



**bürkert**  
FLUID CONTROL SYSTEMS

Bürkert Pacific

# Snapshot



# Bürkert in the Pacific

Wherever fluids and gases are used, there is a need to measure, control and regulate. That's why our products and solutions can be found virtually anywhere: in dairy and brewery plants, water treatment systems and drinking water fountains, medical analysis equipment and dentists' chairs, space satellites and mineral processing systems.

At Bürkert we combine the best of both worlds, fusing the excellence of German manufactured fluid control technologies with the industry experience and ingenious creativity of our local engineers. Backed by the resources of the Global Bürkert Group, Bürkert has been in Australia and New Zealand for more than 30 years. Our regional HQ, Sydney, and NZ HQ in Auckland each operate a Systemhaus project centre of innovation. Bürkert Australia and New Zealand are mature organisations that bring the experience, closeness and courage that fluid control demands.

Enjoy our company overview brochure Snapshot. Snapshot offers an introduction to our major product technologies, engineering capabilities and services. If there is any more information we can offer, or you have a fluid control problem that we can solve, just let us know.

Bürkert: we make ideas flow.

## Custom manifolds



*Manifold for turbo molecular pumps to supply a precise gas volume to the pump (or flush pump housing).*

## Valves and design consultancy



*Solutions combine solenoid valves, sensors & mass flow controllers as in this gas mixing system.*

# Solenoid Valves

## Leadership for 65 years ..

.. and counting. For 65 years Bürkert has invested in developing the best solenoid valves. The most commonly used industrial control product, solenoid valves come in many designs, materials and configurations. With Bürkert, you have a partner that has smarter designs and a complete range of products as well as the experience deliver the best solution for your process.

Encompassing pharmaceutical-grade micro valves, general purpose valves and isolated valves for contaminated fluids, Bürkert delivers a more robust solenoid valve. Valves are available in a variety of materials including stainless steel, brass, Watermark dezinc brass, PVC and other thermoplastics.

For solenoid valve partnership, think Bürkert.

## Solenoid valves

- Micro valves
- General purpose valves
- Isolated valves for contaminated fluids
- Thermoplastic valves for aggressive fluids

## Materials

- Brass & dezinc brass
- Stainless steel
- Plastics PVC, PP, PPS, ETFE, PVDF, PTFE, PEEK

## Function

- 2/2 and 3/2 Way configuration
- Normally open, normally closed
- Micro size to 2½"
- Liquids and gases
- High temperature and pressure

## Additional

- Any valve ASi connection, via cable plug
- Cable plug timers
- Certifications & approvals



Type 6650



Type 0406



Type 5282



Type 6213, ASi



Type 0142

## Process Valves

Process valves have three essentials – valve, actuator and controller. Bürkert has developed a smart and hardworking range of essentials that combine to deliver a perfect application fit. Unlimited modularity across the range delivers absolute flexibility. For water, steam,

slurries, acids, hygienic food or beverage process lines and high-purity biopharma applications, Bürkert process valves offer limitless choice and a smarter solution.



### Classic 2000 Series

Bürkert's Classic 2000 Series has been trusted in local industry for more than 30 years. Correctly specified, the 2000 Series is guaranteed to exceed 5 million cycles even in arduous applications. These valves are suitable for on/off or modulating control with direct mount and remote positioners available.



### ELEMENT Series

Bürkert's ELEMENT is the next step in modern process control. Based on the tough Classic 2000 Series, ELEMENT angle-seat, globe and diaphragm valves deliver long, trouble-free service life. Shown (left) with controllers, modular ELEMENT on/off and modulating valves tread a new path in process control.



### Quarter Turn Range

Bürkert has packaged Quarter Turn valves for modular simplicity. Ball and butterfly valves are available in stainless steel (including electropolished for hygienic processing) as well as engineered thermoplastics. All valves are automation ready.



### ELEMANT Control Tops

ELEMANT controllers offer on/off control with pilot and feedbacks, through to modulating positioners and process controllers with on-board PID. Packed with smart features, ELEMANT controllers are suitable for ELEMANT and Classic 2000 Series valves.



