

Complex dispensing with PC control

Tecos manufactures dispensing systems for materials with low-to-high viscosity and automates processes so completely and reliably that the investment quickly pays for itself. Company director Bruno Himmelberger said: "We can only meet our customers' requirements for extremely high accuracy because we have optimally matched all the components in our concept: mainly valves, scales, pump systems, and controls."

Tecos AG uses METTLER TOLEDO weighing technology.



Bruno Himmelberger
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use METTLER TOLEDO because of its guaranteed measuring data and its established worldwide service network. The easy integration of the weighing technology into our Fieldbus Standard Profibus DP was also an important decision criteria for us."

Accurate dispensing even with problem materials

One or several scales and JAGUAR™ process terminals are key components in systems for precise dispensing of pastes,

semi-finished products, varnishes and oils. Each dispensed quantity passes over a rugged weighbridge, which is based on a weighing sensor with electromagnetic force compensation. Thanks to this, dispensing accuracy is high: up to $60\text{kg} \pm 1\text{g}$. But today, even scales with a weighing range up to 1500kg also have 1g resolution steps; in this case the dynamic accuracy of the system depends on the environmental conditions and lies in a range between about 3 and 5 grams.

Manufacturers of printing dyes and paints, adhesives or chemical products, who want to optimise dispensing of materials with high or low viscosity want to know more when they hear of investments paying for themselves within one to three years. Tecos AG – a young company located in Altnau, Switzerland – delivers dispensing systems which reduce costs and are tailored to the specific production processes. Its systems have already been installed in Europe, Australia and Japan.

Bruno Himmelberger, one of the company's three directors, knows there is no point talking about new production equipment unless it pays for itself quickly and has a guaranteed high level of reliability: "Because we sell our systems worldwide, we have tested all our modules for their reliability in operation and their ease of servicing in an international environment. For weighing technology we decided to



A typical dispensing system for materials with low-to-high viscosity can include up to four scales.

PC makes complex technology easy to operate

In practice, the operator controls the entire dispensing process from his PC terminal. The Simatic WinCC process visualisation software guides him smoothly through the process: he just calls up the formula and starts dispensing. The modules already mentioned now function automatically in the background: frequency-controlled pumps, which draw the materials out of their containers, and even 'eat' their way into highly viscous pastes, as well as a dispensing head with up to 60 self-cleaning valves, which Tecos developed itself. Scale, process terminal, and valve control communicate via SPS Siemens S7 and Profibus DP. If required, systems for operation in hazardous areas can also be built.

Needs fewer people, uses less material, saves time

Thanks to finely-tuned modules the system brings real added value to production operations. Bruno Himmelberger: "Batch size can be increased without dispensing accuracy suffering. And smaller batches can be completed faster. There is generally less need for checking, and our systems scarcely need any maintenance. Printing processes need far fewer test prints and adjustments because the stock dyes correspond exactly to the laboratory formula. Customers say to me: 'We have much less waste now, because we can measure out the exact quantities we really need.' Fewer people, less material, time savings – these are all important cost-reduction factors."

Plant monitoring via modem

Many plants are in operation day and night. Plant performance can be remotely monitored via modem at Tecos. Adjusting individual valves, or tracing faults, at a customer's plant in Australia online from Lake Constance is a matter of course: state-of-the-art technology which renowned companies such as BASF, Coates Lorilleux Printing Dyes, Hostmann-Steinberg or Michael Huber (Munich) rely on every day.

Long-term investment protection

A typical system of this type is about 12 metres long, five metres wide and four metres high, and can include up to four scales. But smaller systems are also tailor-made for specific process tasks, where either gravimetric weighing-in is the right method, or dispensing is done by negative weighing-out of a container. It's the close cooperation between Tecos specialists and METTLER TOLEDO weighing professionals that ensures highest possible reproducibility of the formulas, and long service life of the systems.

The operator controls the dispensing process from his PC terminal: just call up the formula and start dispensing. The Simatic WinCC process visualisation software keeps him continuously informed with easily understandable data.



Each system is tailored to the specific production process, and optimally integrated into the internal material flow.

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