

# Chemical Engineering

Measure • Control • Record



# JUMO – your partner for chemical engineering



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JUMO, a leading manufacturer of measurement and control systems, has been a competent chemical engineering partner for more than sixty years.

Highly qualified staff and state-of-the-art technology have enabled JUMO to establish a reputation with its products in the global markets. Maximum innovation is achieved by numerous new developments, as well as improvements to existing products and more economical production methods.

JUMO provides a variety of solutions for the various applications of chemical engineering.

Whatever is demanded of the measurement technology, JUMO will always meet every requirement. Be it the harsh ambient conditions and extreme process conditions of the petrochemical sector or the requirements of the basic, special and fine chemical sectors, JUMO has the right solution for the specific applications of these industries.

As a partner of this industry, JUMO provides the necessary know-how and experience for numerous procedures and diverse processes.

This brochure gives an overview of our chemical engineering products. Of course, we would be delighted if we could get together and work out solutions specifically tailored to meet your needs.

Precise, technical descriptions of our measuring instruments can be found on the Internet under the specified product number, at [www.jumo.net](http://www.jumo.net).



Willi Schnaus



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## Strong and reliable

### Temperature probes

Temperature is measured in many applications in chemical and process engineering.

JUMO can provide you with a vast selection of temperature probes.

Whether resistance temperature probes or thermocouples are involved, we can take note of your needs and customize the temperature probe during production to optimize it to your measurement task.

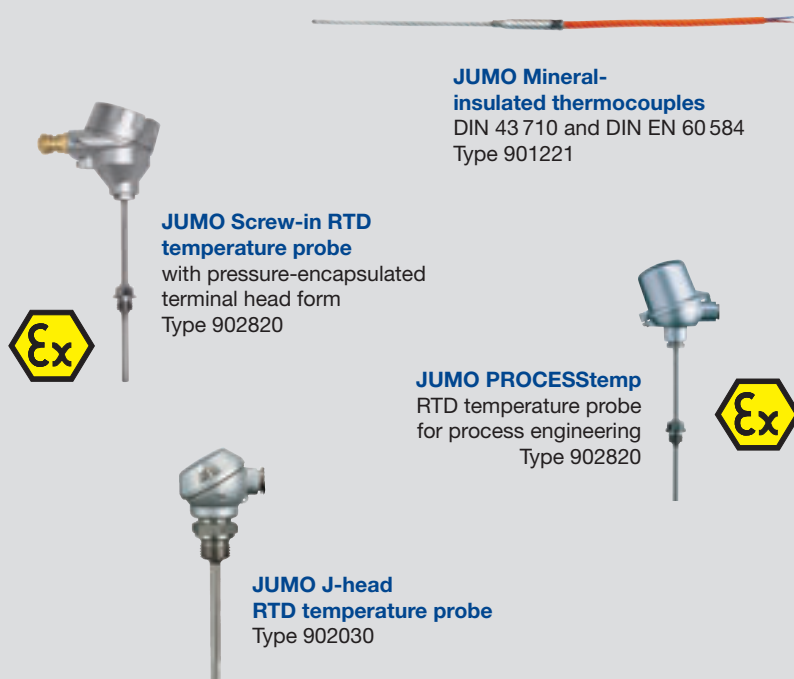
### Temperature transmitters

We have the right solution for your process.

In combination with a resistance temperature probes or a thermocouple, you will obtain a product that is specifically tailored to meet your needs, to accurately record measurement values in critical process areas.



## Temperature probes



## Temperature transmitters

**JUMO dTRANS T02 Ex**  
programmable  
4-wire transmitter  
Type 707025



**JUMO dTRANS T01**  
programmable  
2-wire transmitter  
Type 707016



**JUMO TB/TW**  
temperature limiters  
and monitors to EN 14 597  
Type 701160



**JUMO dTRANS T01/T**  
programmable  
2-wire transmitter  
Type 707013



**HART®**



## Intelligent and reliable

### Humidity sensors

**JUMO industrial transducers**  
for humidity, temperature  
and derived variables  
DIN 43 710 and EN 60 584  
Type 907023



**JUMO capacitive  
hygrothermal transducers**  
with intelligent interchangeable probes  
Type 907027

### Humidity sensors

The measurement of humidity plays an important part in powder production, particularly when hygroscopic substances are involved. The intrinsically safe hygrothermal transducers of the 907023 series are the ideal solution for measuring humidity and temperature under extreme process conditions. The convincing capacitive hygrothermal transducer with intelligent, interchangeable probes. These can be replaced in seconds and can be calibrated separately. The rugged metal housing gives you a long service life, even in harsh operating conditions.

