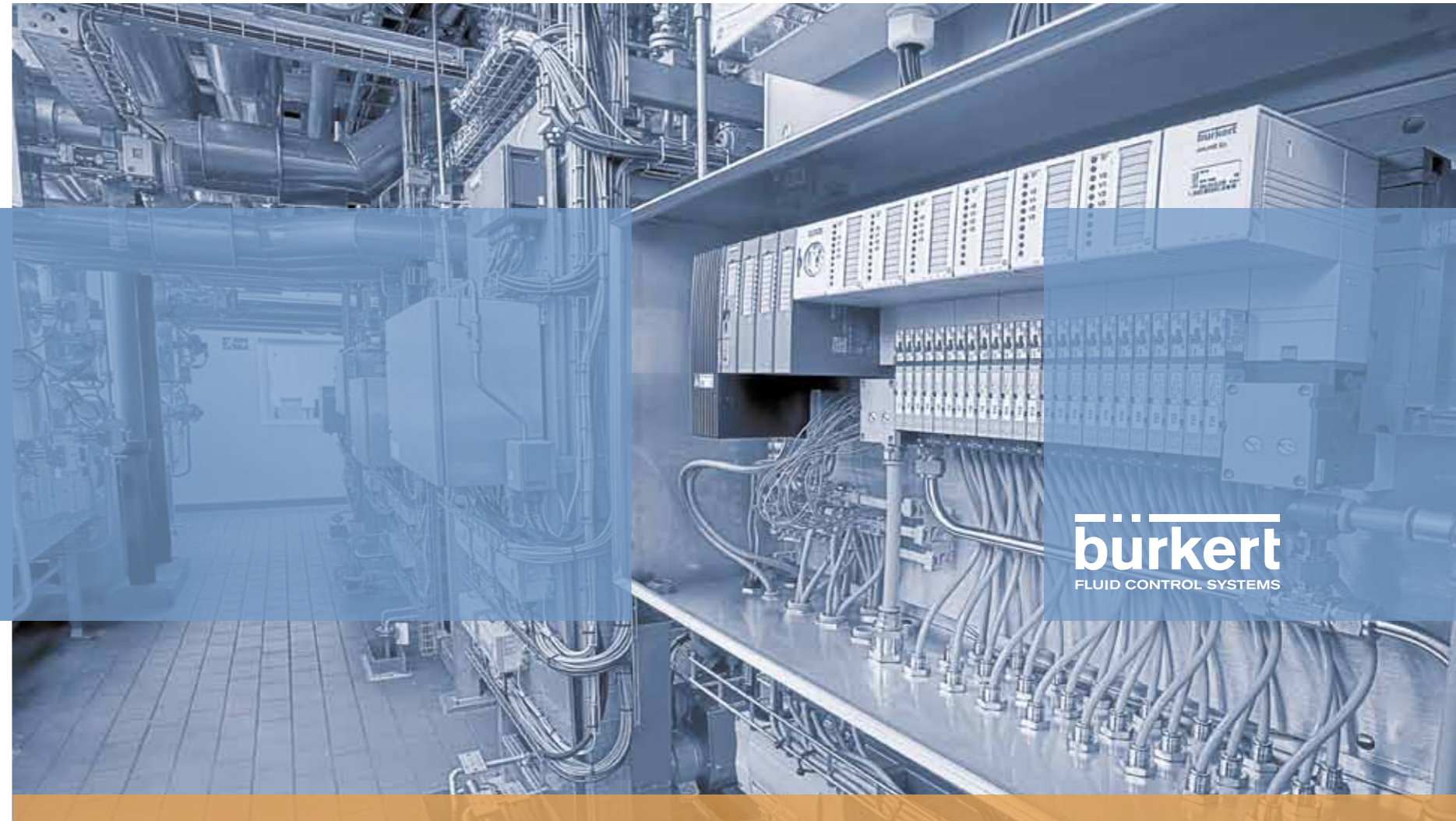


Control Cabinet Solutions

Bürkert Fluid Control Systems
Christian-Bürkert-Straße 13-17
74653 Ingelfingen
Germany
Phone +49 (0) 7940/10-0
Fax +49 (0) 7940/10-91 204
info@burkert.com
www.burkert.com



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We Make Ideas Flow

Control cabinets can contain many diverse components, depending on the application. Starting with 2 valves mounted in a small plastic control box, to control cabinets with combined pneumatic, electronic and valve technology, all the way to highly complex customized system panels with control functions in a stainless steel housing, Bürkert – as a competent system supplier – offers a broad spectrum of control cabinet solutions.

