



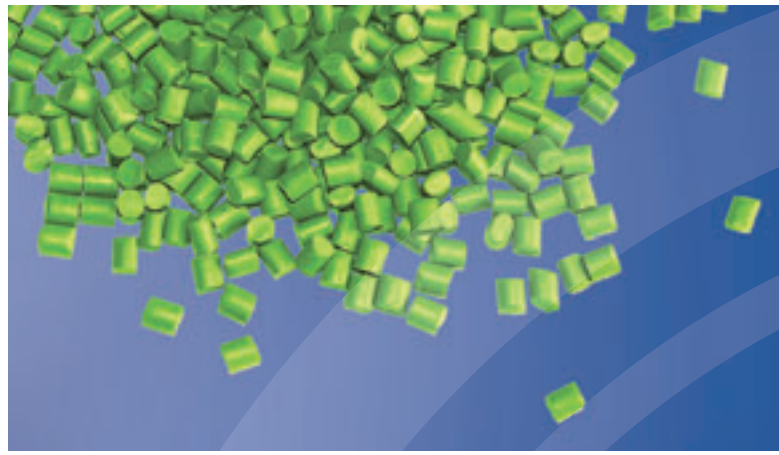
More than **sensors + automation**



Plastics and packaging technology

Innovative solutions for your success





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Dear Reader,

Plastics and packaging are an integral part of everyday life. But only manufacturers realize how much the production of these materials depends on reliable processes and accurate measurement.

Your partner JUMO is always at your side to help when you have questions, and to provide solutions. It does not matter whether you want to use pressure or temperature to monitor product quality, lower production costs or improve productivity.

So how do we do it? By applying our experience and professional expertise.

JUMO has already been a leading manufacturer of measurement and control systems for more than sixty years, and consequently has been a competent partner to the plastics and packaging industries.

New developments, improvements to existing products and more economical production methods are particularly important to us, because this is the only way to ensure the highest level of innovation.

JUMO also only provides the best for plastics and packaging technology, with a number of solutions for a variety of different applications.

In this brochure, we would like to give you an overview of the JUMO products that are available for plastics and packaging technology. Of course, we would also be delighted to get together with you to work out specific, individually customized solutions.

With this in mind – here's to consistently good quality!

Christoph Schneider

P.S.: Detailed information about our products can be found under the specified type/product group number at www.industry.jumo.info

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Temperature

Temperature is the most important measurement variable in the plastics and packaging industries. It affects the materials that are used here, and has to be accurately controlled and monitored. JUMO has first-rate systems to help you with these processes.



The effect of temperature on plastics and packaging

When it comes to the production of technical/hi-tech plastic parts, accurate temperature measurement has a crucial role to play in the entire manufacturing process. The thermal process stability is not just vital for an injection-molding machine or an extruder, it is also important to the hot runner, the molds and the mold inserts. The requirements of mold cooling have also become more strict.

Thanks to the use of new materials, process temperatures are progressively rising, at the same time as manufacturing tolerances are falling, which increases the demands being made on temperature sensors. JUMO is taking this trend into account firstly by using more sensors, and secondly by improving their quality characteristics.

Nowadays, mold and hot runner optimizations are geared to meeting the thermal demand of the melt. Such an optimization could be correctly defining the accuracy requirements, or optimum sensor positioning, or extending the service life of mineral-insulated thermocouples, probes with bayonet connection and melt sensors.

Screw-in melt thermocouples/ RTD temperature probes

Type 901090/902090



Push-in thermocouples/ RTD temperature probes with bayonet lock

Type 901190/902190



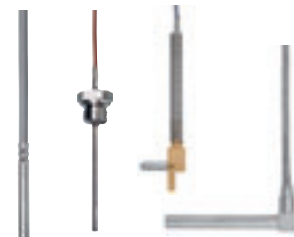
RTD surface temperature probes

Type 902550



Push-in RTD temperature probes/ Screw-in resistance thermometers/ Push-in thermocouples with connecting/compensating cable

Type 902150/902050/901150



Mineral-insulated resistance thermometers to EN 60 751

Type 902210/902250



JUMO dTRANS T02

Programmable 4-wire Transmitter
(Smart Transmitter)
Type 707020



Mineral-insulated thermocouples to DIN 43 710 and EN 60 584

Type 901240/901250



JUMO Wtrans B

Programmable head transmitter
with radio transmission
Type 707060





Pressure

As well as temperature, pressure also has a crucial role to play in the production of plastics and packaging. We have therefore developed a variety of high-quality pressure measuring instruments.



The effect of pressure on plastics and packaging production

Pressure control is one of the technical requirements for a safe operational process, in injection molding machines, for example. In extruders, on the other hand, correct pressure ensures proper extrusion and control of visual product details. Accordingly, this measurement variable directly influences the quality of the products being manufactured, and should be monitored continuously.

JUMO provides a variety of pressure measuring systems to safeguard your processes. Different instrument versions are available, depending on the field of application. We also take individual customer requirements into account.

