



Future-proof production processes for cosmetics and personal care

We make ideas flow.

bürkert
FLUID CONTROL SYSTEMS

PROCESS AUTOMATION

Water Treatment

Why Bürkert is your partner

- High productivity with minimal use of resources
 - we perfect your processes
- For over 30 years we have been successfully optimising customer applications
- Over 3300 satisfied OEMs, end customers and plant manufacturers in the Pharma and Biotech sector



CIP

Mixing

Filling

Data and information on all levels

Our open communication solutions support all common communication protocols. We can therefore guarantee simple, consistent communication including via Cloud. Our experts will advise you about the automation of valve islands and control heads without bias toward any manufacturer.



EtherCAT[®]
EtherNet/IP

PROFI[®]
NET

PROFI[®]
BUS

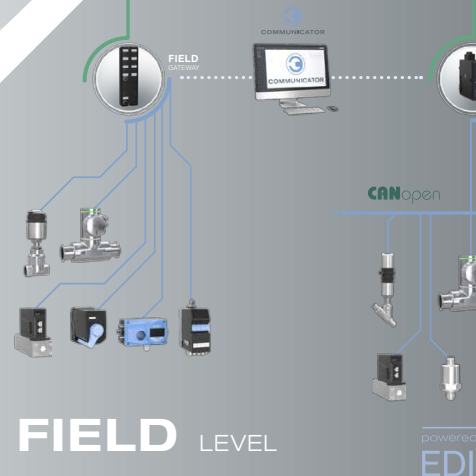
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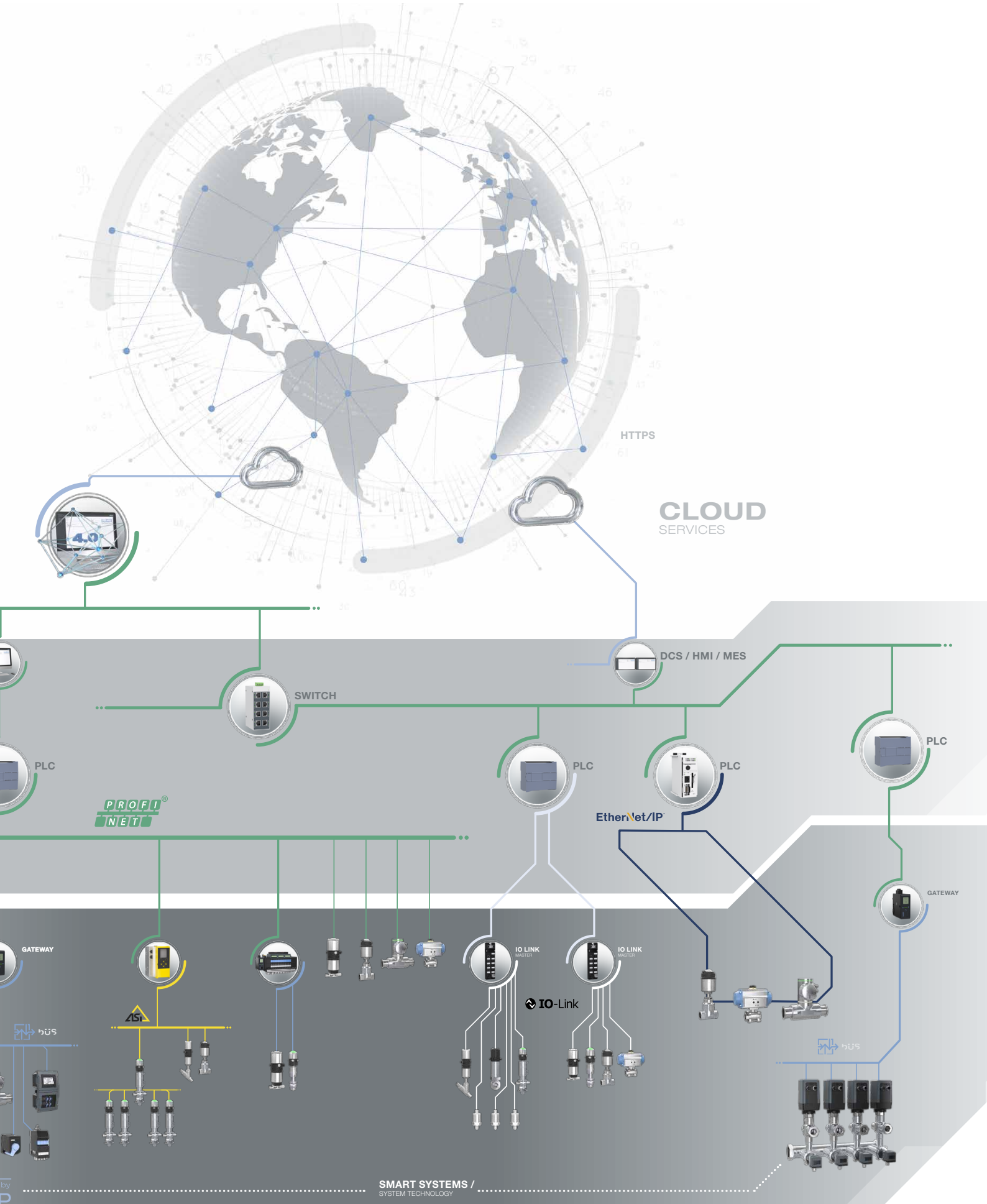
DIGITAL
SERVICES

