



More than **sensors + automation**



Beverage Technology

Innovative solutions for your success



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Dear Reader,

Drinking is essential for maintaining the right balance of water in the body. Popular beverages include water, juice, milk, coffee, tea, wine, and beer. However, only a producer of these beverages knows to what extent their production and processing depends on efficient procedures and precise measuring technology.

Here, JUMO is at your side as a reliable partner to help when you have questions and to provide you with quick solutions. We do so regardless of whether you monitor your process through pressure, temperature, conductivity, or pH value. We're also at your side for controlling the cleaning process or reducing production costs.

So how do we do it? Through long-standing experience and expertise: because for more than 70 years, JUMO has been one of the leading manufacturers in the field of measurement and control technology. Consequently we are also an expert partner for the beverage industry.

We place great value on regular new developments, constant improvement of existing products, and on increasingly economic production methods because only this path allows us to achieve the highest degree of innovation for you.

The beverage industry is another area in which we at JUMO offer you only the best. We do so by providing a multitude of solutions for the most varied applications.

Our solutions support you in implementing HACCP concepts or the IFS standard.

This brochure provides an overview of JUMO products and systems for the beverage technology industry. Of course, we would also be happy to work together with you to create customized solutions for individual requirements.

PS: Detailed information about our products can be found under the product group number at www.industry.jumo.info.

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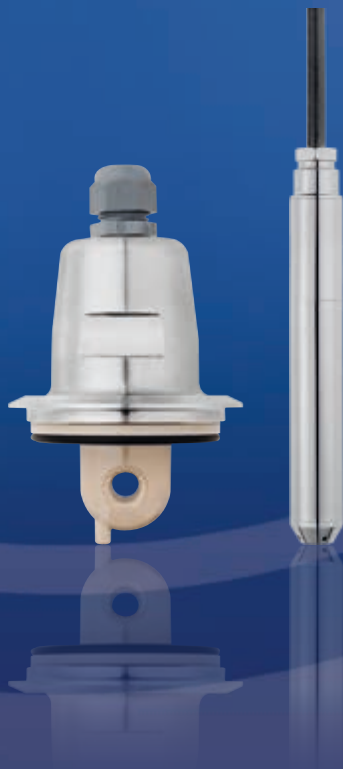
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Mineral water and soft drinks

Each person should drink 1.5 to 2 liters of liquid every day. To ensure beverages exhibit a consistent level of quality, various quality and process checks must be performed during their production. This is where the first-rate measuring and control devices from JUMO come into play.



Level measurement in water wells

The fill level in the well water is measured continuously by a level probe via the hydrostatic pressure. The JUMO MAERA S28 with its piezoresistive measuring cell is particularly suitable for this type of application. The probe features overvoltage protection which protects its electronic components from an indirect lightning strike. Additional high overload resistance and long-term stability gives the JUMO MAERA S28 a high level of safety.

Conductivity measurement in mineral water

Conductivity measurement can be performed as an incoming goods inspection after the water from the well has been transported to the factory. The conductivity value depends on the level of water mineralization. This value is higher the more minerals are dissolved from the rock layers. The JUMO CTI-750 transmitter in stainless steel version is used for measuring conductivity. The integrated temperature measurement allows a precise and quick temperature compensation that is particularly important for conductivity measurement. Additional functions, such as the combined toggling of measuring range and temperature coefficient, allow optimum use even with CIP processes.

JUMO AQUIS touch S/P

Modular multichannel measuring devices with integrated controller and paperless recorder
Type 202581, 202580



JUMO TAROS S46 H

Hygienic pressure transmitter
Type 402071



JUMO DELOS SI

Precision pressure transmitter
Type 405052



JUMO flowTRANS MAG H10

Electromagnetic flowmeter
Type 406061



JUMO RTD temperature probe

Type 902810, 902815



JUMO DELOS T

Electronic temperature switch with display and analog output
Type 902940



JUMO CTI-750 und JUMO tecLine Ci

Conductivity transmitter in stainless steel housing as well as hygienic inductive conductivity and temperature sensor
Type 202756, 202941



JUMO MAERA S28

Level probe
Type 404392



JUMO flowTRANS US W02

Ultrasonic flowmeter
Typ 406051



JUMO variTRON

Automation system
Type 705002, 705070



JUMO dTRANS T1000/p35

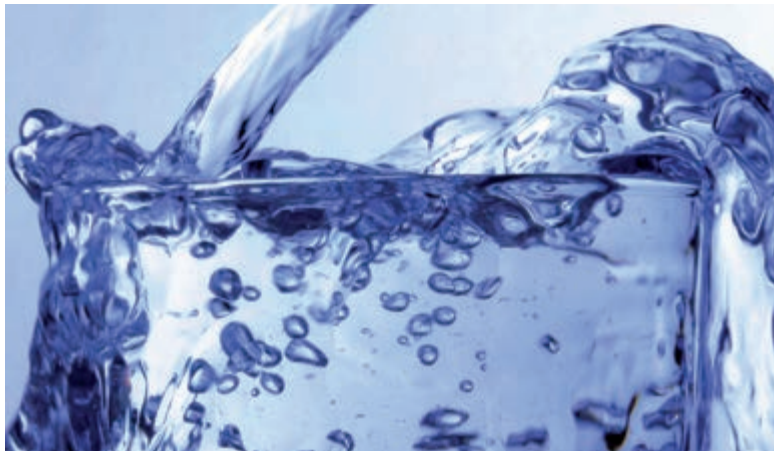
Temperature and pressure sensor with IO-Link
Type 902915, 402058



JUMO Wtrans p

Pressure transmitter with wireless data transmission
Type 402060



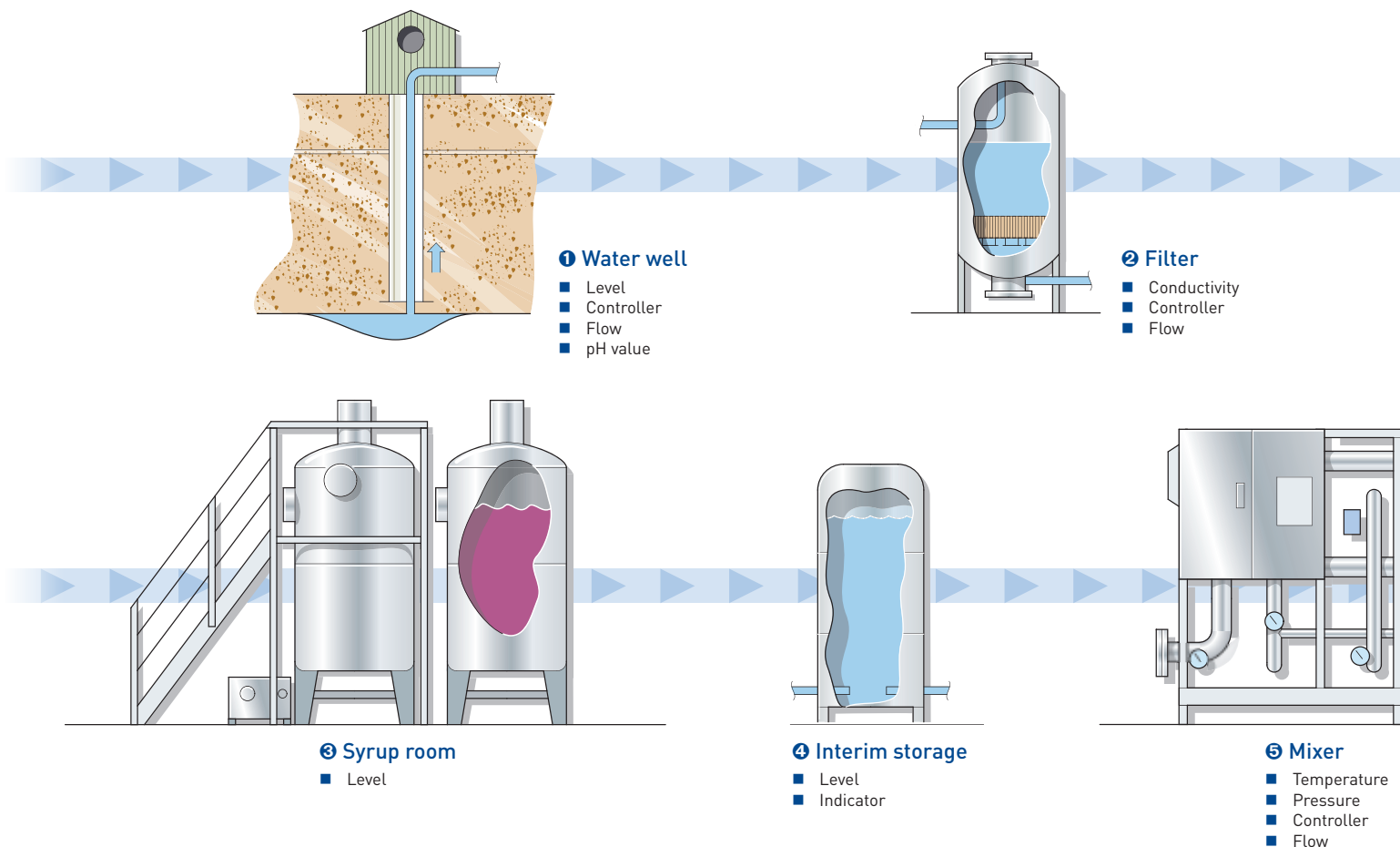


Mineral water

According to the mineral and bottled water regulation, mineral water is a type of groundwater with specific characteristics. It must come from underground water sources and be of original purity. Mineral water is bottled directly at the place of extraction – spring or water well – and requires official recognition. While it is permissible to intervene in the context of approved procedures when preparing drinking water, mineral water should be changed as little as possible from its original composition. Only iron, manganese, sulphuric, and arsenic compounds as well as fluoride may be withdrawn.

Only carbon dioxide (CO_2) may be added, whereby carbonic acid (H_2CO_3) is formed in the water. Deferrization is often brought about using ozone. It is carried out for many types of mineral water to prevent the water from turning brown over time. Most types of mineral water show a much lower carbonic acid content at the outlet location than they do after bottle filling. Acidification of water through the addition of carbon dioxide promotes, among other things, its preservability, as it provides a stable antimicrobial environment.