As plastics and packaging are often manufactured at high temperatures, our product range also includes melt pressure transmitters that can be used at temperatures as high as 480°C.

JUMO MIDAS Series

Pressure transmitter
Type 401002/401005/401010



JUMO 4 ADM-35

Melt Pressure Transducer
Type 404450



JUMO dTRANS p30

Pressure Transmitter
Type 404366



JUMO dTRANS p31

Pressure transmitter for elevated media temperatures
Type 402050



JUMO dTRANS p20

Process pressure transmitter
Type 403025



JUMO dTRANS p33

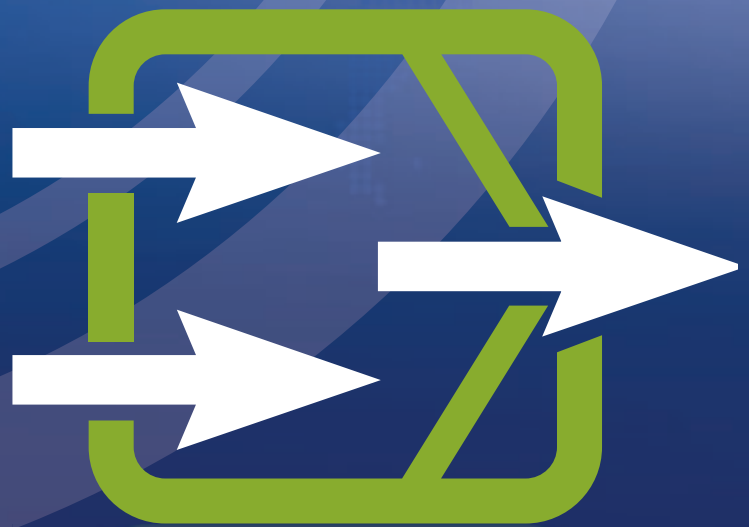
Pressure Transmitter and Level Probe for use in hazardous areas
Type 404753





Control

To ensure thermally optimized solutions in plastics processing, you require proper temperature control, as well as the right sensor design. JUMO systems are ideal in this respect.



Accurately and efficiently

Modern, microprocessor-based temperature controllers and control systems are no longer just used to control a parameter, they also have a wide range of process monitoring tasks to perform. For example, the response time of a temperature control system can appreciably influence the control accuracy of an entire control circuit.

The increasingly complex tasks are mainly being performed by intelligent, distributed control systems with a high level of basic functionality. They are also highly adaptable, to allow integration into the bus structure of a production system, for example.

In this field JUMO also offers a wide selection of models, such as the JUMO dTRON 300 plast, which we have equipped with specific functions for the processes in the plastics industry.

In addition to this, the JUMO product portfolio ranges from transmitters, to temperature monitors, to multi multi-functional process and program controllers, and can provide instruments for the complete measurement chain to support all your processes.

JUMO IMAGO 500

Multi-channel Process and Program Controller
Type 703590



JUMO dTRON 300 plast

Compact Controller for the plastics industry
Type 703046



JUMO cTRON 04/08/16

Compact controller with timer and ramp function
Type 702070



JUMO eTRON M

Electronic Microstat
Type 701060





Record

Are you familiar with the JUMO LOGOSCREEN? With the instruments of this paperless recorder range, you are best equipped to record, archive and evaluate the measurement values that require verification in an easy and tamper-proof way.



Recording, archiving and evaluating

With JUMO LOGOSCREEN, your process data can be reliably recorded and archived in a tamper-proof way. The data is either evaluated directly at the instrument or on a PC, using the JUMO PCA3000 evaluation software. The batch reports can be printed out in customized forms.

But that's not all there is to it - the new generation paperless recorder, the JUMO LOGOSCREEN nt, has an online process data visualization option, as well as various limit monitoring procedures, a remote alarm in the event of fault, and simultaneous recording of three, totally independent batch processes.

This means that because measurement data are continuously recorded, JUMO paperless recorders give you the crucial advantage of using evaluated data to explicitly optimize your process, thus efficiently increasing plant productivity over the long term.

It is imperative that you record the measurement data, especially when the filling systems are involved in aseptic applications, in order to document the production process without interruption.