CONTROL LEVEL

FIELD LEVEL



powered
EDI



CLOUD SERVICES

SWITCH

DCS / HMI / MES

PLC

PROFINET

PLC

EtherNet/IP

PLC

PLC

GATEWAY

GATEWAY

hüS

AS

IO LINK MASTER

IO LINK MASTER

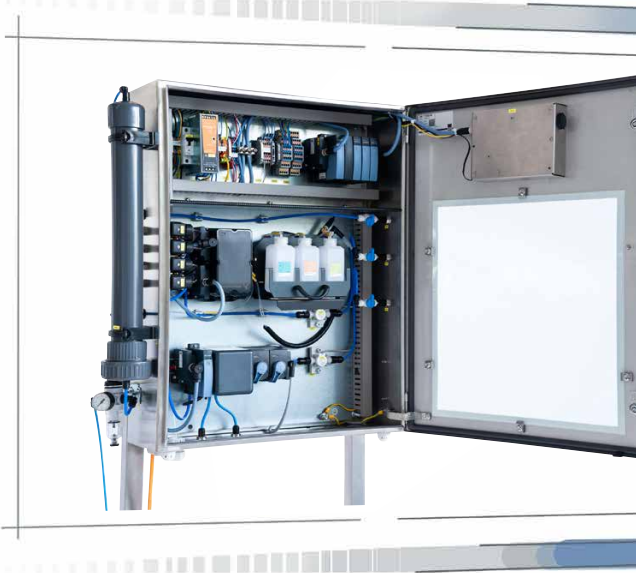
IO-Link

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From idea to series

If you want sustainable solutions for your individual requirements, Bürkert is your partner. Our experienced teams combine the necessary know-how from applications, development and series production.

We will support you throughout the entire value-added chain – from the first idea to start-up and closed-loop control mode. We can therefore guarantee maximum savings and process reliability. We can support a quick time-to-market with our high vertical range of manufacture.



Idea & concept

- Demonstrably creative, quick, reliable and economical
- With guide price offer and project plan