### Digital Positioners

Bürkert digital positioners offer the features of modulating ELEMANT Control Tops, in a slightly different form. Controlling up to 150L/min, these remote digital positioners for Bürkert's linear valves also mount directly with Quarter Turn valves.



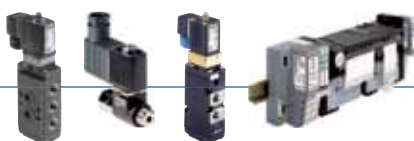
### Quarter Turn Pneumatic Actuators

Pneumatic actuators for ball and butterfly valves are uniformly robust for difficult environments. Primarily of rack and pinion design, Bürkert's pneumatic quarter turn actuators have PVC and full stainless steel options for demanding conditions.



### Quarter Turn Electric Actuators

On/off and modulating control function electric actuators include versions for hazardous locations and mount directly with any Bürkert quarter turn valve.



### Pilots for Process Valves

Bürkert has unique on/off solutions for piloting with direct mount versions with built-in fittings, Namur flange, hazardous approved and process control manifolds.

# Process Valves – Innovative Valve Automation

Building on 65+ years global experience, Bürkert has developed the Innovative Valve Automation solution for modern processing environments.

Rather than retrofitting electronics, Bürkert engineered valves with electronics in seamless coordination. The result of that vision, ELEMENT is a complete system approach to solving process problems. It encompasses valves, sensors and controllers in a simple architecture that can be relied on to monitor and control inert fluids, steam, corrosive solvents, chemicals or abrasive fluids in a wide variety of application environments.

## Build your solution

Each process has its own unique needs and Bürkert's modular concept supports you in identifying the valve, actuation and control type for an idealised solution. Based on this process, Bürkert engineers support the identification of best valve type, actuation plus control solution from single pilot valve to full process control capable of managing its own control loop.

## Networking at every level

Innovative Valve Automation, or iValve, differentiates three levels of networking; the 'process control

system' top level, 'field level' with cluster electro-pneumatic valve banks controlling 'device level' valves and instrumentation. Using appropriate network technologies such as Profibus DP or DeviceNet at the top level and ASi at the field level, hardwiring and tubing are drastically reduced. One simple cable (in series) carries data and power to valves, with a single tube to carry air for pneumatic actuation. Smart interfaces and on-board process controllers further support process responsiveness with local control loops at the device level.

## Improve functionality with less

Consider that the industry average for terminations per I/O is approximately 12, with potentially thousands at each site. Bürkert's iValve solution commonly reduces the number of terminations by around 80%. Project complexity, commissioning cost and upfront hardware costs are thus drastically reduced on terminations alone. Tubes, fittings, multicore cables and all the other traditional accessories also radically reduce to deliver a lean and simplified solution at a significantly lower overall cost. Modern automation technologies further deliver more sophisticated functionality and options for control for a leaner and more efficient process.

## Single valve systems

1. Valve style



2. Operate

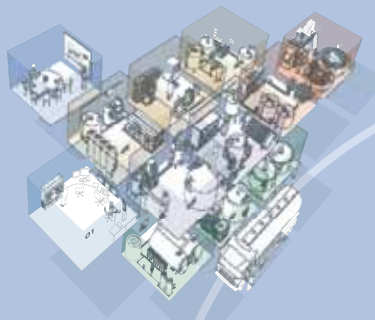


3. Control & communicate

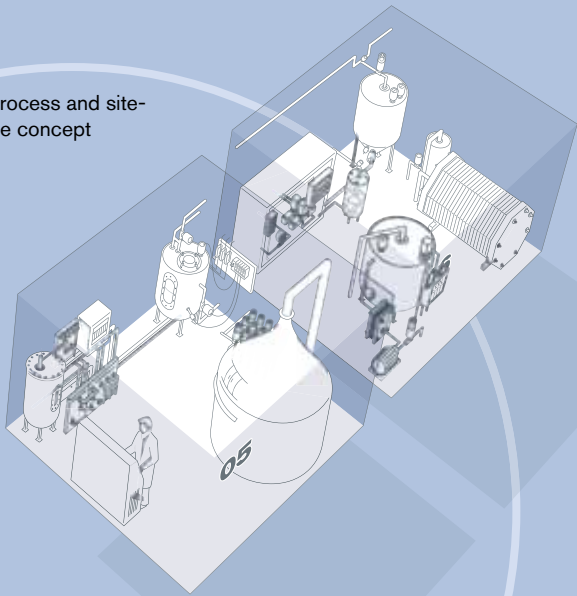


Using the Bürkert building blocks to create the valve ideal for your process

Expanded functionality.  
Decreased upfront & ongoing cost.