Measurands and devices in the production of mineral water and soft drinks*

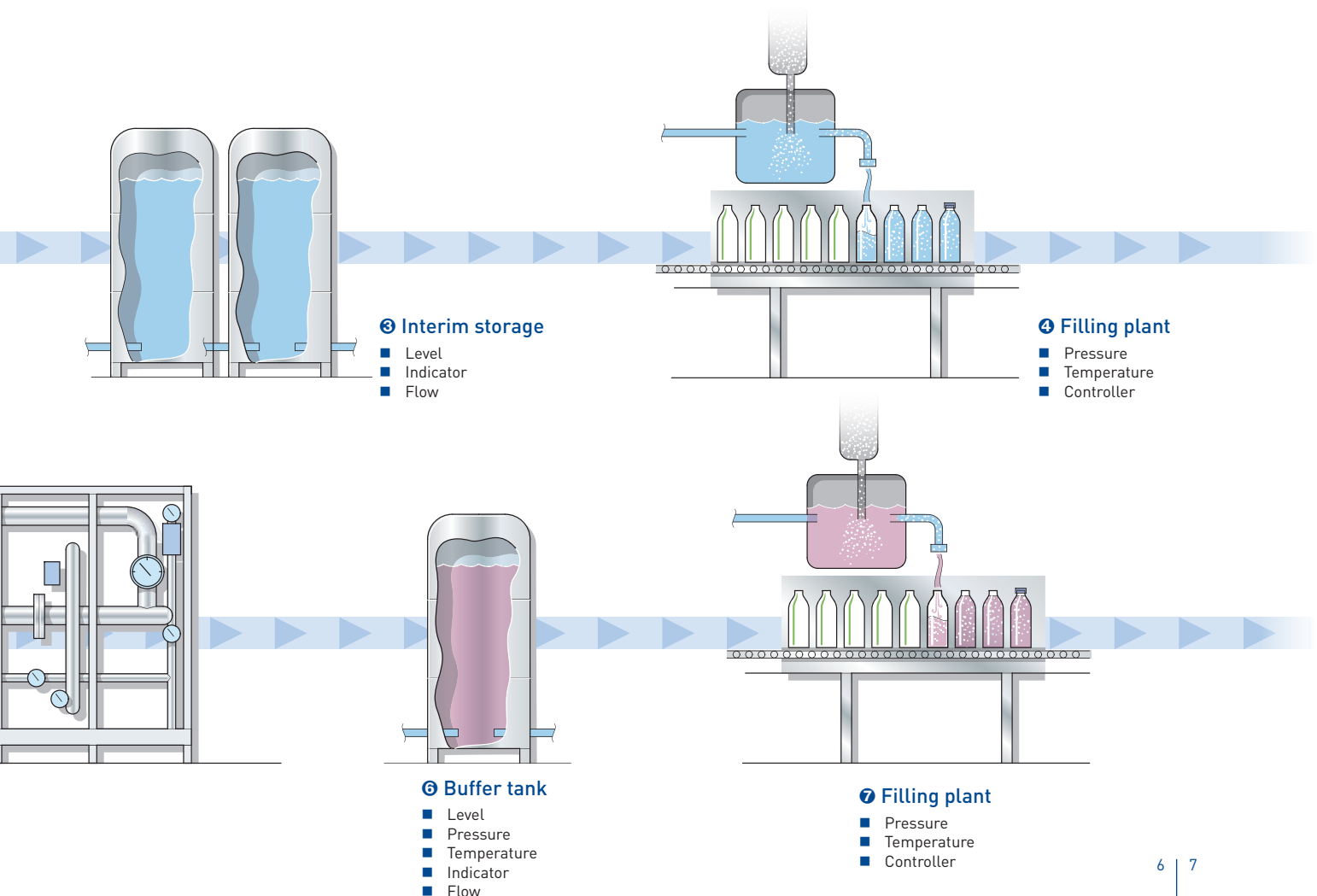


*Process sequence soft drinks in point 1 and 2 identical with process sequence mineral water.

Soft drinks

Cold drinks that are produced by the food industry for refreshment purposes are usually sweet and sour flavored as well as carbonated. According to both the German Food Codex and the international Codex Alimentarius these are "water-based beverages with flavoring ingredients" such as sugar, sweeteners, or aromas. In addition, the beverages may contain fruit juice concentrate, carbonic acid, minerals, vitamins, and further ingredients.

Fruit juices, carbonated fruit juices, lemonades, and sodas are among the most popular soft drinks. For its production, mineral water is mixed with a precisely-defined quantity of juice or syrup and then bottled. It is very important for the consistent quality of the beverage that the juice or syrup content and the CO₂ content are always exactly the same.





Beer

The brewing process takes time. It consists of a large number of work steps: mashing, purification, wort boiling, wort cooling, fermentation, and filtration. For all these processes, the precise monitoring of temperature, pressure, pH value, and conductivity is necessary. A task in which JUMO's first-class as well as tried-and-tested products provide perfect support throughout the entire process chain.



JUMO variTRON 500 – the brewhouse control system

JUMO variTRON 500 is a system that can master the measurement and control tasks in the brewery. The program generators enable independent control of mashing, purification, and wort boiling. For example, the next batch can already be mashed during wort boiling. While the temperature-time-programs of both processes are running, JUMO variTRON 500 registers all required data such as temperature, pressure, pH value, flow, steam temperature, and stirring speed. The process can be individually automated with the CODE-SYS PLC programming system.

Precise control of the cooling zones with the JUMO diraTRON controller

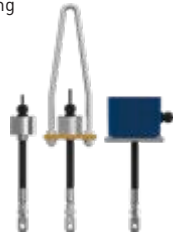
The cylindrical fermentation tanks have several cooling zones which ensure that the young beer is circulated during storage by using different temperatures. JUMO diraTRON perfectly controls the exact temperature of the individual cooling zones, which ensures the quality of the beer.

Optimum setting and monitoring with the JUMO CTI-750 conductivity transmitter

In the bottle cleaning plant, the glass bottles are cleaned by warm lye baths and subsequent rinsing with water at different temperatures. However, the constant transport of the bottles causes caustic soda to be displaced which changes the concentration of the lye. This is where the JUMO CTI-750 comes into play: it continuously adjusts the concentration of the caustic soda to optimum levels via conductivity measurement and thereby ensures reliable cleaning of the glass bottles at a consistently high quality.

Multipoint RTD temperature probe

For silo monitoring
Type 903530



JUMO CTI-750 und JUMO tecLine Ci

Conductivity transmitter in stainless steel housing as well as hygienic inductive conductivity and temperature sensor
Type 202756, 202941



IO-Link

JUMO AQUIS touch S

Modular multichannel measuring device for liquid analysis
Type 202581



JUMO dTRANS p20/p20 DELTA

Process and differential pressure transmitter
Type 403025, 403022



JUMO TAROS S46 H

Hygienic pressure transmitter
Type 402071



JUMO DELOS SI

Precision pressure transmitter
Type 405052



JUMO flowTRANS MAG H10

Electromagnetic flowmeter
Type 406061



JUMO variTRON

Automation system
Type 705002, 705070



JUMO LOGOSCREEN 601

Paperless recorder with touchscreen
Type 706521



JUMO diraTRON

Compact controllers
Type 702110, 702111, 702112, 702113, 702114



JUMO DICON touch

Two-channel/four-channel process and program controller with paperless recorder and touchscreen
Type 703571

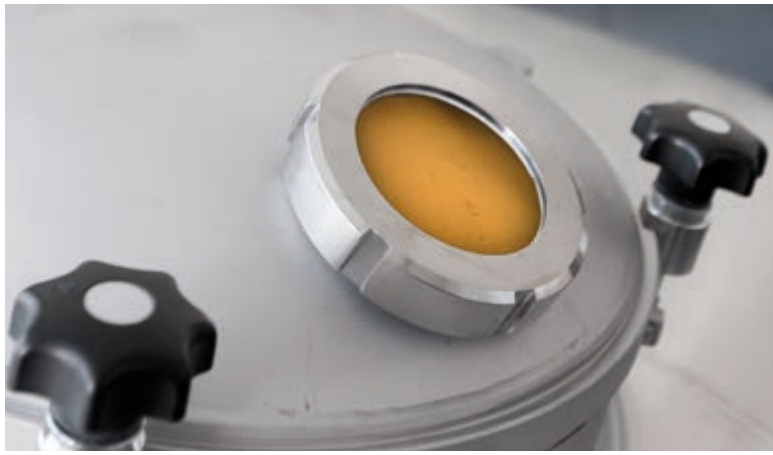


JUMO dTRANS T1000/p35

Temperature and pressure sensor with IO-Link
Type 902915, 402058



IO-Link

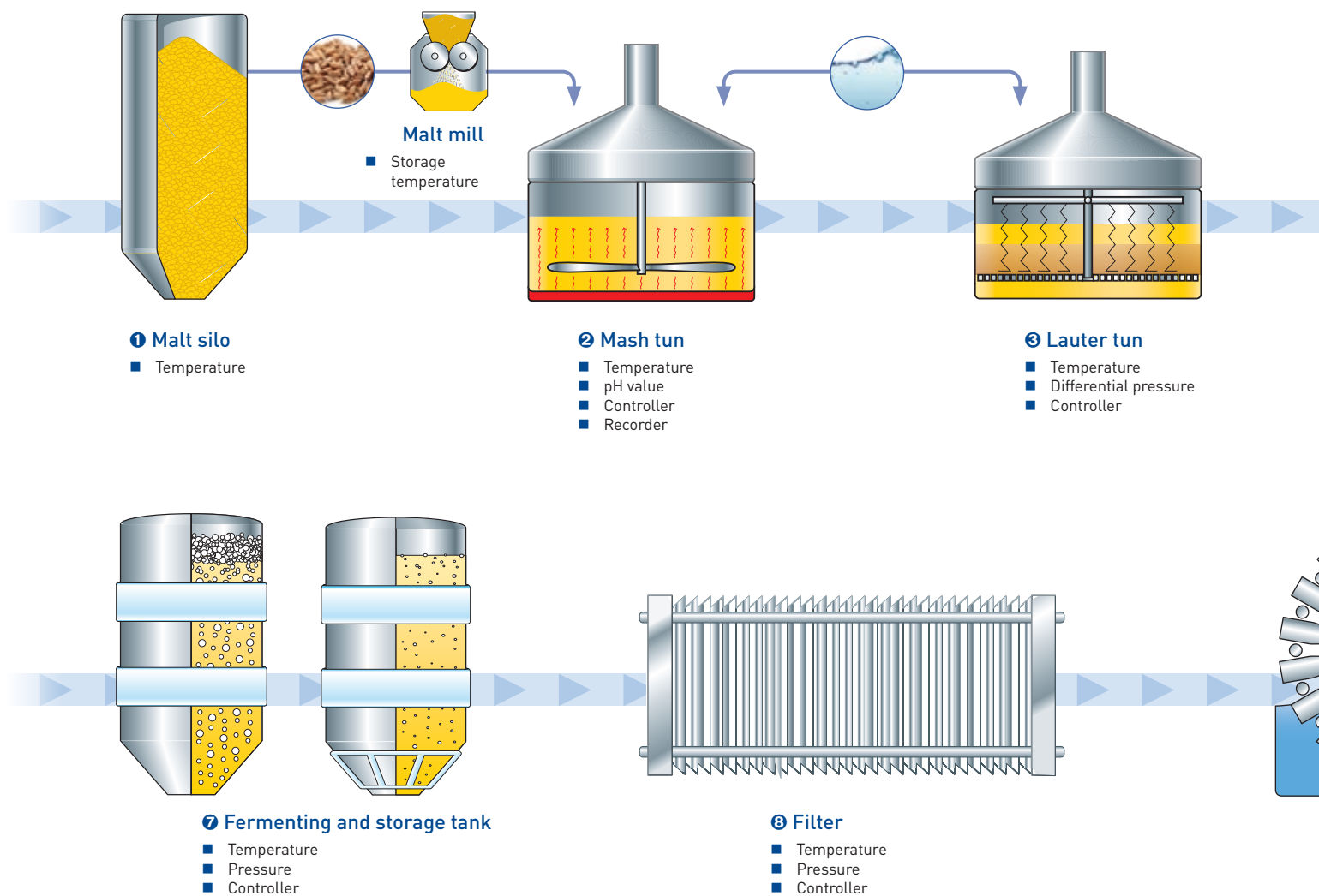


Beer

Beer is a drink that is derived by fermentation from substances containing starch. Furthermore, it is not distilled. The carbonated beverage is produced by adding hops or other seasonings. Beer is produced by fermentation. The raw material for the fermentation of beer is always starch. Sugar is obtained from