System development

- Series design
- Pilot series and tool production

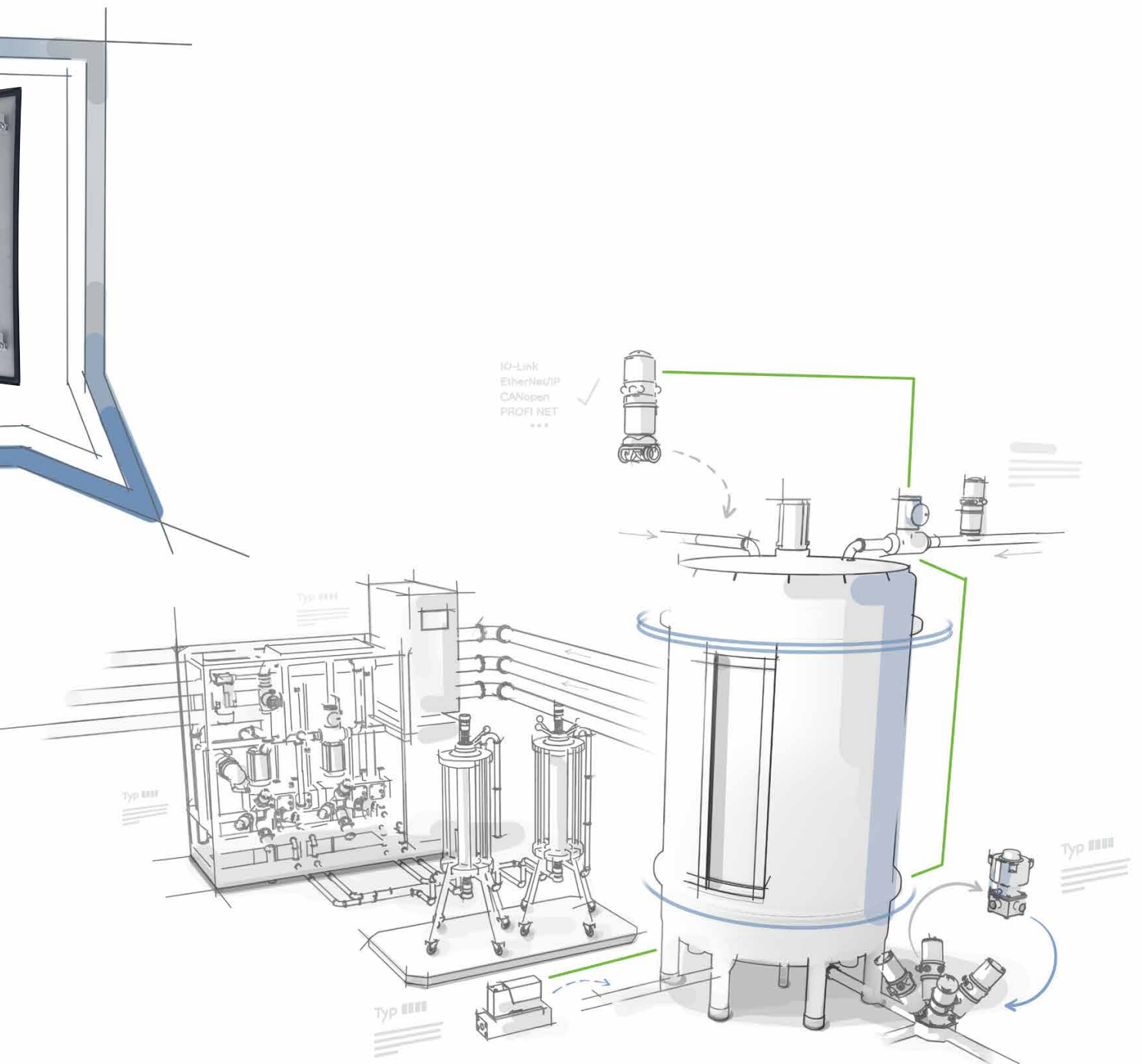
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2