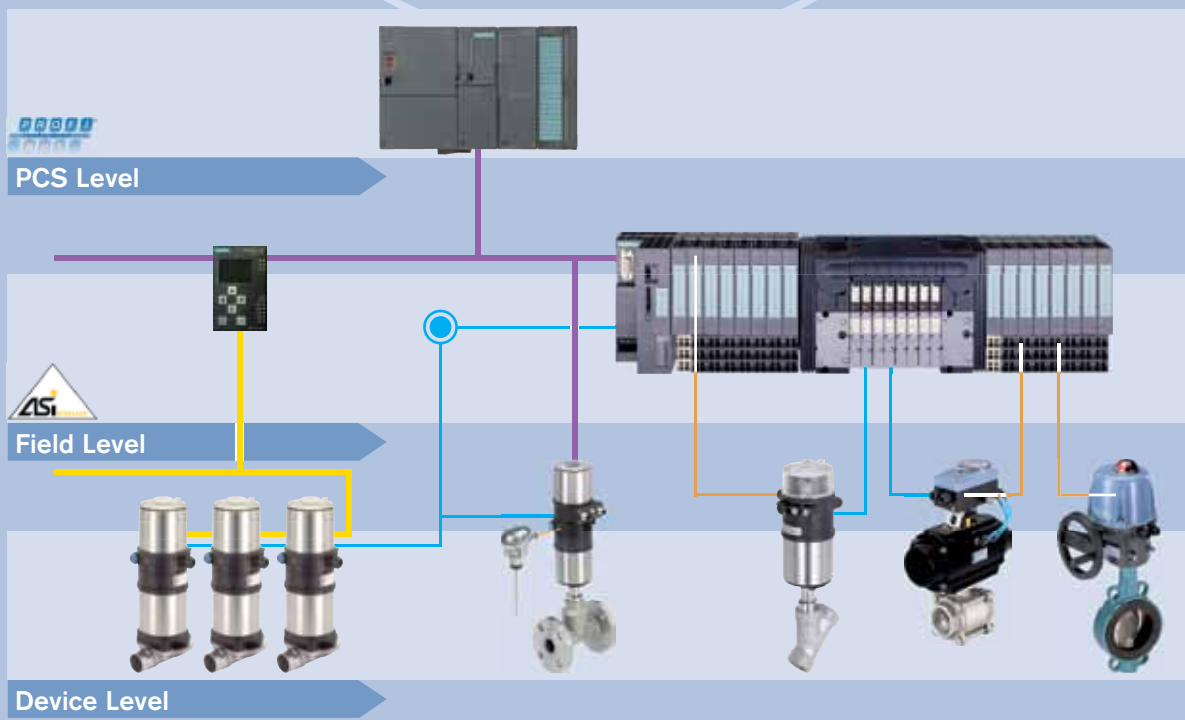


A process and site-wide concept



Using Bürkert building blocks  
for one process, one network,  
one integrated solution

Demonstrating a multi-tier  
distributed approach to control



## Process Valves – for Hygienic Processing

Bürkert has a network of hygienic processing specialists throughout Australia and New Zealand, with a specialist range of hygienic valve solutions. The hygienic valve package includes electro polished ELEMENT and quarter turn valves, as well as the specialist biotechnology and pharmaceutical technologies of our BBS and Robolux products.

Hygienic process industry, including dairies, biotechnology and pharmaceutical, benefit particularly from Bürkert's unique expertise in fusing quality valves with innovative valve automation. Hygienic processing plants require compact solutions, smart communications, minimised dead leg and reporting capability – as well as higher yields – and Bürkert's unlimited modularity delivers.