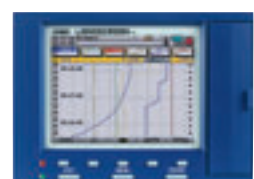
JUMO LOGOSCREEN nt

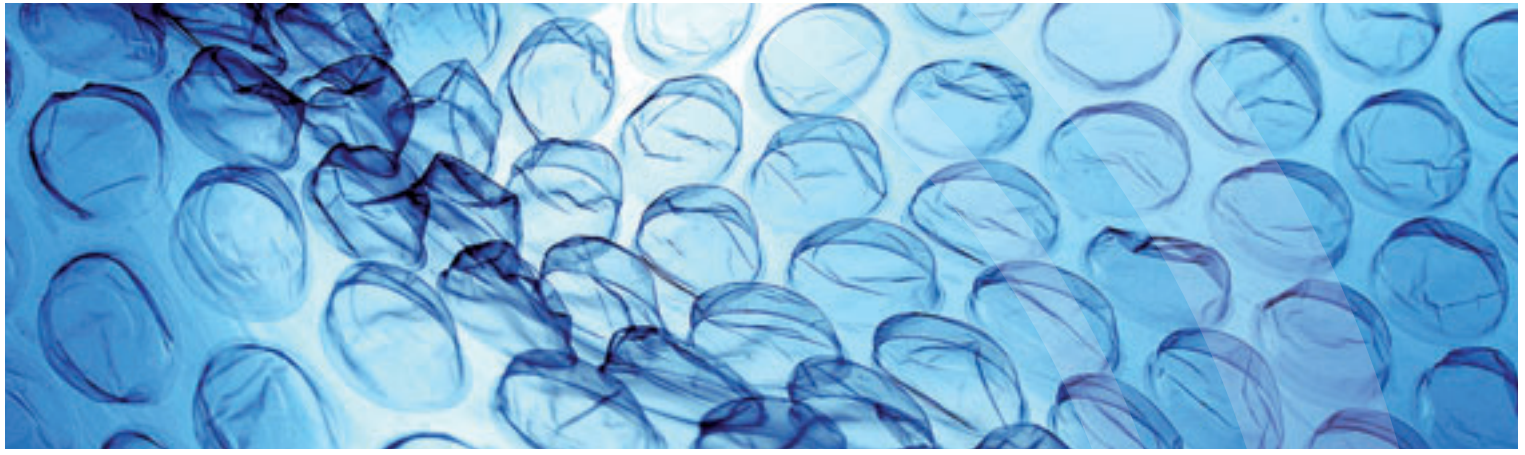
Paperless recorder with TFT display, CompactFlash® card and USB interfaces
Type 706581



JUMO LOGOSCREEN es

Paperless Recorder for secure acquisition of FDA-compliant measurement data
Type 706560





Monitor

Because temperature has a decisive effect on the quality of the plastic components, JUMO has developed reliable temperature monitoring technology.



Monitoring systems with electronic or electromechanical thermostats

Any deviation from the required temperature value directly affects the accuracy of the weight and size of the finished parts. Temperature monitoring is therefore a crucial factor in plastics processing. It is particularly important to monitor the temperature in drying systems and temperature control units.

In pellet drying systems, you have to monitor the correct ratio between the temperature and the relative humidity, to achieve optimum dryness. In temperature control units, the prescribed temperature must be maintained. If the temperature is exceeded, the plastic pellets can be irreversibly damaged.

To prevent this type of irreversible damage, JUMO can provide electronic or electromechanical thermostats to consistently monitor your system. This has the crucial advantage that – should the maximum system temperature be reached – the DIN EN 14597 compliant thermostats shut down, to be on the safe side.

JUMO eTRON T

Digital Thermostat
Type 701050



JUMO TB/TW

Temperature limiter, temperature monitor
according DIN EN 14 597
Type 701160/701170



Surface-mounting Thermostats

ATH Type Series
Type 603021



JUMO heatTHERM-AT

add-on or room thermostat
Type 603070



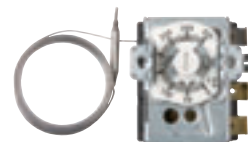
JUMO heatTHERM

Panel-mounting
thermostats
type series EM
Type 602021



JUMO heatTHERM

Panel-mounting thermostats
Type 602031



Bimetal temperature switch

Type 608301





Automate and Visualize

To ensure that your automation processes run smoothly, you need reliable thyristor power switches for contactless switching of the A.C. load.



Power under control with JUMO thyristor power switches

A typical application for thyristor power switches is switching resistive inductive loads with a high number of switching actuations. The control and power sections are electrically isolated from one another by optocouplers. The control signal range is compatible with the logic outputs of the JUMO controller. The power section works as a no-voltage switch, that is, whatever the timing of the control signal change, switching is only ever actuated at voltage zero. This avoids fluctuation voltages. The input status is indicated by an LED.

JUMO TYA-201

Thyristor power controller
Type 709061



JUMO TYA-202

Thyristor power controller
Typ 709062



JUMO TYA-432

Thyristor power switches
Type 709010/709020



Visualize your processes with SVS3000, display measurement values on-site

JUMO SVS3000 plant visualization software allows effective operator control, visualization and documentation. A key feature is batch documentation, which saves the data obtained from the processes with a reference to the relevant batch.

There is an extremely helpful and user-friendly operator interface, with a full range of functions.

Digital indicators display your measurement values on-site, in the process.

JUMO Plant visualization software SVS3000

Type 700755



JUMO di308

Digital Indicator
Type 701550



JUMO di08

Digital Indicator,
Type 701530





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