The focus is on system solutions for process automation with applications in the segments of Water, Gas and Hygienic. On the following pages you will find numerous references from the target segments food and beverage, pharmaceuticals, water treatment and chemicals. References are also provided for cooling systems, coating technology with gases and biodiesel applications.

And for the certification of your control cabinets you also have the right partner at your side. Our Systemhaus locations in Germany, the USA and China develop customized control cabinets for your complex production processes – in keeping with our motto: We Make Ideas Flow.

Standardized Solution for Cheese

Our deep experience in the Hygienic segment means we can combine our knowledge and abilities to create solutions that fit exactly with your requirements.

Today's manufacturing of foods, juices, energy drinks, beer, or cheese need robust control, communication, automation and super reliable actuation.

One example would be the almost standardized supply of control cabinets for cheese processes where our Systemhaus in Menden, Germany, created specifications for different control cabinet configurations for the customer.

Our cheese production customers always get the same system solution with the right, true and tested, components.

The heart of Bürkert's control cabinet solutions is the 8640 valve island which seamlessly combines the pneumatics and digital position feedback.



*AirLINE Type 8640
with Profibus DP*

*System solution:
Stainless steel control cabinet with
AirLINE Type 8640 controlling the
cheese making process*



Central process automation
for food and beverage:
Stainless steel control cabinet
with AirLINE Type 8640

Hygienic meets Design

In the FrieslandCampina butter factory, millions of packages of butter are produced every day. To be sure that their customers only receive the highest quality and safest butter, the highly automated production plant is maintained in under the most stringent hygienic conditions.

Bürkert is at the center of their Clean in Place (CIP) régime. Controlling acidic, alkaline and sanitising fluids in an exact and documented sequence. Being at the center means this intelligent solution needs to be protected from the aggressive cleaning agents it controls. Ingress protection and chemical resistance are as important as smart communications in this world.

Bürkert AirLINE Type 8640 Hygienic Design control cabinets are used for piloting of pneumatic process actuators in hygienic environments. This intelligent solution is resistant to aggressive cleaning agents, offers high IP protection and withstands mechanical influences.



*AirLINE Type 8640
with main fittings*

*AirLINE Type 8640 hygienic design
control cabinet is resistant to cleaners
and provides high IP protection*



Bürkert AirLINE & Rittal hygienic design control cabinet controls cleaning processes at FrieslandCampina

AirLINE Quick in the Pharmaceutical Industry

Process actuation is the heart of Bürkert's pharmaceutical expertise. With clients around the world at pharmaceutical plants, builders of fermentors, filtration skids and WFI production equipment we have exceeded market expectations for modularity, performance and ease of use. Our innovation continues into the hazardous location which is often present in pharmaceutical and cosmetic production plants with systems built for Zone 1 and 2 or Class 1 Div 1 FM as required.

The next generation AirLINE – AirLINE Quick significantly reduces the difficulty of cabinet production while still providing the ultimate in flexibility. The beautiful stainless steel version makes it a perfect choice for pharma.

A unique feature of the Type 8640 valve island and the Type 8644 automation system is the combination of the pneumatic connections, field bus interface and I/O modules directly on the floor or wall of the switch cabinet, which means that the switch cabinet can be smaller than in the past.

In addition to AirLINE Quick in a stainless steel version for hygienic applications, the concept is also available for general purpose applications with an anodized aluminium adapter plate and nickel-plated brass pneumatic connections.



AirLINE Quick – Type 8640
with Profibus DP



AirLINE Quick – Type 8644
with cooperation partner
Siemens ET 200S

*AirLINE Quick:
Reliable, compact and time-saving*



Higher flexibility in the control cabinet
with AirLINE Quick

Cabinets for Hazardous Locations

Bayer Schering Pharma AG often uses highly volatile, flammable substances in the manufacture of pharmaceutical products. Areas for such applications are defined by the European ATEX Directive as zones and contain explosion-protected equipment.

In choosing decentral control units Bayer Schering Pharma AG decided to use a system solution from Bürkert. ATEX-certified control cabinets combine electrical and pneumatic control functions in one unit and require only one certificate. This simplifies user documentation by eliminating the need for proof of inherent safety, compatibility considerations, wiring diagrams and temperature rise measurements, etc. The configuration of the individual stations and their modules and also the parameters of the individual channels are stored within the process control system PCS 7.