### Total plant solution

All Bürkert valves, instruments and controllers are engineered to work together and speak the same language. Bürkert delivers a complete instrument and valve solution for primary and ancillary processes, with one straightforward control system.



### ELEMENT & Quarter Turn for Hygienic Systems

ELEMENT diaphragm valves are FDA approved in both cast and forged types, with electro-polishing to < 0.8 µm versions available. Quarter turn valves from small to large sizes combine with ELEMENT controllers and integrate with the complete Bürkert package.



### BBS & Robolux technologies

Bürkert's BBS and Robolux technologies are specialist pharmaceutical and biotechnology hygienic process solutions. Manual and actuated ball valves and diaphragm valves and complemented by sight glasses, sampling systems fittings and accessories.

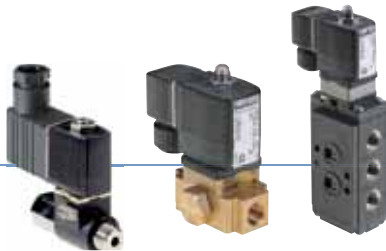


# Pneumatic Actuation and Control

Bürkert has perfected pneumatics across an extremely wide set of industries. Dairy and hygienic processes, with aggressive washdown areas. Mineral processing, with damaging dust ingress. Hazardous chemical and petrochemical environments. Demanding water treatment plant conditions. Bürkert has solutions for

pneumatic actuation within each of these challenging environments.

We use our technologies, discussed below, in innovative systems to deliver the results where you need them.



## Types 6012, 6014 banjo & 6519 Pilot Valves

Direct mount pilot valves for process valves (or any pneumatic device). To avoid leaks, Bürkert has specialised pilot valves for direct mount, with integrated push-in fittings, banjo bolts and Namur interfaces for quarter turn valves. Hazardous approvals and a variety of materials complete the solution.



## Type 8640 Valve Bank

Actuate up to 24 pneumatic valves using any combination of 3/2, 5/2, 2 x 3/2, 5/2 bistable and 5/3 way pilot valves on a single manifold. Smart features include built-in check valves, the ability to have different function or capacity pilot valves on a single manifold and hot-swap to allow maintenance while the line is in service. Valve banks are typically one day delivery.



## Type 8640 Valve Bank with Fieldbus

Type 8640 valve banks offer integrated fieldbus interfaces including Profibus DP, DeviceNet, ASi and more. All Bürkert valve banks have IP54 ingress protection and where recommended we place your valve bank inside a cabinet for additional protection.



#### Type 8644 AirLINE Siemens ET 200S

AirLINE Type 8644 uses digital and analogue inputs plus digital and analogue outputs for the control of complete decentralised control systems. Bürkert has partnered with market-leading organisations to deliver the IO and network types you want. AirLINE Siemens with ET 200S offers Profibus DP and PROFINET interfaces.



#### Type 8644 AirLINE – Rockwell Point IO

Bürkert is an Encompass Partner of Rockwell Automation. Rockwell's Allen-Bradley IO integrates directly with Bürkert's AirLINE using ControlNet, DeviceNet, Ethernet or Profibus DP.



#### Type 8644 AirLINE – WAGO 750

AirLINE Wago operates with Profibus DP, PROFINET, Interbus, Ethernet/IP, DeviceNet, CANopen, Modbus or CC-Link. Bürkert's expertise lies in the supervision and control of complete loops including flow, pressure, temperature and level – all of which is possible from one Type 8644 AirLINE.



#### Type 8650 – AirLINE Ex

AirLINE Ex with IEC Ex approval integrates the Siemens ET 200is and can operate inside Zone 1/21 areas. It communicates via Profibus DP-is and has been used in biopharm, offshore oil, chemical and other processes.



#### Type 8643 IO Box

The Power IO Box Type 8643 offers a cost effective connection of binary signals to a central control system. It incorporates 4 digital outputs plus 8 Namur digital inputs (all intrinsically safe). Type 8643 IO Box uses Foundation Fieldbus and Profibus PA networks.