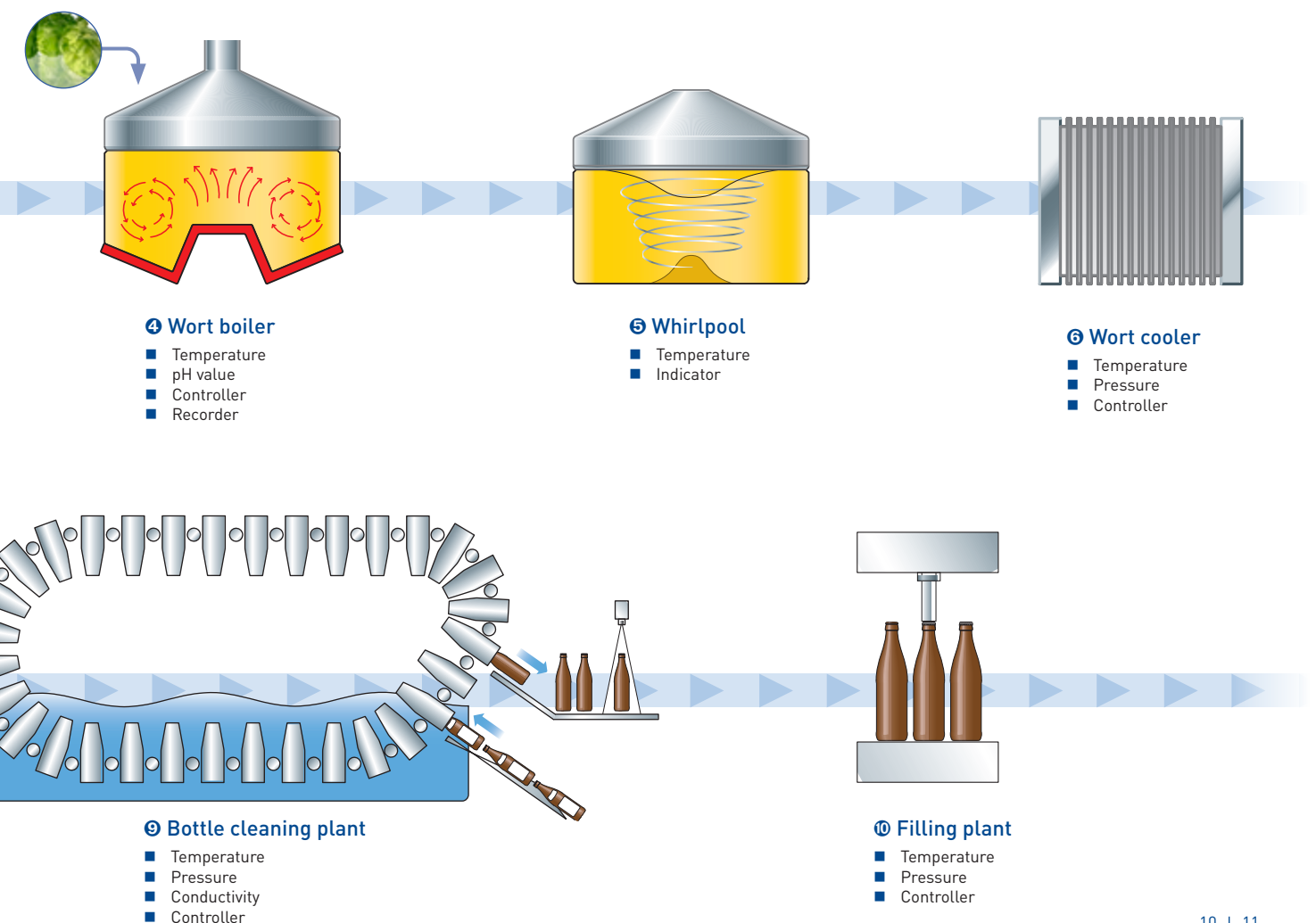
the starch of grains (barley, wheat, rye, oats, millet, rice, maize) by malting or other enzymatic processes. The alcohol content of most beer is between 4.5 % and 6 %. Non-alcoholic beer is produced by 2 different processes – stopping the fermentation or extracting the alcohol from normal beer.

Measurands and devices in the production of beer



Temperature is one of the most important measurands in beer production. Only through exact control of the processes and precise temperature control can the work steps of mashing, wort boiling and cooling, fermentation, and storage be carried out reliably and reproducibly. In addition, exact temperature

measurement with regularly-calibrated temperature probes can optimize costs. Even a process temperature correction of only 1 °C in the right direction can bring benefits such as significantly reducing energy costs.





Fruit and vegetable juice

Fruit and vegetable juices are considered everyday beverages such as water and coffee. Furthermore, fruit juices are a common ingredient in fruit juices. Juice production uses different processes, depending on whether direct juice or fruit juice concentrate is being produced. JUMO temperature probes and controllers are particularly suited for quality and process control.



Temperature measurement and control for juice production

During juice production, the temperature in various processes is measured and controlled. When producing fruit juice concentrate, the most important measuring point is the temperature measurement taken during evaporation or flavor extraction. If the volatile flavored compounds are extracted from the juice either before or during the concentration process – and if these are stored in a cool place separate from the de-flavored fruit juice concentrate – then any undesirable mixing with other juice components is essentially impossible. Each fruity flavor consists of a number of components which differ to a greater or lesser extent from one another in terms of quantity, solubility, and boiling point. The quantity of vapor to be evaporated in the vaporizer depends on the type of juice, the operating conditions, and the intended flavor yield. The flavored concentrate is cooled to a clear liquid and removed from the plant. Both in the production of fruit juice from fruit juice concentrate and the manufacturing of direct juice the juice is pasteurized before it is bottled. The temperature measurement is also an important quality criterion here for guaranteeing the preservability of the juice. When it comes to safely documenting the reached temperature in a verifiable manner, the tamper-proof paperless recorder JUMO LOGOSCREEN 700 is the perfect device for the job.

JUMO tecLine HY

pH combination electrode
Type 201022



JUMO AQUIS touch S/P

Modular multichannel measuring devices with integrated controller and paperless recorder
Type 202581, 202580



JUMO DELOS SI

Precision pressure transmitter
Type 405052



JUMO variTRON

Automation system
Type 705002, 705070



JUMO LOGOSCREEN 700

Highly scalable paperless recorder
Type 706530



JUMO dTRANS T1000/p35

Temperature and pressure sensor with IO-Link
Type 902915, 402058



JUMO dTRANS pH 02

Transmitter and controller series
Type 202551



JUMO TAROS S46 H

Hygienic pressure transmitter
Type 402071



JUMO flowTRANS MAG H10

Electromagnetic flowmeter
Type 406061



JUMO DICON touch

Two-channel/four-channel process and program controller with paperless recorder and touchscreen
Type 703571



JUMO RTD temperature probe

Type 902810, 902815



JUMO DELOS T

Electronic temperature switch with display and analog output
Type 902940



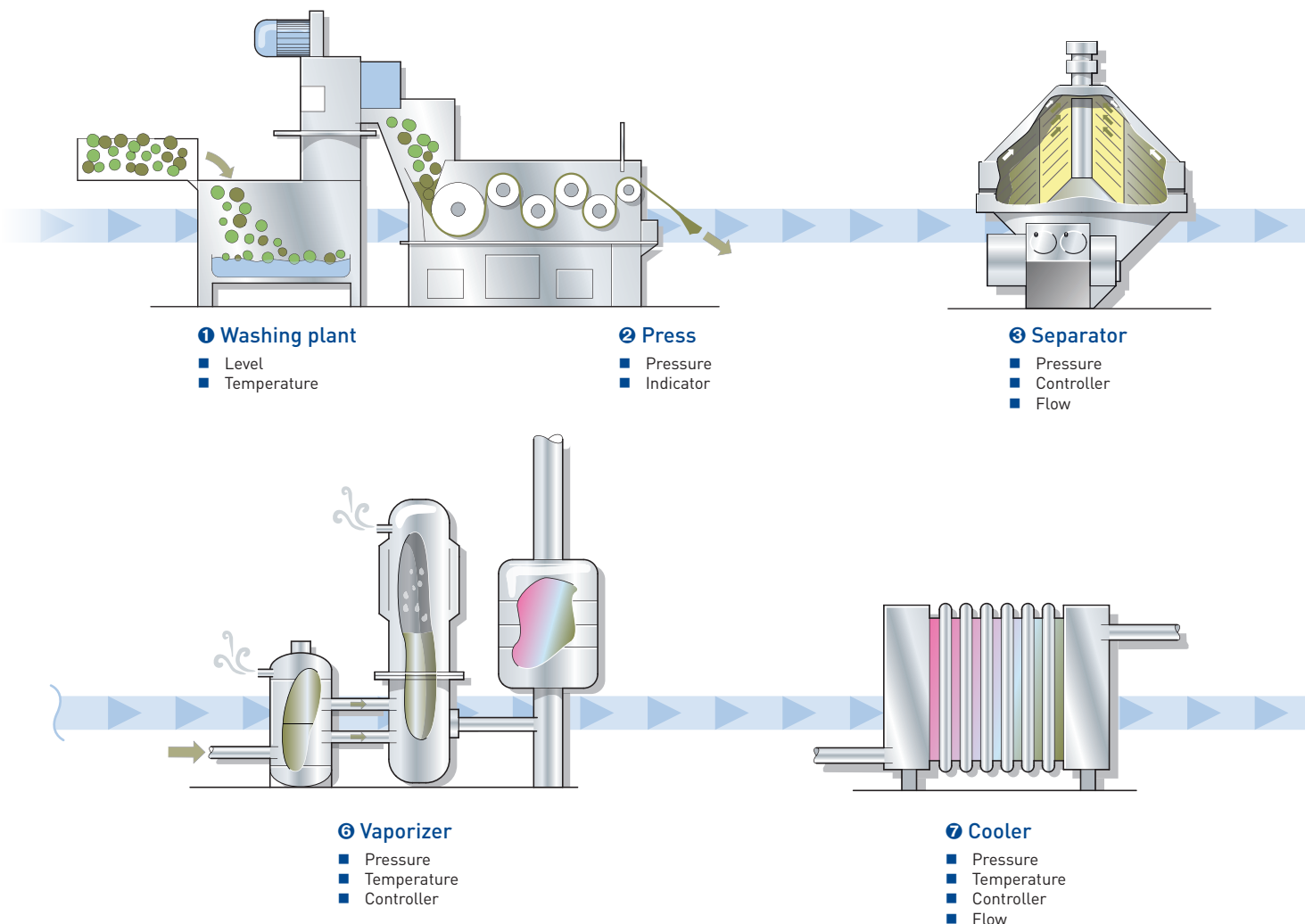


Juice

Ripe, cleaned fresh fruits are used for fruit juice production. Citrus fruits are pressed in special citrus presses. Other fruits are pulverized to a mash in a grinder and then mechanically pressed. The addition of special enzymes can alleviate the flow of juice from the sacs and increase the overall juice yield. Stones and stems are removed from stone and berry fruit before pressing. The separating and filtering process turns the

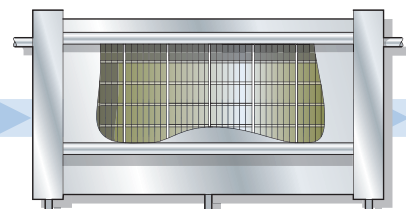
naturally turbid, pulpy juice to a clear fruit juice. 2 processes are available in fruit juice production: the preparation of fruit juice from concentrate as well as preparation from direct juice. To obtain fruit juice concentrate, the flavor and water must be extracted from the freshly pressed juice at low temperatures and in vacuumed conditions. What remains is then condensed to approximately a sixth of its original volume.