### Thermostats

Be on the safe side in the chemical industry with JUMO safety thermostats. Whether in pipe tracing systems, in pipelines or as a frost protection thermostat, take advantage of the quality and save cost with simple mounting, ease of operation and working safety.

### Dial thermometers

In the chemical industry it is a not uncommon occurrence for accurate temperature measurement to be required independently of an energy source. The products JUMO provides here are equal to the extreme conditions of the chemical industry.

### Thermostats and Dial thermometers



**JUMO explosion-protected  
surface mounting thermostat**  
with ATEX approval PTB 03 ATEX 1187,  
enclosure protection IP 65  
Type 605051

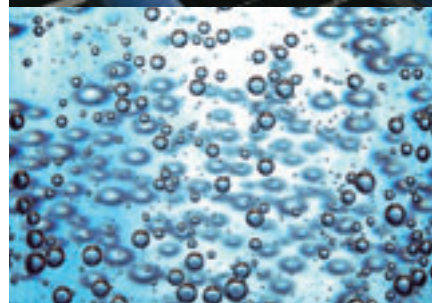
**JUMO surface-mounting  
single thermostat**  
to EN 14597, enclosure protection IP 54  
Type 603021



**JUMO dial thermometers**  
with a bimetal  
measuring system  
Type 608003



**JUMO dial contact  
thermometers**  
in stainless  
steel housing  
Type 608521





## Strong and reliable

### Pressure measuring equipment

Whether process pressure, liquid level or flow rate, with JUMO, you are ready for anything. Our pressure measuring instruments can be adapted to all processes. Various special materials are available for corrosive media. Use standard instruments to measure hot media up to 200 °C. We can also resolve extreme cases with remote seals or plastic housings.

### Pressure measuring equipment



#### JUMO dTRANS p02/p20 Delta/p20

Process pressure transmitter with ATEX approval, programmable, HART®, display, aluminum or stainless steel housing, special materials, remote seals  
Type 404382/404385/403025



**Pressure transmitters and level probes**  
with ATEX approval  
to max. medium temperature 200 °C  
Type 404753



**Pressure transmitters and level probes**  
for aggressive media  
in a plastic version  
Type 404391



#### JUMO DELOS

electronic pressure switch, programmable, display, stainless steel housing, also suitable for high medium temperatures  
Type 405052

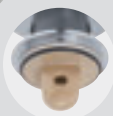






## Innovative and in line with the market

### Liquid analysis



#### JUMO CTI-750

Conductivity transmitter  
Plastic or stainless steel housing  
Type 202756



**JUMO tecLine pH/JUMO tecLine Rd**  
pH and redox combination electrodes  
Type 201020



#### JUMO tecLine Lf-VA

conductive conductivity cells  
in a stainless steel or titanium version  
Type 202924



#### JUMO AQUIS 500

Messumformer-/Regler-Serie für pH-Wert,  
Redox-Spannung, Ammoniak-Konzentration,  
Chlor, Chlordioxid, Ozon, konduktive und  
induktive Leitfähigkeit sowie Temperaturen  
Type 202560/202565/202570



#### JUMO dTRANS O2 01

transmitter/controller for dissolved oxygen (DO),  
with a separate operating unit  
Type 202610

### Liquid analysis

However varied the chemical processes and requirements of the chemical industry may be, they all have one thing in common – they generate wastewater

With the CTI-750, you can safely and reliably determine the conductivity of the wastewater and if necessary, monitor its neutralization.

Conditioning and monitoring water and aqueous media with the tecLine conductivity cell has a role to play in the fine chemicals sector.

pH-values play a major role throughout the chemical industry. Whether it's water conditioning, final product inspection or wastewater treatment, JUMO's wide range of electrodes measure up to all requirements.

With the dTRANS O2 01, you can determine and control the dissolved oxygen during wastewater treatment or in the company's own wastewater treatment plant.





## High system availability

### Controlling and displaying

High-precision controllers are required as soon as several physical variables, such as time, temperature or pressure, have to be precisely monitored in a process.

The cooling or warming can be quickly and precisely regulated with our electronic microstats.

Our compact controller series iTRON, cTRON and dTRON have been developed for more complex tasks, and can resolve most control tasks. They have a variety of interfaces, to ensure communication with process management systems.

For special controls and more complex processes, there is the IMAGO series. The IMAGO 500 with color screen and 50 time planning programs offers optimum operator control and allows diverse processes to be safely controlled. With the option of multiple channels, it is possible to regulate, monitor or control different processes, such as the flow rate, pressure, temperature and liquid level of a system universally, in a single instrument.

Accurate adjustment is particularly important with chemical processes in order to avoid overheating, for example. An integrated cascade controller in the JUMO IMAGO 500 helps you to prevent this.