## Flow Control for Liquids & Gas

Flow monitoring and control is the basis of Bürkert's sensor range. Measurement using paddle wheel, magflow, oval gear, ultrasonic and differential pressure technologies are used for liquid flow control. Linking sensors and transmitters with mechanical flow

components, Bürkert continues its tradition of modularity and allowing you to select your ideal solution.

Bürkert further offers high tech mass flow control technology for gases.



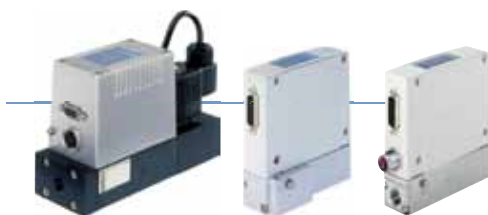
### Transmitters and Sensors

Bürkert manufactures sensors and transmitters from raw pulse to multi-function or batching system controller. Selected by application fit, the mechanical fluidic module is combined with the electronics that you need for a compact solution.



### Remote and panel instrument controllers

Bürkert uses one set of remote controllers with all sensors and instruments. The Type 8620 mxCONTROL and Type 8619 MultiCELL at left operate all Bürkert sensor types and operate up to 23 or 8 inputs respectively. With on-board mathematical processing and data logging, Bürkert's multi-channel controllers are ideal for distributed control networks.



### Mass flow control for gases

Gases change volume so measuring, controlling and regulating them requires specialised equipment. Bürkert has mass flow meters and controllers covering neutral and volatile gases, from micro volumes to 1500 litres per minute. In line with Bürkert's standard, mass flow controllers integrate direct fieldbus interfaces.

## Flow across industry

Fluids vary – neutral to aggressive or explosive, waste streams to pure processes, liquid to gas to name a few. Bürkert has flow technologies and engineering support for the wide array of fluids we face each day across industry sectors. Focusing on core applications in water treatment, hygienic processing, cooling systems and gas handling Bürkert has solutions to all Australian and New Zealand application needs.



## Flow technology: One part of the equation

Bürkert's strength in process control systems stems from a more complete range of fluid control products. Solenoid valves, process valves, sensors and controllers are developed as cross-platform performers and deliver robust control loops and integrated systems.



## Gas blending and traceability

One area of specialisation is mass flow control for gases. These mass flow controllers, pictured right, provide defined atmospheres and mix precise gas volumes to guarantee reproducible processes. The gases blended in the system shown include air, propane, ammonia, steam and nitrogen, with all units feeding back to the control system to verify production.



# Level, Temperature and Pressure Sensors

Level, temperature and pressure measurement are integral aspects of process control, and may be used in a wide variety of different applications and industries with many different requirements. Bürkert offers a comprehensive selection of technologies to cater to the multiplicity of conditions in local industry.

Each sensor type is either a point switch or delivers continuous monitoring/control. Point switches are used to indicate a particular point has reached and transmitters are used to give continuous feedback as to conditions being monitored.

Continuing the modularity of Bürkert's range, smart network interfaces are available and all sensors are suitable for combination in local control loops or a wider site network. For example, an ELEMENT control valve with integral positioner and process controller offers direct RTD input. With level, pressure and temperature sensors that link directly with the wider array of fluid control technology, Bürkert delivers more streamlined solutions.



## Level switches for point monitoring

Point level sensors are used to indicate the level has reached a single discrete liquid height, which is user-set in line with your process needs. These sensors have simple feedbacks and can be used, for example, to automate on-off valves to fill liquid into a tank from a low to a high filling point in a tank. Bürkert point level switches are available with various certifications and come in versions:

- Tuning fork
- Float switch



## Continuous control

Sophisticated continuous level sensors provide complete level system monitoring, measuring fluid level at all points in a set range. They have analogue outputs to correlate with tank level and volume. The analogue signal can link to a visual display or directly into a process control loop. Types include:

- Ultrasonic
- Radar
- Guided microwave
- Hydrostatic

## Temperature control

Heat exchange relies on accurate temperature monitoring, switching and control. We have integrated thousands of temperature control solutions in processes and on skids and understand the intricacies of achieving optimum results. With a stainless steel design and based on the proven Pt100 technology, our temperature sensors deliver long term durability and reliability. When integrated with control valves and PID process controllers Bürkert temperature sensors deliver accurate, fast response temperature control loops.