Measurands and devices in the production of fruit and vegetable juices



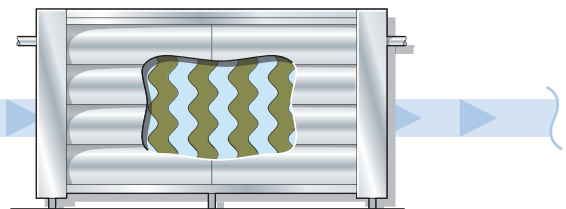
Fruit juice concentrate and flavoring are stored and transported separately from one another in tanks. Orange juice concentrate, for example, is stored at -15°C . To generate juice from the concentrate, water and the relevant fruit flavor are added along with fruit pulp and fruit sacs if necessary. The advantages of this procedure for the producers are savings in transport costs and being independent of the harvest season. For preservability

the juice produced through this process is pasteurized at 85°C for a few seconds. Direct juice, on the other hand, is processed immediately after fruits are pressed. It is first filtered before being pasteurized at 80 to 85°C for preservability. This prevents fermentation from taking place and guarantees the preservability of the juice. The direct juice is then bottled or stored under sterile conditions in a tank for bottling later on.



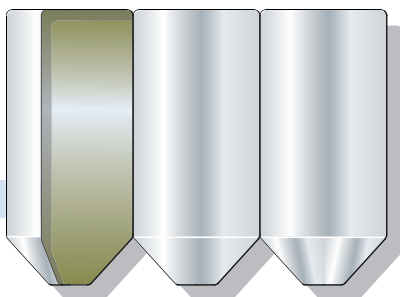
④ Filter

- Pressure
- Controller
- Flow



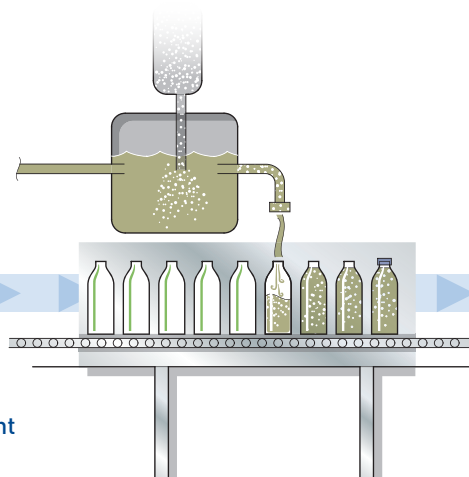
⑤ Pasteurizer

- Temperature
- Pressure
- Controller
- Recorder
- Flow



⑧ Storage tank

- Level
- Temperature
- Indicator



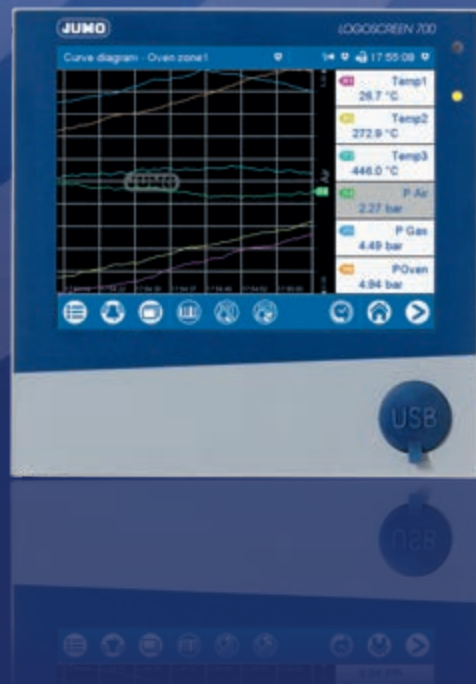
⑨ Filling plant

- Pressure
- Temperature
- Controller



Dairy products

Dairies place major emphasis on hygiene. This is so because milk is a sensitive product that must be especially protected against germ contamination. The sensors for hygienic applications from JUMO support all the stages of milk processing.



Measurement technology for milk processing

The value chain in the dairy industry is shaped by special challenges when it comes to hygiene and process engineering.

Milk processing in particular has special demands for monitoring, analyzing, and logging the production processes. Different rules and regulations define essential processing parameters. These include pH value and temperature limits in combination with temperature hold times. The reason here is the microbiological potential of milk in relation to pathogens and external germs. These make processing more difficult and always reduce preservability.

In process engineering, the main focus is on optimizing processing steps to ensure stable processes and end products through an increased degree of automation. Continuous flow conditions, constant pressure, and the change between product and cleaning media are monitored through the sensor program from JUMO. At the same time, devices with a high level of protection against tampering record and control these factors. As a result, the milk industry has a complete portfolio at its disposal which reliably fulfills the demanding legal and procedural requirements.

JUMO dTRANS p20

Process pressure transmitter
Type 403025



JUMO DELOS SI

Precision pressure transmitter
Type 405052



JUMO variTRON

Automation system
Type 705002, 705070



JUMO diraTRON

Compact controllers
Type 702110



JUMO LOGOSCREEN 700

Highly scalable paperless recorder
Type 706530



JUMO dTRANS T1000/p35

Temperature and pressure sensor with IO-Link
Type 902915, 402058



IO-Link

JUMO TAROS S46 H

Hygienic pressure transmitter
Type 402071



JUMO flowTRANS MAG H10

Electromagnetic flowmeter
Type 406061



JUMO smartWARE SCADA

Software for process monitoring and control
Type 701820



JUMO IMAGO 500

Multichannel process and program controller
Type 703590



JUMO RTD temperature probe

Type 902810, 902815



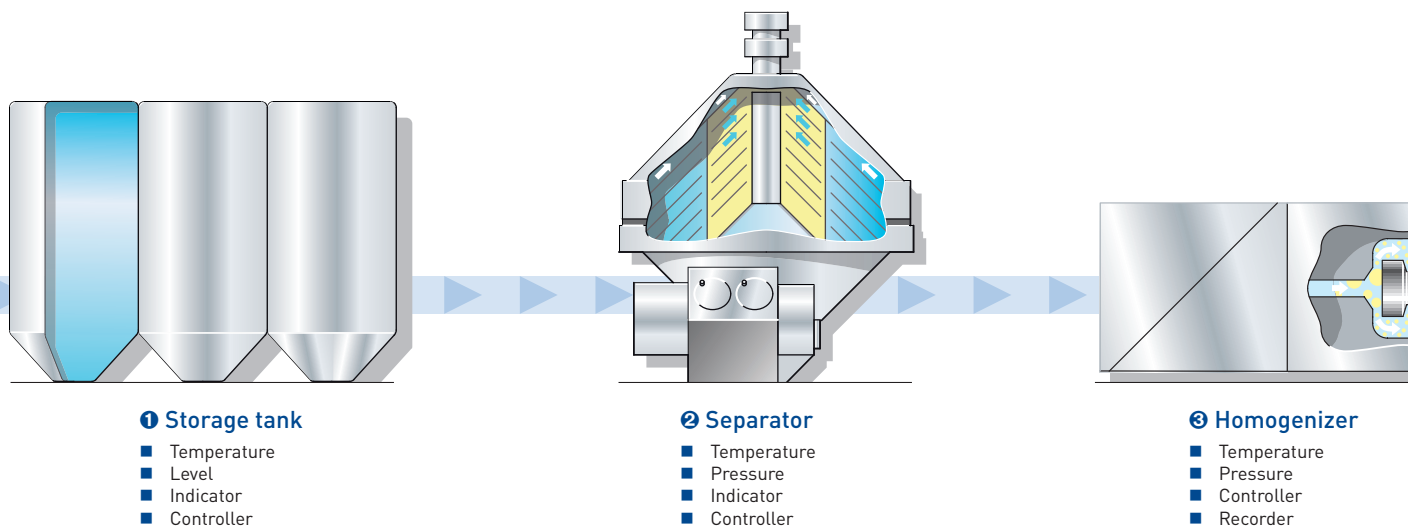


Milk

Specific processing of the raw milk is an essential preliminary step for the production of many different dairy products. Regardless of the end product, key process steps are applied in varying combinations. Yet, the premise still applies that even a slight deviation from defined parameters or non-hygienic constructions significantly affect the production costs and the quality of the end products. For that reason, JUMO offers sensors for the essential measurands as well as suitable evaluation and recording devices for all

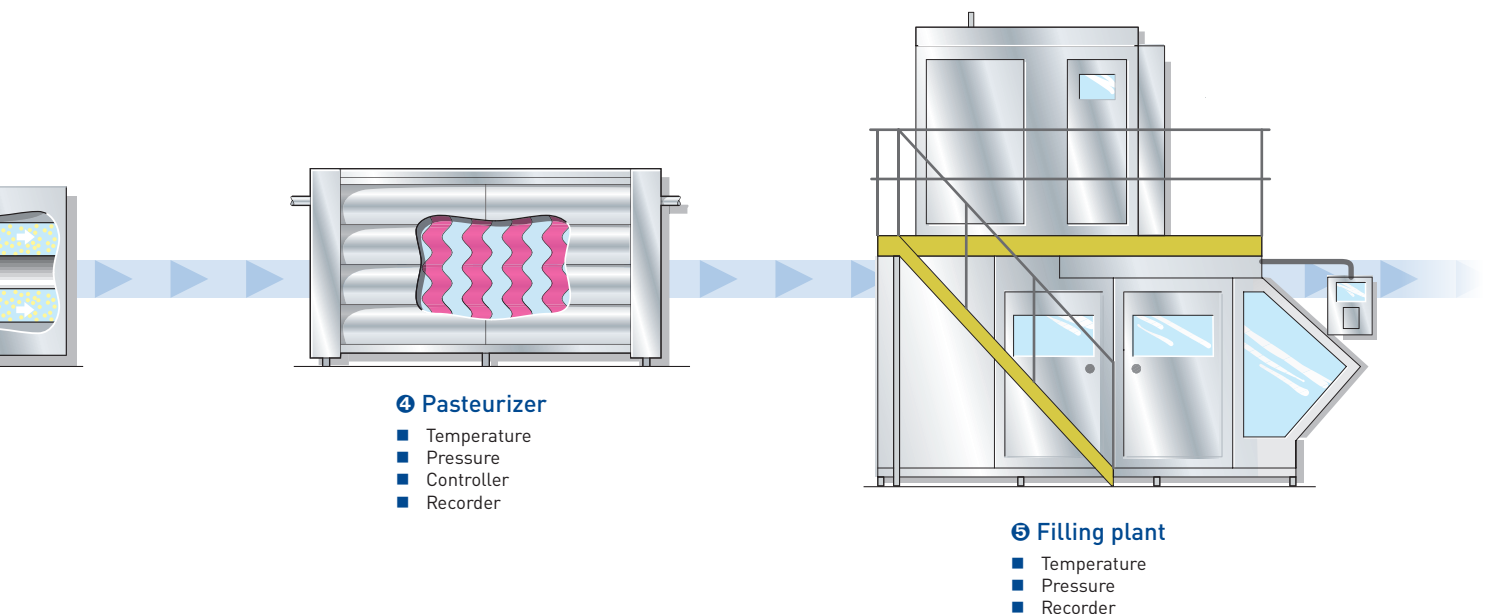
steps. Temperature control of the milk is the dominant measurand with regard to product safety. After milk extraction, a temperature of 4 °C must be maintained immediately which must not be exceeded until processing. Pasteurization is the most important step for drinking milk production. Here, programs are implemented the purpose of which is to substantially reduce the colony-forming units of the spore-producing *Bacillus cereus*: for UHT milk 2 to 10 seconds at up to 150 °C, for fresh milk 15 to 20 seconds at up to 75 °C.