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Prototyping & simulation

- Prototype and design
- Specifications
- Series offer



System implementation

- Implementation of logistics
- Production handover

4

System & process qualification

- Zero series
- Preparation for series production

5

6

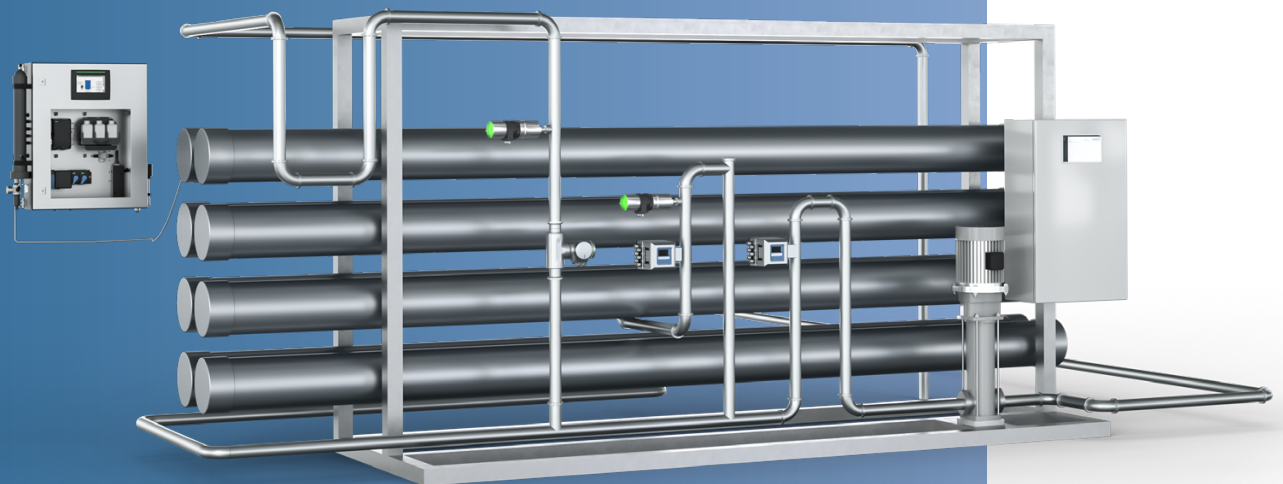
Controlled operation

- Customer training
- Installation and start-up

Controlled water treatment

Bürkert expertise

Digitalisation & process automation /
control technology / flow measurement and control /
inlet water monitoring system



When manufacturing cosmetics and personal care products, the chemical and biological water quality must be checked for compliance with legal requirements. With our monitoring and control systems, you will have around the clock control of water quality and availability. Process failure and defective batches are a thing of the past. Such precise control prevents overdoses and saves water.



FLOWave Type 8098

- Efficient flow measurement, regardless of medium conductivity and flow direction
- Reliably meets the highest hygiene requirements
- Low weight and low energy consumption

CLEAN FLOW MEASUREMENT

FLOWave ensures efficient system operation and guarantees the quality of your cosmetics and personal care products: the flow meter measures the volume flow without any sensor elements in the measurement tube – even for non-conductive media. The smooth surface ensures germ-free cleaning. FLOWave therefore meets the highest level of hygiene requirements. Thanks to its low weight the flowmeter can be easily and quickly installed by one person. Its small dimensions create free space in your system structure.

CONSISTENTLY HIGH WATER QUALITY

Our compact Type 8905 online analysis system allows you to monitor all key water parameters continuously and accurately, without excessive maintenance. You can always view all measurement data, thanks to the easily readable display and digital interfaces. Parameters are constantly documented in accordance with GMP/ISO 22716. The system significantly reduces water consumption used for analysis compared to conventional solutions. Other water parameters can be analysed at any time by adding additional sensor cubes. Thanks to the Hot Swap function, you can also remove the modular cubes for cleaning and replace them while the system is in operation.



Online analysis system Type 8905

- Lower costs, thanks to low sample water consumption and reduced maintenance costs
- Easy on-site operation and remote monitoring
- Effortless extension of additional process parameters

Residue-free CIP cleaning

Bürkert expertise

Digitalisation & process automation /
control technology / flow measurement and control /
conductivity measurement



Cosmetics and personal care manufacturers usually process several products in a single plant. The components in our cleaning-in-place (CIP) solutions provide the perfect proportion of cleaning media in the batch process and ensure a high level of process safety and efficiency. Our systems quickly recognise media changeovers. This saves water and cleaning agents, reduces waste and prevents contamination of the end products with cleaning solutions. Less product in the waste water also saves on water treatment costs.