The control cabinets are connected to the control system by Profibus DP, which in the intrinsically safe version (RS485-IS) enables up to 31 devices per link and a maximum baud rate of 1.5 Mbaud.



AirLINE Ex - Type 8650



Complete decentral control unit from Bürkert at Bayer Schering Pharma AG

ATEX-certified control cabinet at Bayer Schering Pharma AG

The Fascinating World of Fluid Control Systems



EXPERIENCE

There are things you don't automatically have. You have to acquire them. From others. You have to constantly work for them. That makes them so valuable. One of these things is experience. We, for example, can offer you comprehensive services based on many years of experience in the handling of fluids and gases – from development, installation and inspection to after sales service. No matter whether you need a customized control cabinet solution or an innovative system for your entire measuring and control process: You always benefit from our experience.

COURAGE

Anyone who only attempts to optimize what already exists will reach their limits at some point – technologically, economically and personally. To overcome these limits, you need courage: Courage to be different and confidence in one's own ideas; courage to venture forward into the unknown and to develop unprecedented products. We have this courage. Since we combine and utilize our competences for you across all sectors, you benefit from our entire know-how in the implementation of control cabinet solutions.



CLOSENESS

Some things are absolutely taken for granted. You don't notice how important they are until they are missing. That applies especially to closeness. Without closeness, it is very difficult to establish relationships and mutual understanding. As a mid-sized company that has evolved over time, we know that. That is why we are always there for you, to help you develop the best possible solutions for your special control cabinet requirements. Our global presence at 35 locations makes it possible for us to promote technical innovation for our customers around the world.



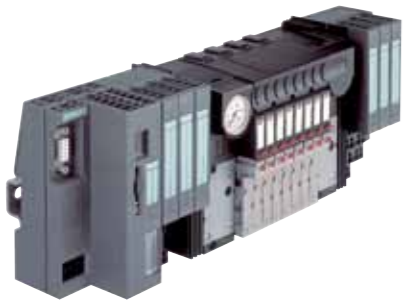
Future Market: Treatment of Drinking Water

Our Water segment offers customized control cabinet solutions. Whether for drinking water, industrial process water or even waste water treatment, Bürkert provides a solution that is fully in the interest of the plant operator.

In filtration systems for the treatment of drinking water, the piloting of pneumatically actuated positioning devices and the monitoring of the positions of these actuators is a typical task. The right solution here is a Type 8644 automation system with integrated digital input modules and a corresponding field bus interface.

The other electrical and pneumatic components and functional assemblies installed in the control cabinet are combined to create standardized specific solutions in coordination with the customer, such as those used by Veolia Water Solutions & Technologies.

The main advantages of these Bürkert solutions are the fulfilment of specific customer requirements, together with innovative ideas which not even our customers have thought of, therefore adding even more benefits.



AirLINE – Type 8644 with cooperation partner Siemens ET 200S



Member of
German Water Partnership



AirLINE automation system Type 8644 in water treatment



Process automation in the treatment of drinking water:
Stainless steel control cabinet with AirLINE Type 8644

Oxidation Air Unit in the Treatment of Drinking Water

For metering of air or oxygen or measuring and controlling masses, Bürkert offers a complete line of mass flow sensors, controllers and solenoid control valves.

Oxidation air units are used in water treatment to oxidise iron or manganese. These oxides are precipitated so they can be removed from the drinking water with conventional filters. A mass flow controller makes it possible to regulate the gas quantity based on various process parameters, to achieve optimal results with minimal gas consumption.

Other safety-related functions such as additional shut-off valves, non-return valves, manual operation and field displays are taken into account on a customer-by-customer basis and mounted in the control cabinet as a complete solution.

The main customer benefit here again is a flexible and uncomplicated project workflow, competent advice on-site, a high standard of quality for all equipment and services and the specific fulfilment of the customer requirement for everything to be "fit for purpose".