Measurands and devices in the production of milk products



At this point, temperature probes must be quick, precise, and reliable so that all risks are completely eliminated. The levels are monitored via pressure. In addition, pressure differences that are deliberately controlled are established to ensure that no contamination of the pasteurized milk takes place in case of equipment damage. Plants such as centrifugal separators or homogenizers are operated and controlled in a pressure range of approximately 5 bar or respectively 250 bar. Pressure losses over pipelines or fittings can have

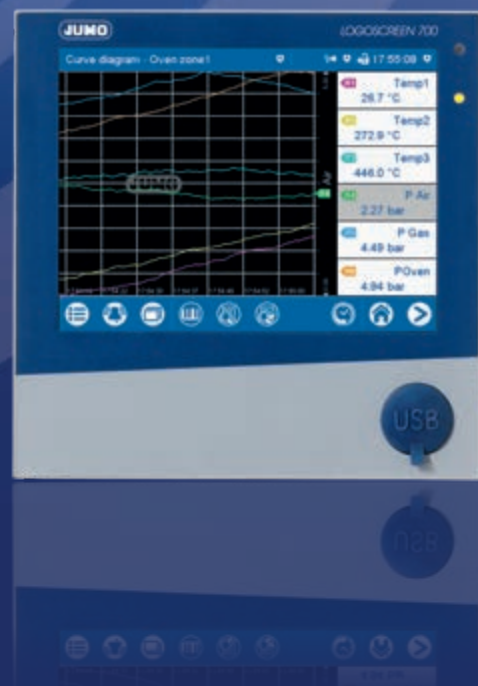
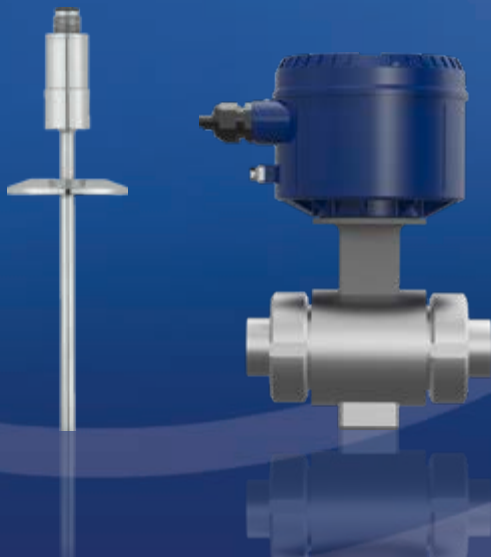
negative impacts on the product stability. They must be permanently monitored as well as compensated through auxiliary systems. The prerequisite here is a smooth embedding of the pressure transmitter into the process automation. Especially designed devices for analysis and recording are available so that all parameters such as flow, pH value, and conductivity can be monitored. In summary, JUMO offers a coordinated system for process control and monitoring.





Wine

Wine is considered to be one of humanity's most ancient cultural goods and has played a significant role since antiquity as an agricultural product, both for the economy as well as for society. In wine production, measurement and control devices from JUMO come into play and ensure a consistent quality of wine across the board – especially during fermentation and storage.



Efficient filtration monitoring with the JUMO dTRANS p20 DELTA differential pressure transmitter

The wine filtration process consists of first cutting out turbid substances and removing any potentially harmful yeasts or bacteria before bottling. During sheet filtration, the turbid wine is pressed through layers of cellulose, diatomite, and perlite. During membrane filtration, however, a thin plastic film filters the wine so that it becomes clear. The additional filtration prior to bottling is called sterile filtration. It makes the already very clear wine germfree. During filtration, the pressure on the filter gradually increases. This pressure is related to a certain degree to the purity of the wine. The JUMO dTRANS p20 DELTA differential pressure transmitter can measure precisely how long the filter can still be used by determining the increase of differential pressure. This way the quality of the wine and the optimal use of the filters is ensured.

Temperature-controlled fermentation

This process includes checking the alcoholic fermentation, which is the process of changing sugar from the grapes into alcohol at low temperatures. To retain as much flavor as possible in the wine, the must is cooled down during fermentation to approximately 15 °C. Fermentation is therefore slower so that flavor loss can be reduced to a minimum. The JUMO Dtrans T100, a compact temperature probe with integrated transmitter, is particularly suitable for temperature control.

JUMO dTRANS p20 DELTA

Differential pressure transmitter with display
Type 403022



JUMO DELOS SI

Precision pressure transmitter
Type 405052



Dial thermometers

Industry version
Type 608002



JUMO diraTRON

Compact controllers
Type 702110



JUMO LOGOSCREEN 700

Highly scalable paperless recorder
Type 706530



JUMO dTRANS T1000/p35

Temperature and pressure sensor with IO-Link
Type 902915, 402058



IO-Link

JUMO TAROS S46 H

Hygienic pressure transmitter
Type 402071



JUMO flowTRANS MAG H10

Electromagnetic flowmeter
Type 406061



JUMO variTRON

Automation system
Type 705002, 705070



JUMO DICON touch

Two-channel/four-channel process and program controller with paperless recorder and touchscreen
Type 703571



JUMO RTD temperature probe

Type 902810, 902815



Intrinsically safe industrial measuring probe

For humidity, temperature, and derived variables
Type 907037



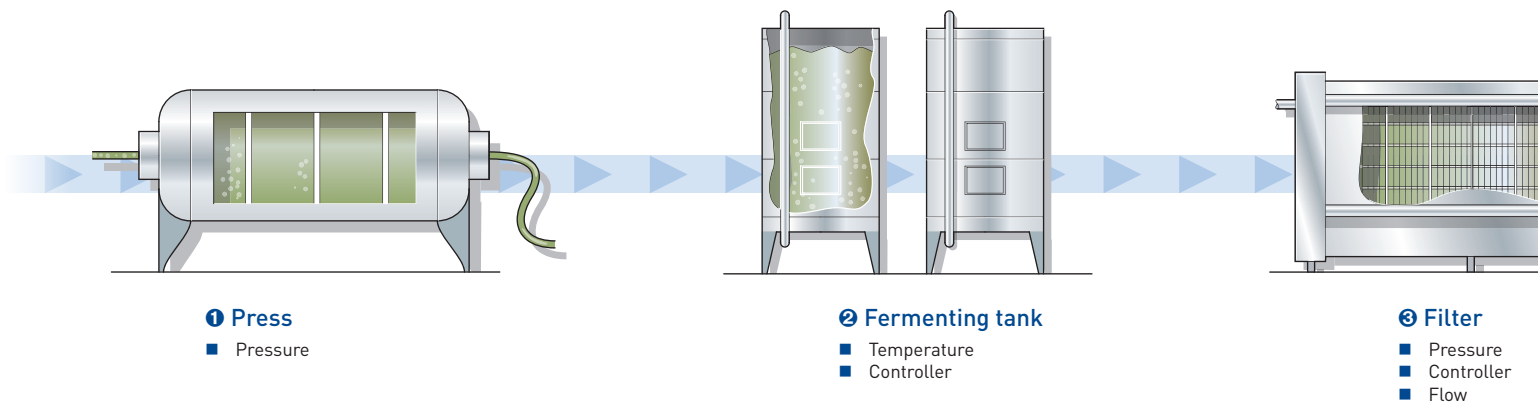


Wine

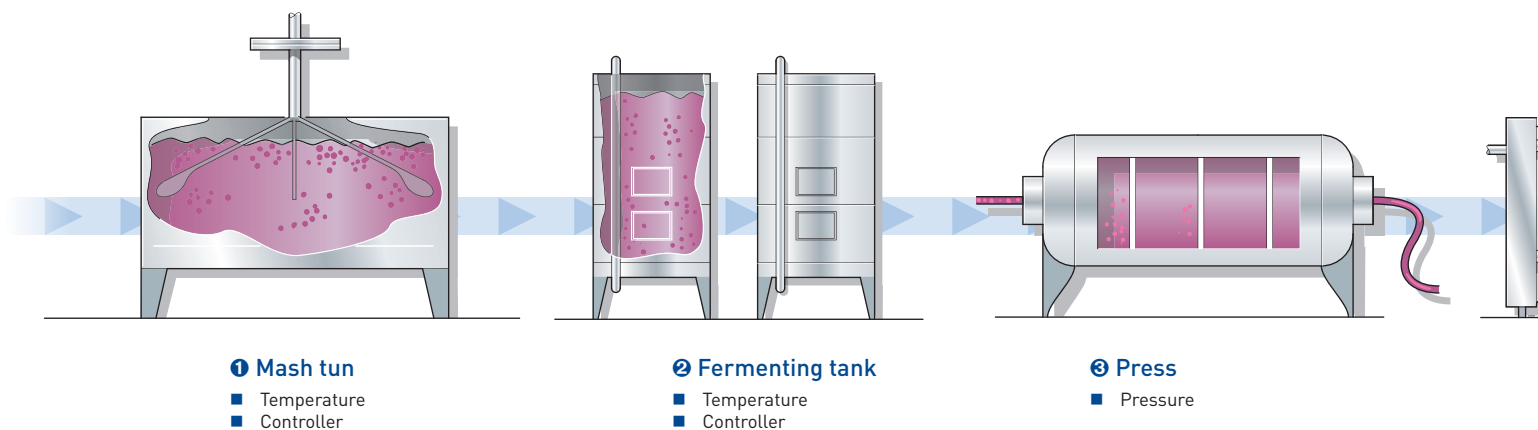
Wine is an alcoholic beverage, made from the fermented juice of grapes. The most popular wines are red, white, and rosé. Sparkling wine is made from wine that has undergone a second fermentation process. Low-foaming wines are called pearl wines and are usually carbonated. The main difference between the production of white wine and red wine is the order of the workflow. In red wine production, it is not the must (pressed fruit juice) that is fermented, but

the mash – at temperatures between 20 and 30 °C. This is because almost all the dyes are found in the skin of the grapes. These dyes are separated from the red fruit skins by the alcohol produced during the so-called mash fermentation. The most important steps in the production of red wine are destemming, mashing, pressing, and fermenting. The most important work steps in the mashing process are the immersion of the pomace (which can be performed either