## Controlling and displaying

### JUMO IMAGO 500

Multi-channel process and program controller  
Type 703590



### JUMO cTRON

Compact controller with timer and ramp function  
Type 702070



### JUMO dTRON

Compact controller with program function  
Type 703041



### JUMO LR 316 compact laboratory controller

in a plastic benchtop housing  
Type 700703



### JUMO di 308

digital indicator,  
microprocessor-controlled  
Type 701550







## High level of system reliability

### Visualization and archiving



#### JUMO LOGOSCREEN nt

Paperless recorder with TFT display, CompactFlash card and USB interfaces stainless steel front and operation with touch panel  
Type 706581



#### JUMO LOGOSCREEN es

Paperless recorder for safe acquisition of FDA-compliant measurement data  
Type 706560



#### JUMO LOGOSCREEN 500 cf

paperless recorder with CompactFlash card and Lifecycle data management  
Type 706510

**JUMO SVS3000**  
Process visualization software with batch-related data report and evaluation in a network  
Type 700755



#### Visualization and archiving

For optimum process safety, you can record your process data with our recorders.

The right product for extreme process conditions and aggressive atmospheres is the JUMO LOGOSCREEN nt in a stainless steel housing and with ATEX approval.

The SVS3000 process visualization system allows effective operator control, visualization and documentation.

A feature here is batch documentation, which allows batch-oriented storing of the processes. A user-friendly operator interface with numerous functions is available for this: application explorer, alarm and event lists, recipe function, etc.

The software is quick and easy to configure, saving you from high application costs.





# Your safety is important to us

## Approvals and directives

So that you can rely on your process completely and utterly, we continually strive to adapt our products to the latest safety requirements and directives.

## Communication

It is becoming more important nowadays to speak the right language, and the same applies to measurement technology.

We provide you with the communication you need for your system concept.

## Materials

Chemically-resistant materials must be used for chemical processes that cannot be subject to variability.

We provide you with the material you need for your process.

(for example CrNi steels, titanium, tantalum, inconel, hastelloy, and ceramic)

For critical processes, materials can be furnished with a 3.1 inspection certificate under traceability procedures.

## Calibration

JUMO has its own DKD laboratory, which is directly subordinate to the PTB (German Federal Physical and Technical Institute).

We will happily calibrate your temperature probes for you, even on site, so that your product can demonstrate a consistently high standard of quality.



## Approvals and directives



RoHS95



## Communication



HART®

RS485

Analog

## Materials

**Stainless Steel**  
**CrNi steels, Hastelloy,**  
**Inconel, Ceramic,**  
**Tantalum, Titanium, et al.**

## Calibration





## Main areas of application

### Petrochemicals



- Steamcracken
- Steamreforming
- Fractionation



### Fine Chemicals

- Solvent recovery
- Distillation
- Thin-film refinement

### Basic Chemicals



- Filtration
- Vacuum drying
- Rectification



### Specialty Chemicals

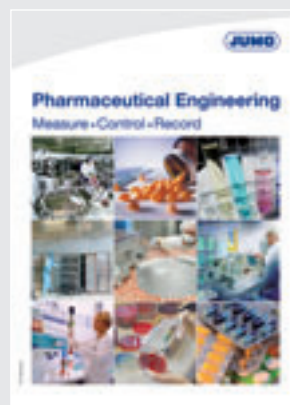
- Formulation
- Centrifugation
- Drying



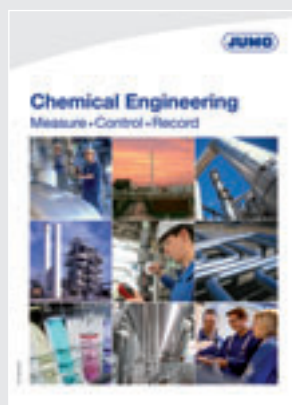
# Further industry brochures



**Food technology**  
Measure • Control • Record  
PR 00038 EN



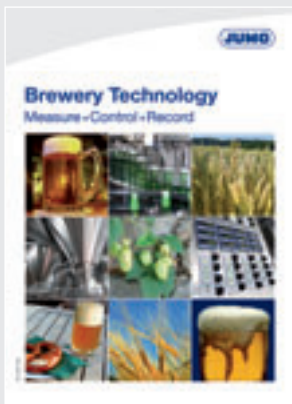
**Pharmaceutical Engineering**  
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PR 00058 EN



**Chemical Engineering**  
Measure • Control • Record  
PR 00056 EN



**Water and wastewater engineering**  
Measure • Control • Record  
PR 00059 EN



**Brewery Technology**  
Measure • Control • Record  
PR 00057 EN



**Dairy Technology**  
Measure • Control • Record  
PR 00061 EN



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