## Pressure measurement

Bürkert covers industrial applications with a complete range of pressure switches and transmitters designed for ruggedness, durability and accuracy. Our pressure sensors output 4-20mA or voltage signal and are easily installed, commissioned and calibrated. Design and material options enable use in virtually all purities, viscosities and temperatures of fluids including ultrapure water, effluent, syrups or helium in standard, aggressive, hygienic or explosive environments. When integrated with our control valves and PID controllers Bürkert pressure sensors can control loops from the pressures associated with tank level measurement.



## Hazardous, hygienic, both?

Sensor measurement is an integral part of process control and is used in all industries, for processes with many different requirements. For level, temperature and pressure switches and transmitters Bürkert offers solutions for virtually all industry applications imaginable. To support this level of commitment Bürkert offers special builds, materials, approvals and certifications for challenging conditions. Hygienic processing, hazardous environments, custom design and going the extra mile is all part of our commitment to you.



## Analytical Sensors

Water quality is often determined by these important transmitters and in applications like reverse osmosis, boiler water conditioning, cooling towers or swimming pools it is essential.

Analytical expertise combined with our valve history in engineered plastics has converged for simple, accurate control for solutions in tanks or inline.

Each sensor fits perfectly inside our analytical range, exhibiting common interfaces and communication structures which are characterised by similar menus,

displays, voltages, and calibration functions.

Factory calibration certificates are always available and materials such as enamel, PVDF, FKM, EPDM and stainless steel are used to ensure long life and chemical compatibility while a wide assortment of electrodes allows deployment into virtually all types of fluids.

Specialised sensors for core applications complement our general purpose analytical sensors.



### Hygienic processing specialisation

The pH control solution for hygienic processing, including dairy through to pharmaceutical systems, combined the Bürkert Type 8201 electrode and Type 8285 transmitter. The electrode is glass free and has an extremely robust unbreakable construction, so can remain inline for CIP and cleaning. The electrode integrates an electrolyte solution for extremely long calibration intervals. This was tested during a Whey process test run by Müller Milch (Europe's largest dairy). Bürkert's pH system required calibration once, during commissioning, and operated the following 10 months with perfect accuracy.



### Water chemistry focus

Conductivity tells us the amount of dissolved solids there is in a solution and is one of the most important and common analytical measurements in the process environment. Applications range from determining the quality of canned food to measuring metal ions in a plating process – however for Bürkert, a core area is water treatment. Because of the different levels of water treatment, Bürkert offers a variety of materials and principles to meet your needs. Bürkert also offers specialised controllers for water treatment (as seen, left) which operate with all Bürkert analytical (or other) instruments.

# Service and Support

## Technical support

It's important to know that you can get the help you need, when you need it. Bürkert offers two primary levels of support. Front line technical sales assistance is available from our national service centres. A toll-free phone number will put you directly in contact with dedicated and highly trained team members ready to help. For more involved or demanding processes and projects, our field sales team members can visit you to discuss the possibilities we see for a better solution. These teams are supported by top level technical support, our industry specialist networks – and backed by the global Bürkert Group.



## Post sale assistance

As part of Bürkert's total solution package following on from the pre-sale technical support, we keep working with you through the post-sale period. Complete documentation including manuals and detailed specifications are the start of Bürkert's offering, with commissioning and staff training available.

With more than 30 years in the Pacific region, and 65 years Global effort, Bürkert is focussed on building partnerships with ingenious solutions and reliable service.



## Service and spares

Bürkert products come with a full range of spare parts available as we partner with you through the years ahead – even for products that have been superseded through our ongoing optimisation programmes. Service personnel are available in each state to assist you with maintenance to derive optimal process throughput. German engineering and local understanding delivers a quality fusion of technologies, service and ongoing support.