Measurands and devices in the production of white wine

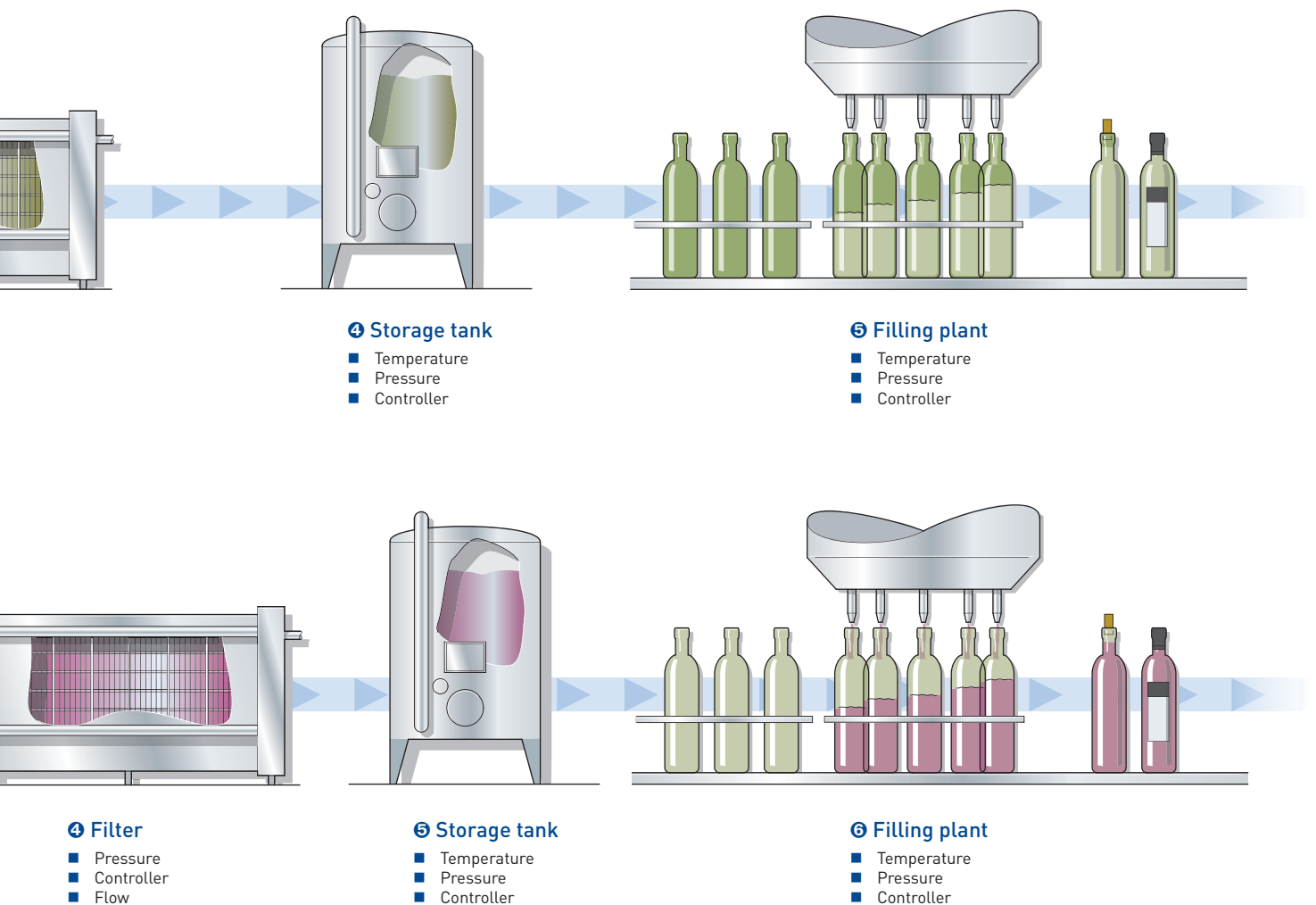


Measurands and devices in the production of red wine



manually or mechanically), the carbonic maceration, and the heating of the mash. To obtain a strong colored red wine, the highest possible color yield must be achieved and the right amount of tannins must be brought from the skins into the wine. For optimum extraction, the skin parts and the must have to remain in constant contact. For this reason the floating mash layer is repeatedly submerged mechanically. Alternatively, the mash can be heated to accelerate the process.

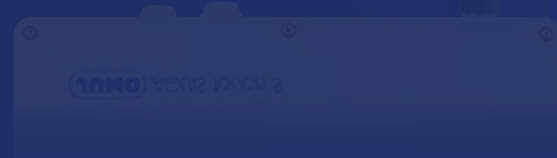
After fermentation, the red wine is refined. This aging process can take place in barrels or tanks. Depending on the type, quality, potential, and year of the wine, the time it takes to mature can be between several weeks and years. Finally, the wine is bottled.





CIP cleaning

The basis of any good beer brewing process is hygienic and perfectly cleaned equipment. This is guaranteed by "CIP cleaning", or "Cleaning in Place". JUMO also offers first-class systems and solutions on which you can rely for this field.



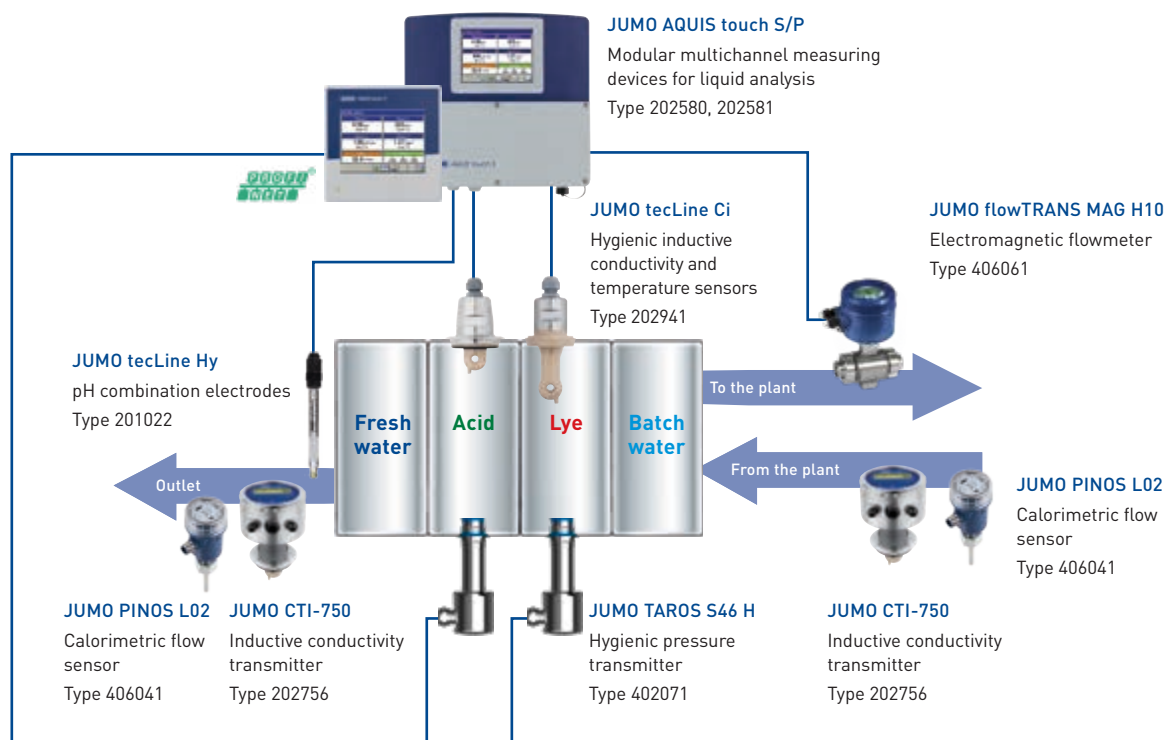
Measuring – Controlling – Displaying – Recording

New possibilities with the JUMO AQUIS touch S

The JUMO AQUIS touch S, a modular multichannel measuring device, provides new approaches in CIP cleaning. For example, the concentration setting of the acid and lye solutions, the level of both tanks, and the flow velocity can be measured, controlled, and displayed as well as registered on-site – all with one device. Essentially, a maximum of 4 analog analysis sensors can be used while a total of up to 10 parameters can be measured and managed simultaneously. In addition to numerous alarm, limit value, or time-controlled switching functions up to 4 higher-order loops can be defined simultaneously in the JUMO AQUIS touch S.

Conserve resources – reduce maintenance costs

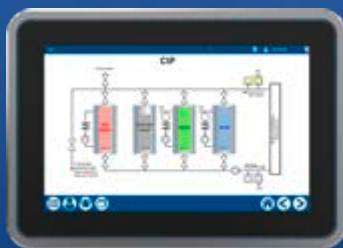
Whether the application is implemented with the modular multichannel measuring device JUMO AQUIS touch S or the proven inductive conductivity transmitter JUMO CTI-750 depends on the configuration of the plant. Both systems have proven themselves through the benefits they provide. For example, the JUMO CTI-750 is the ideal solution when working with a PLC in the background. The JUMO AQUIS touch S on the other hand functions as a stand-alone solution. The low-maintenance sensor and highly accurate measurement of inductive conductivity help preserve resources and reduce the maintenance costs for your plant.





System solution for process engineering

Process engineering process steps are all technical processes in which a final product is produced from a raw or source material using chemical-physical or biochemical procedures. The process engineering solution was developed for the food industry. Using the JUMO variTRON system and the new JUMO smartWARE Program graphical program editor customer-specific solutions can be configured with little effort and no programming skills.



Flexible and absolutely precise

Predefined process engineering process steps are available to the user. This defines different basic functions that only need to be parameterized. The sequence of the individual process steps results in a process engineering sequence for the manufacturing of different products or for carrying out cleaning processes. Setpoint values, program section time, and process contacts can be defined for a process step.

In addition, the plant engineer can use the process steps in the system to ensure that the plant components are not manipulated by the end user. Plants can be controlled via a web panel. This means that a program can be started and stopped as well as created and modified. Temporary changes can also be made via the panel.