Mass flow controller – Type 8712



Solenoid valve – Type 6013



Innovative control cabinet solutions for complex processes in water treatment



System solution in waterworks: Oxidation air unit with additional safety functions integrated in the control cabinet

Control Chemistry

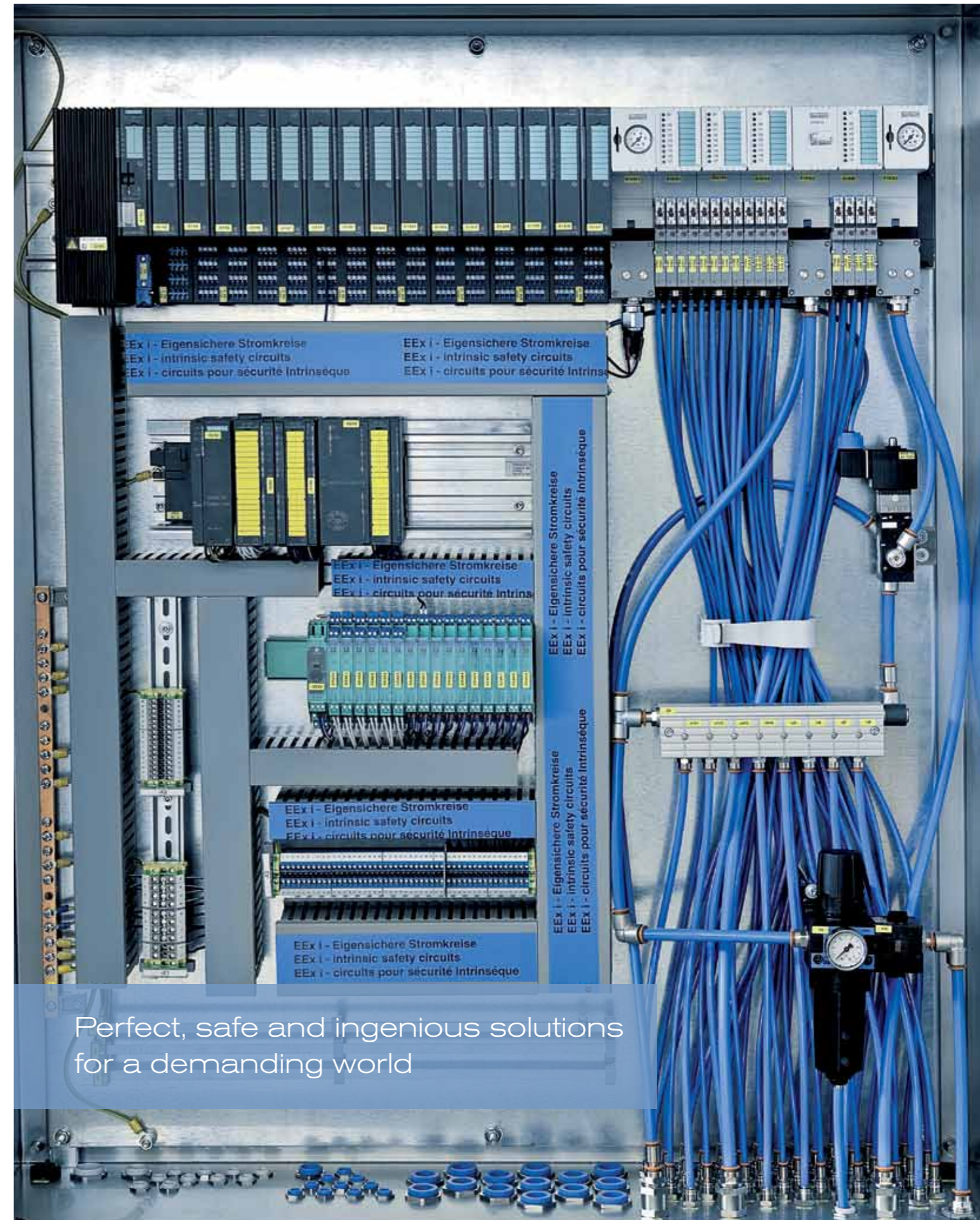
Bürkert components are used in the chemical industry for automation and control of complex production processes. Efficient solution concepts are developed in coordination with the customer and implemented in the Bürkert's own ATEX-certified control cabinet construction.

For example, Bürkert supplies a well-known customer in the chemical industry with control cabinets for the new production plant for membrane filters in Bitterfeld. In close cooperation with a planning company, a concept was developed that includes control cabinets of different versions and conversion stages for indoor and outdoor explosion protected areas. In addition to pneumatic signals for control of the actuators in the field, the control cabinets also process all intrinsically safe analog and binary signals from sensors and other field devices.

Bürkert Type 8650 AirLINE Ex valve islands are used here. The intrinsically safe pneumatic valves, completely integrated in the SIMATIC ET 200iSP system, enable unequalled flexibility in explosion-protected areas. The pneumatic and electric HotSwap system makes it possible to replace valves during operation. This is essential to increasing plant availability and minimizing production downtimes.