## System Solutions – Putting the pieces together

As the only single company that combines a complete range of technologies from a single source, Bürkert offers a unique perspective in the process control industry. At the centre of process control, we use our products in the development of custom projects, skid systems and OEM partnerships. Since not all needs are standard, we are at your side as an experienced and trusted consultant.

In addition to our product factories, the Sydney and Auckland innovation centres link to a global Systemhaus network to support customised needs. Bürkert's

Systemhaus team members are flexible, open minded and empowered people who listen and communicate to design successful application environments in the Hygienic Processing, Gas Handling, Water Treatment and MicroFluidics sectors.

Our team is strengthened by the creation of an environment where real innovation can happen every day. For a world class system experience, insist on Bürkert people to be part of your next project.



### Design

We integrate our own components, which we know intimately, into specific systems, within budget and according to expectations. Using our technologies plus local application experience we think outside the square to plan ingenious process control, skid and OEM solutions.



### Drawing & engineering

Qualified engineers take functional specifications and draw complete CAD or SolidWorks process solutions. At this step precise instrumentation, process control features are planned in detail. Detailed electrical, mechanical and process drawings result. This reflects precisely what you expect from the system and what it must provide to ensure that all aspects meet your requirements.

Structured project management based on open communication, effective coordination and thorough documentation ensures fast and reliable results.

## Control system

Bürkert's control panel development systems are second to none, with thorough QA under our ISO 9001 certification. Using Bürkert technologies incorporating partnerships with Siemens, Rockwell Automation (Allen-Bradley), Wago and others your control panels will be built in accordance with electrical drawings, with each component tested prior to build.



## Programming

In-house programmers bring the control system to life, linking to field instrumentation and existing site infrastructure. Programming to the functional design of the project, our team will develop easy to use interfaces and visual displays that show precisely what is happening in your plant and let you make changes to your system.



## Commissioning

The final stage of going live, Bürkert technologies take the 'miss' out of commissioning. Quality assured programming, plus tested control systems and field instrumentation remove build-flaws from the equation, so we can focus on integrating your new system to site.



## System Solutions – in the real-world

Over our thirty+ years in the Pacific we have learned much about local industry and engineering. We combine that knowledge with world-class technologies to innovate better solutions. Across our segments – Water Treatment, Hygienic Processing, Gas Handling and MicroFluidics – we have identified the most common or interesting application types we work with to discuss.

For a more detailed conversation about what we do and a list of reference sites, please contact us.

### Hygienic Processing

Partnering with food and beverage plants, wineries, dairy processing plants and pharmaceutical or biotechnology centres, we have long experience with hygienic systems. As with all segments, Bürkert has developed many control systems for hygienic processes including complete instrument packages for main and ancillary lines. Processes include temperature control, CIP, analysis systems, filling systems, flow control and more.

### Water Treatment

Water treatment has never been more important. Industrial water treatment requirements have grown, civil water must keep pace with a growing population and households are more savvy with their resources. Bürkert has significant experience with industrial

water treatment systems, drinking water processes, desalination, harvesting, waste systems, reverse osmosis systems, industrial recycling – we're involved in all areas of water and waste.

### Gas Handling

Gas handling has special challenges due to the compressibility of gases. Bürkert mass flow meters and controllers are available for all types, temperatures and pressures of gas, to deliver precise and repeatable flows. Bürkert has developed gas handling systems for micro gas metering into beverage applications, medical analysis equipment, plasma metal cutting and even pH correction for potable water.

### MicroFluidics

A specialist area of business, MicroFluidics are used for dosing in virtually all industries, from medical to mining and manufacturing to water. Analysis machines are another key area for MicroFluidics, also used across industries. The release of Bürkert's patented TwinPower technology is revolutionising MicroFluidics. TwinPower valves are 50% smaller than any other available MicroFluidic valve, use 75% less power and have the switching performance of a unit twice the size.

Bürkert. We make ideas flow.

## The next step

After getting a 'Snapshot' of Bürkert, what is the next step? For more information please visit our website. If you have product or system needs, please call our service centre. For more involved applications, ask us about your local Area Sales Manager who will visit to discuss solutions. Bürkert. We make ideas flow.

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