Your benefits:

- You have maximum flexibility for your plant as the functions and design can be customized
- You have outstanding process reliability through data recording and individual user rights
- Customer requirements can be implemented thanks to modular hardware and PLC functions

Intuitive and customized

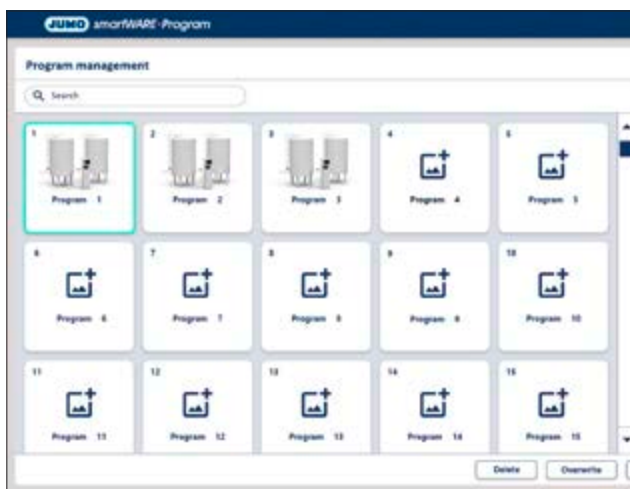
The JUMO variTRON 500 automation system and the JUMO smartWARE Program graphical editor create quick and easy process steps.

JUMO variTRON 500

- Automation system with the ability to run created programs, recipes, and process steps
- Connection of various panels and extension modules possible
- Upon request: one master application (software and hardware) covering all plant types and its options

JUMO smartWARE Program

- Browser-based software solution for intuitive creation and editing of process engineering programs and recipes
- Graphical user interface, which can be customized by the customer (colors, icons, logo, text)
- Simple program and recipe management with the JUMO variTRON 500 system



Program selection



Process steps



JUMO variTRON 300 and 500

Automation system

The automation system from JUMO has a modular design and is highly scalable. JUMO variTRON is based on the JUMO JUPITER hardware and software platform. CODESYS PLC transforms the system into a PLC, which can implement a wide range of control applications.



Features:

- High speed performance
- Flexible operating philosophy
- Simultaneous operation of more than 120 control loops
- Modern communication interfaces (e.g. OPC UA and MQTT)
- Integration of various fieldbus systems such as PROFINET, EtherCAT, Modbus TCP/RTU, and BACnet
- Many degrees of freedom in software and hardware
- Easy integration of new software functions via CODESYS PLC
- Easy adaptation of hardware inputs and outputs
- Customer-specific operation and visualization of several operator stations via CODESYS Remote TargetVisu and CODESYS WebVisu
- More than 30 intelligent connection modules
- Panels in various formats (portrait or landscape, 4:3 or 16:9)
- Integrated JUMO Web Cockpit
- Integrated measurement recording with up to 240 channels, up to 20 batches, and up to 10 measurement groups
- Optional wireless interface (JUMO variTRON 300)

JUMO Cloud and JUMO smartWARE SCADA

Highly-scalable and high-performing IoT solutions

Enhance JUMO variTRON with the right IoT solution: use the JUMO Cloud for worldwide access to your measurement data and benefit from data management by JUMO – including backups. Or operate JUMO smartWARE SCADA on your own servers. The software also offers many different interfaces and protocols.



Features:

- Compatible with JUMO variTRON and connectable via Ethernet (JUMO variTRON as gateway)
- Maximum transparency in your processes with customizable user rights and dashboards
- Unlimited access to the dashboards using as many end devices (clients) as required via common web browsers without having to install software, browser plug-ins, or add-ons
- More efficient reporting made possible due to outstanding report and export functions
- Alarm management through data evaluation, preparedness planning, and monitoring/remote alarm functions (text message, email, push message, phone call)
- Process visualization through editor with integrated animation and test tool as well as vector-based, self-scaling process screens
- End-to-end encryption, HTTPS, TLS, two-factor authentication (OTP)
- Extensive trend displays and reports with various diagrams, comparison functions, and export functions
- Timer and timer programs with unique events and series
- Modern drivers and protocols such as OPC UA, MQTT, and REST API



JUMO smartWARE Evaluation

Software for evaluating and visualizing the measurement data recorded by JUMO variTRON

The browser-based software solution enables intuitive evaluation and visualization of process data recorded via the JUMO variTRON automation system. Individual dashboards allow targeted and fast access to recorded process data. Manipulation detection based on digital certificates ensures a very high degree of data security.



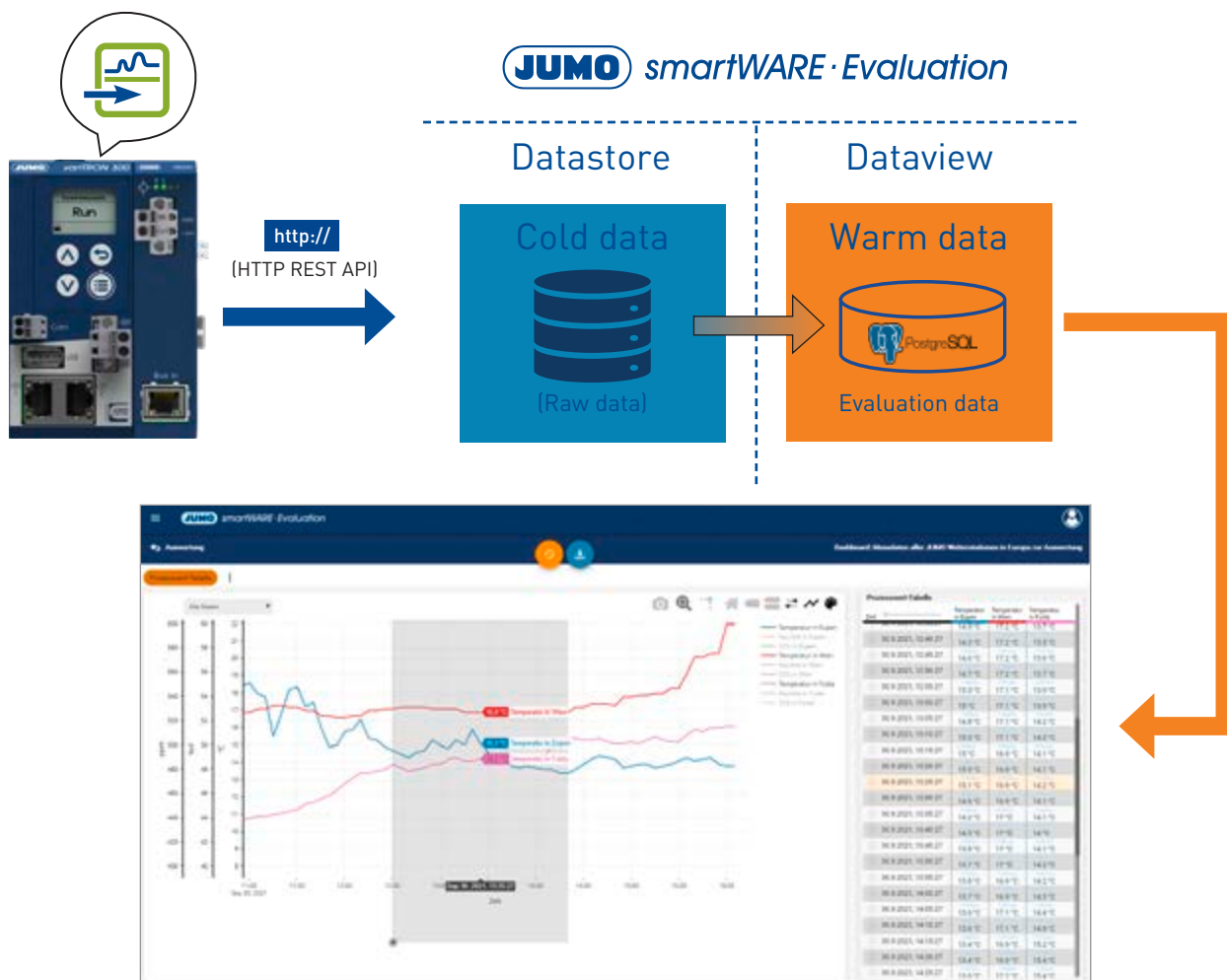
Features:

- JUMO variTRON 300 and 500 both have an integrated recording function for all incoming measured values
- Additional recording of the measurement status according to NAMUR NE 107
- Buffering of process data recording in case of network failure
- Recording of data from CODESYS such as program variables in the JUMO variTRON system
- Recording of fieldbus data such as PROFINET, BACnet, and EtherCAT
- Convenient configuration with intuitive setup program
- Browser-based process data evaluation via customizable dashboards
- Fast navigation and dashboard selection based on intuitive device and plant overview
- Plant-wide batch evaluation with flexible filter functions
- Data archive (Datastore) with manipulation detection based on digital certificates
- "Run anywhere": can be installed on desktop, server, or cloud using Docker technology
- Reduced costs for software administration, as maintenance is only required in one place

Process data reception and data storage

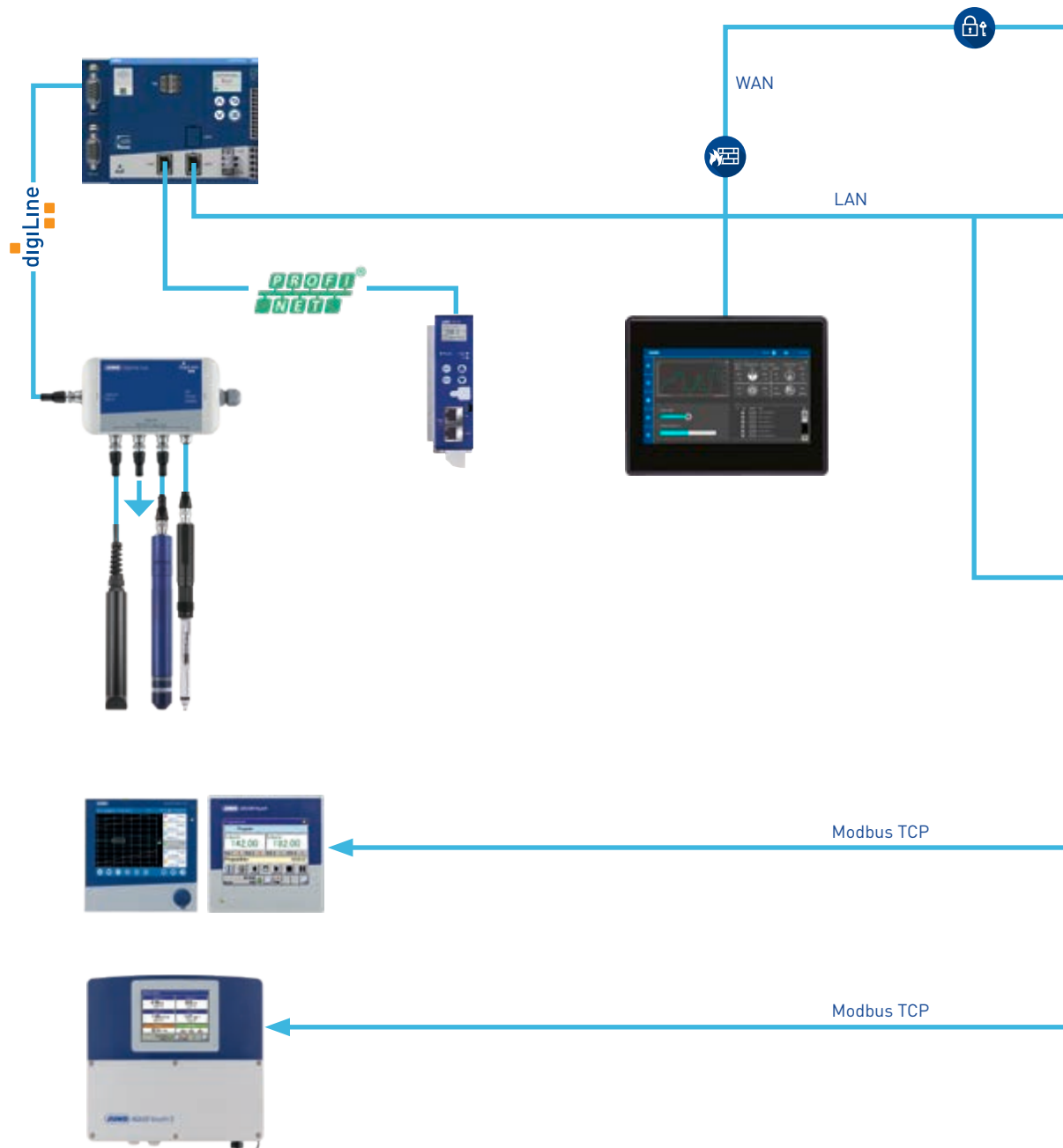
Recording, archiving, evaluating

JUMO variTRON automation systems allow you to record your important process data and transfer it securely via Ethernet to the Datastore ("cold data") using the REST API interface. Manipulation detection allows it to provide a high degree of security for your recorded raw data. You determine how many signals you license for evaluation. These can then be visualized and evaluated as "warm data" in Dataview with all common browsers via individual dashboards.