AirLINE Ex – Type 8650



Perfect, safe and ingenious solutions for a demanding world

Installation in Ex area, zone 2

Change under Pressure

Explosion protection is a given in many chemical plant but system availability is also key. Failure is not an option for many components and redundancy can be built into systems to reduce the risk.

In some plants even a few minutes can jeopardize productivity, operating cost and safety so customers require robust and reliable solutions that allow quick corrective action at the pain point.

Our HotSwap design means that the replacement of single components is possible without stopping the entire process.

Integrated process reliability makes it simple to replace a pilot valve during under pressure. During HotSwap only a small air stream can escape from the pneumatic base module, but the air pressure on the entire valve block does not fail.



Valve block Type 8640



Robust and reliable solution for the Goldschmidt company

Other References



Bürkert also offers control cabinet solutions for alternative fuels. Vegetable oil can be used in this application as an alternative to diesel fuel. The cold start of a vehicle always requires diesel and the switch to vegetable oil requires a minimum temperature for the alternative fuel. It is always important to prevent oil from entering the diesel tank.



In the food processing sector, many different gases are used to maintain the freshness and quality of products. In this sector we likewise implement the ideas of our customers to create functional and energy-efficient solutions. Program processes and interfaces are optimized for the end user to ensure process reliability.



The cooling of industrial processes, such as in the die-casting industry, require modular solutions that are adapted to the respective task with respect to valve, sensor and control technology. Important marginal conditions here are the temperatures and pressure of the medium, and above all, the water quality. Based on decades of experience and our broad product spectrum, Bürkert can always offer the optimal solution, integrated in completely pre-installed and inspected control cabinets, in time-tested Bürkert quality – all from one source!



Integrated mass flow controller in control cabinets protect coating technology against dust and moisture

We Make Your Ideas Flow

The Bürkert Systemhaus teams in Charlotte, USA, Suzhou, China, Dresden, Ingelfingen and Dortmund are constantly on the lookout for new, innovative control cabinet solutions for your complex production processes around the world. True to our principle "One face to the customer" you always have a personal adviser at your side – specially when special control cabinets are required. Your competent and reliable adviser listens exactly to your needs and presents our solutions and concepts to you in the technical language of your industry. This is how we make good ideas into outstanding solutions, across technological borders.

And for the certification of your control cabinets, Bürkert is also the right partner to have at your side.

Here you see several international certifications that we offer for our products and systems.



top: Systemhaus Ingelfingen, Germany
 bottom, from left: Systemhaus Charlotte | USA, Systemhaus Dortmund | Germany,
 Systemhaus Dresden | Germany, Systemhaus Suzhou | China



Process for Implementation of a Control Cabinet Project



01 Connect

As a globally flexible company we are the partner of choice for fluid control systems. Following our principle of "one face to the customer", you have a competent, reliable consultant by your side at all times, who listens to your needs and presents a solution in your daily application language ... crossing conventional boundaries and creating synergies between industries in pursuit of your ideal solution.



02 Conceive & Innovate

Your project team starts working for you: from your reliable sales consultant, qualified industry specialists to dedicated system engineers – Bürkert puts the necessary experts together and for the entire duration of the project they work together, combining their experience and clarifying all the requirements in close cooperation with you to come up with a feasible draft of your solution within the shortest time frame.



03 Plan & Specify

In phase 3 the project is planned in detail. A specification sheet and refined solution concept are developed. This defines exactly what you expect from the system and what it must provide to ensure that all components meet your requirements. At the end of this phase you are presented with a detailed product definition, a production specification and precise commercial conditions and agreements. Structured project management based on open communication, effective coordination and thorough documentation ensures fast and reliable results.



04 Do & Check

Good communication, coordination and documentation at all project phases make sure that we are on the right track, developing the right solution, to allow us to quickly move on to prototyping. Thanks to the latest technology, we are able to build a prototype made of metal or plastic or a functional model, to test flow for example, within 24 hours. We provide you with samples; we perform tests and, of course, obtain all the necessary local and global approvals to make sure the system can go to our production facilities.



05 Complete

Our work does not end with the perfect delivery of components and systems. We offer a comprehensive program to our global clients interlinking services ranging from maintenance and service contracts operator training and integrated logistics. Our customer service is available around the clock, offering support through Internet, telephone or our qualified, experienced people at your site. We aim to provide only the utmost in customer experience. Something you will tell your friends about.