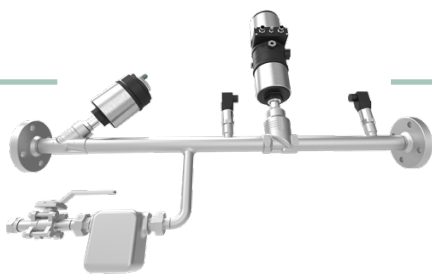
CONTINUOUS CONDUCTIVITY MEASUREMENT

A reliable conductivity measurement sheds light on the products for cleaning and cleaning product concentrations in rinsing water after each cleaning step. Our robust sensors withstand both the frequent and high temperature changes and aggressive cleaning solutions. Thanks to the smart control algorithms and connection options for the multiCELL controller, you can continuously keep your cleaning processes under control, with minimum expenses.



Conductivity sensor Type 8221 + multiCELL controller Type 8619

- Flexible adjustment to suit individual requirements thanks to modular structure
- Safe process control thanks to highly developed algorithms and easy integration into industrial Ethernet environments
- Hygienic and robust sensors with wide conductivity range and outstanding linearity



Digital temperature sensor Type 8412 + electro-pneumatic process controller Type 8693 with seat valve Type 2301

- Avoid unnecessary energy costs
- Simple start-up of the compact, lightweight system design
- Reliable monitoring thanks to the digital fieldbus connection with integrated diagnosis function.

SAFE TEMPERATURE CONTROL

Precisely temperature-controlled cleaning media is needed to clean systems reliably. Our modular temperature control solution continuously ensures an optimal temperature for CIP media and protects you from unnecessary energy costs. The weld end connection minimises the risk of leakage and provides protection against contamination from corrosion. Start-up can be performed effortlessly with the tune function of the position and process controller. The fieldbus connection allows you to constantly have an eye on operating conditions.

FLOW MEASUREMENT AND RECOGNITION OF MEDIA CHANGEOVERS

Conventional systems use time control for the media changeovers. Due to tolerance the valve opens too early - significant quantities of your product go down the drain. Our compact FLOWave flow meter recognises the media changeover by means of the measured differentiation factor and the valve closes at the right moment. This increases your product yield which, together with the reduced water and chemical consumption, maximises your profits. Aside from homogenous, low or non-conductive liquids, viscous media can also be measured. The digital interface enables intuitive operation via the Bürkert communicator or the display. We also offer a variant with ATEX approval.



FLOWave Type 8098

- Safe recognition of media changeover and contamination
- Without any parts in the measurement tube, therefore no leakage, no maintenance and simple cleaning
- Effortless installation, low weight and low energy consumption

Consistent mixture

Bürkert expertise

Digitalisation & process automation /
control technology / flow measurement
and control / level control



Emulsions require constant quality. A stable production process is required in order to manufacture consistent recipes. Additives should be added, depending on the recipe, just as precisely as the various ingredients are mixed and dispersed. Hygiene requirements are of utmost priority in this process.

These requirements are met by a sterile valve and measuring system variant with minimum dead space, which increases efficiency.

RESOURCE-EFFICIENT FLOW MEASUREMENT

When manufacturing formulas, the ingredients must be dosed in consistent quantities, safely and efficiently. With the help of FLOWave and a dosing valve the exact specified quantity is added. Our sensor measures the flow rate and temperature as well as the differentiation factor and recognises a media changeover significantly faster than conventional solutions. This makes it possible to distinguish between product, cleaning medium and mixing phases. Production stages are clearly separated from one another which reduces waste. A further advantage: the measurement tube can be cleaned without residue since it functions without parts which have come into contact with measuring materials. Its compact size and low weight means it can be installed effortlessly.



FLOWave Type 8098

- Efficient production and waste water treatment
- Without any parts in the measurement tube, therefore no leakage, no maintenance and easy cleaning
- Optional: ATEX/IECEX certification



Diaphragm valve Type 2103

- High flow values in hygienic and aggressive ambient conditions
- Multiple variants including an explosion-proof ATEX/IECEX device variant
- Simple documentation through integrated automation units and fieldbus interface

DECENTRALISED AUTOMATION

Our valve solution Type 2103 fulfils the requirements for hygienically safe operation and is resistant to chemicals. The compact, smooth-surfaced and highly integrated system made up of valve and automation unit has a pilot air channel which excludes the intake of ambient air. Its streamlined design with minimum dead space enables high flow values in the valve body. The pneumatic piston actuator with its extensive stainless steel casing and gap-free seals is autoclavable.