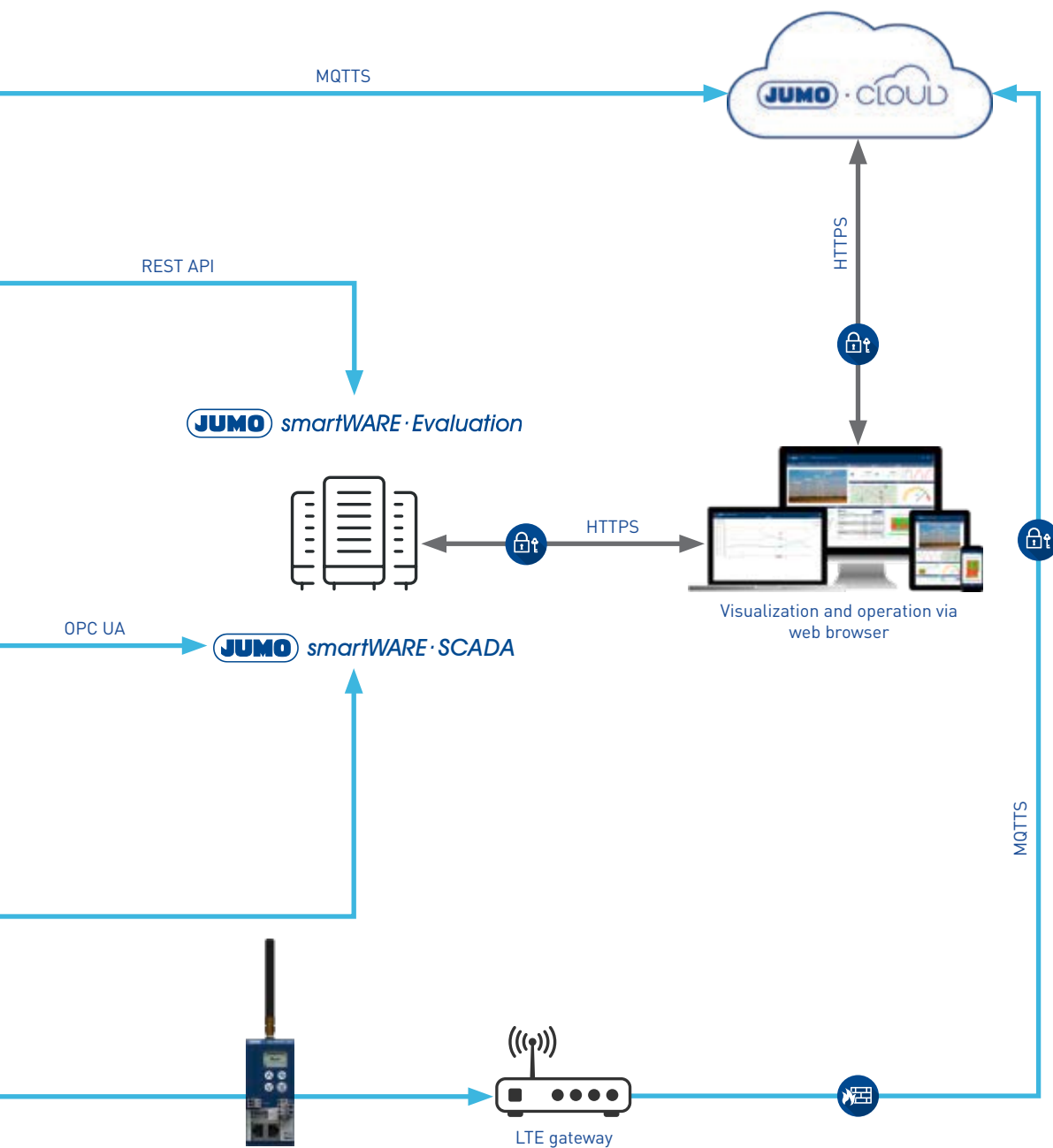




System structure – JUMO variTRON available with JUMO smart



smartWARE Evaluation, JUMO Cloud, or JUMO smartWARE SCADA





JUMO Engineering

JUMO Engineering, the service division from JUMO GmbH & Co. KG, combines expertise and industry-specific experience in one team. Our engineers and technicians develop customized solutions that are strictly based on your specific requirements. The JUMO Engineering team strongly believes in personalized support and consulting for its customers – from initial contact and the development of a customized solution to its series production. When carrying out the many different industry applications we always strive for optimum results with maximum customer benefits. Our innovative engineering services allow us to achieve this goal.



Innovative system solutions with expertise

We always draw on the feedback from our customers around the world to improve our products. This strategy is reflected in our new developments. We view complex tasks as challenges that allow us to develop tailored solutions for you and at the same time improve our product portfolio. JUMO Engineering with its range of services completes this comprehensive approach.

Our services

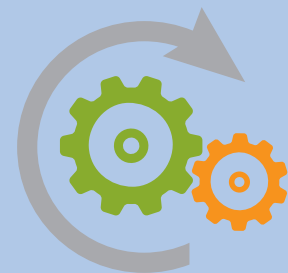
- Feasibility analysis
- Creating a technical concept including product requirements specifications and specification sheet
- Complete project planning and documentation
- Project planning including PLC programming, visualization, network technology, etc.
- Continuous project management
- On-site startup
- Training and support

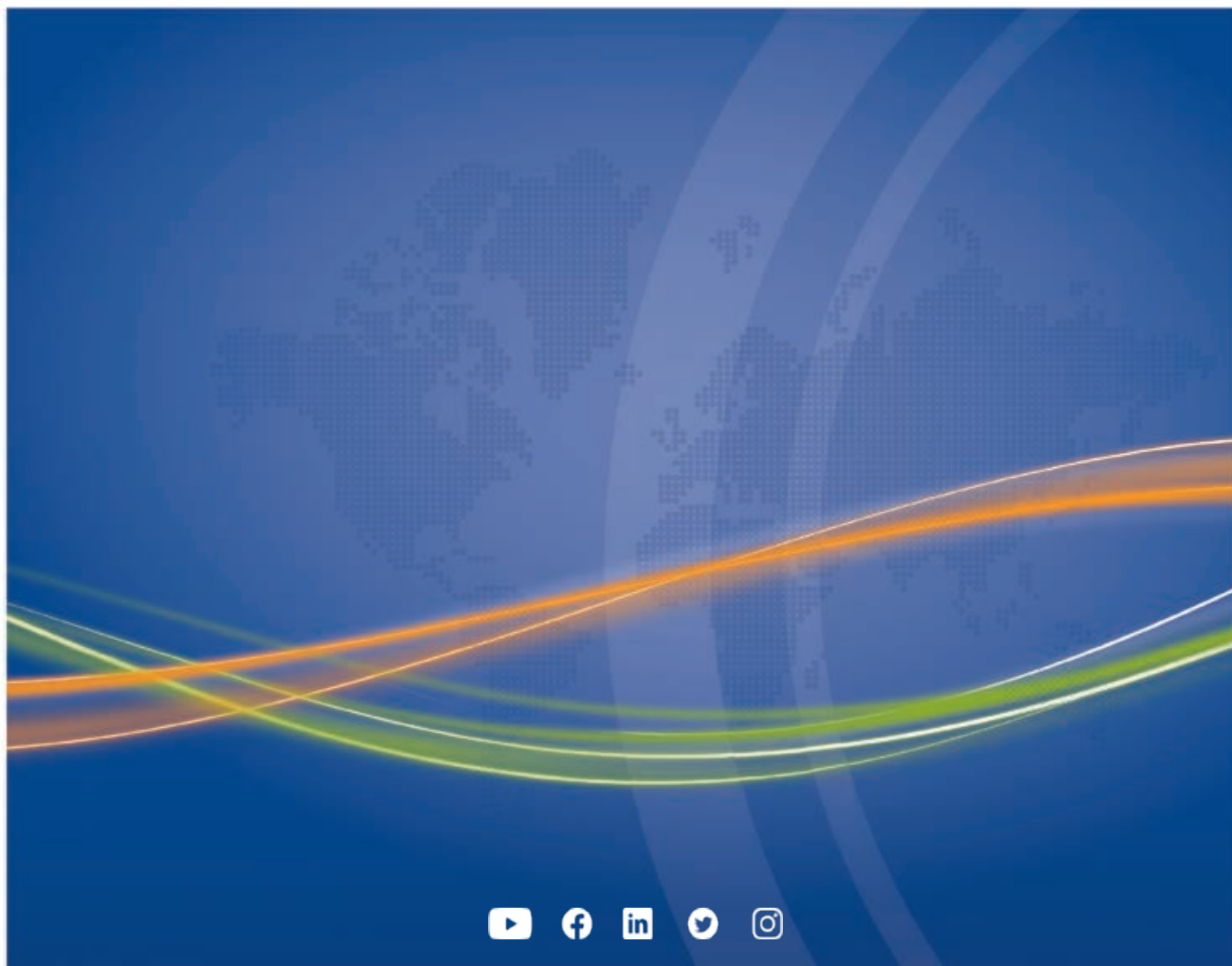
Your advantages

- As a central contact partner JUMO develops technical system solutions
- Extensive expertise with all measurement and automation devices
- Global support through experienced specialists
- Flexible, tailored solutions to suit your individual needs and applications

In a nutshell

- Precise and prompt communication channels:
This saves you time and prevents mistakes!
- Fully developed expertise for maximum flexibility:
For project planning that is fully reliable and safe
- Technology that has proven itself over decades reduces downtimes:
For excellent plant availability and process reliability!





www.jumo.net