Bürkert Inquiry Form for Pneumatics Control Cabinets

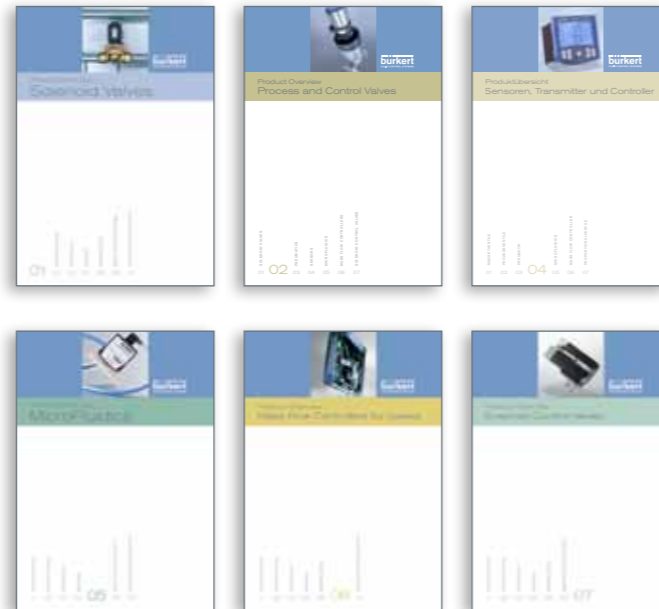
Customer and contact person	<input type="text"/>		
Industry	<input type="text"/>		
Name of application / project	<input type="text"/>		
1. Explosion-protected area			
Classification of area	<input type="checkbox"/> Zone 1/2 G	<input type="checkbox"/> Zone 2/3 G	<input type="checkbox"/> Zone 21//2 D <input type="checkbox"/> Zone 22/3 D
Ambient temperature range	<input type="text"/>		
Temperature class	<input type="checkbox"/> T1	<input type="checkbox"/> T2	<input type="checkbox"/> T3 <input type="checkbox"/> T4 <input type="checkbox"/> T5 <input type="checkbox"/> T6
2. Material and construction of control cabinet			
Material of control cabinet	<input type="checkbox"/> Plastic	<input type="checkbox"/> Stainl. steel (1.4301)	<input type="checkbox"/> Sheet steel
Other	<input type="checkbox"/> View. window	<input type="checkbox"/> HD design	
Additional fixtures	<input type="checkbox"/> Heating	<input type="checkbox"/> Ventilation	<input type="checkbox"/> Maintenance unit/Filter control
	<input type="checkbox"/> AC adapter	<input type="checkbox"/> Lights	
	<input type="text"/> Remarks		
3. Valve island / pneumatic and electrical system			
Valve functions and air capacity	<input type="checkbox"/> Quantity	<input type="checkbox"/> 300 l/min	<input type="checkbox"/> 700 l/min
Valve type	<input type="checkbox"/> 3/2-way	<input type="checkbox"/> 2x3/2-way	<input type="checkbox"/> 5/2-way
Number of electric signals	<input type="text"/> Digital inputs		<input type="text"/> Digital outputs
	<input type="text"/> Analog inputs		<input type="text"/> Analog outputs
Communication / connection	<input type="checkbox"/> Main fittings	<input type="checkbox"/> Multi-pole	<input type="checkbox"/> Profibus
Valve island type	<input type="checkbox"/> 8640	<input type="checkbox"/> 8644	<input type="checkbox"/> 8650
I/O system (8644)	<input type="checkbox"/> Siemens	<input type="checkbox"/> WAGO	<input type="checkbox"/> Phoenix <input type="checkbox"/> Rockwell
4. Pneumatic interface			
Valve working connections	<input type="checkbox"/> Multiple screwed cable glands		<input type="checkbox"/> Single bulkhead plug connector
	<input type="checkbox"/> AirLINE Quick (floor installation plate)		

Bürkert Product Program

We are one of only a few manufacturers on the market who provide the entire process chain for measuring, control and regulating technology. Our current product portfolio includes solenoid valves, process and analytical valves and pneumatic actuators and sensors.



The product overview includes other pneumatics and process interface products that can be installed in control cabinets.



Further information on solenoid valves, process and control valves, sensors, mass flow controllers, solenoid control valves and MicroFluidics can be found in the product overviews.



Bürkert – Close to You

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please visit us at
www.burkert.com.

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