Radar filling level device Type 8139

- Excellent radar signal focusing and high measurement dynamics in small, narrow and high containers
- Clamp connection (German Standard DIN 32676, ISO 2852) with encapsulated antenna system for hygiene requirements
- Integrated antenna (G- or NPT connection), particularly suitable for aggressive liquids

CONTINUOUS FILLING LEVEL MEASUREMENT

The reliable filling level measurement of diverse liquids requires a precise and robust sensor. Our contactless radar filling level measuring device Type 8139 with antenna system withstands aggressive chemicals and complies with hygiene requirements. The high focus of the radar signal and high measurement dynamics allow excellent measurement results in all forms of container because the risk of signal interference by installations, constructions and vessel walls is significantly reduced. Signal damping, e.g. due to foam build-up or low DK values of the liquids, has a much smaller effect.

Quick filling with a high degree of repeat accuracy

Bürkert expertise

Digitalisation & process automation /
control technology / flow measurement and control /
filling systems



Hygiene is of the utmost priority when filling cosmetics and personal care products. The tiniest contamination can affect the product quality. Furthermore, it must be possible to reproducibly control filling quantities with high precision. Our innovative approaches reduce the risk of contamination and at the same time waste. They increase process safety and speed to an unparalleled level and ensure a filling of the end product with high repeat accuracy. At the same time, it is able to document the filling process, thereby meeting increasingly strict hygiene regulations.



Diaphragm valve Type 2103

- High flow values under hygienic conditions
- Wide scope of application thanks to diverse variants and connection possibilities
- Simple documentation through integrated automation units and fieldbus interface

STERILE FILLING PROCESS

Production and filling plants in the cosmetics industry require sterile ambient conditions. Our diaphragm valve Type 2103 made up of pneumatically operated piston actuator, diaphragm and two-way valve body, has a reliable concept: the highly integrated system consisting of valve and automation unit is smooth, compact and, thanks to its integrated pilot air channels, prevents the intake of ambient air. Furthermore, self-cleaning takes place during the CIP process. The pneumatic piston actuator with its extensive stainless steel casing and gap-free seals is autoclavable. Its streamlined design with minimum dead space enables high flow values in the valve body.

PRECISE DOSAGE

Our easily integrated system solution made up of sensor, dosage valve and control ensures that exactly the right quantity of the product flows. The fast and precise flow measurement by FLOWave enables exact filling and ensures a consistently high quality. The system works completely hygienically without sensor elements coming into contact with measuring materials. The flow rate is determined based on »Surface Acoustic Waves« technology. In addition to the volume flow rate, an optional function can measure density. The measurement tube has no fittings or constrictions and therefore avoids pressure loss and requires less cleaning.



FLOWave Type 8098

- High-precision flow measurement independent of conductivity (accuracy 0.4%)
- Hygienic, cost-cutting operation without pressure loss and with reduced cleaning
- Flexible integration due to its various installation positions

The right partner for your application



DR·WOLFF·GROUP

“We saw potential for optimisation in the transfer from the production plant to the storage tanks. Because here there are two mixing phases of product and water, which previously caused quite a lot of waste. In both mixing phases, quite a lot of product was lost, because in the past we had to work with estimated time values that did not apply equally to every product. Our goal is to save litres of waste and unnecessarily high costs for wastewater treatment in the future.”

Nils Gorowicz, Production Engineer at Dr. Kurt Wolff

You can find out more about this and other projects in your industry at:

www.burkert.com

The right partner for your application



“Thanks to the SAW flow meter our waste has been reduced by more than two thirds. We produce much more efficiently and also save on wastewater treatment. We are also enthusiastic about the good and, above all, efficient cooperation with Bürkert.”

Nils Gorowicz, Production Engineer
at Dr. Kurt Wolff

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