The Right Mix

Somakon Verfahrenstechnik uses Turck's HMI/PLC solution, VT250, for intelligent control and operator guidance of its MP blender family

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Turck's HMI/PLC solution, VT250, is the central control and operating element of the MP blenders

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Blending, as an independent procedural step in development laboratories, has become more and more important over the last couple of years. Combined with the demand for small quantities and transferability to larger systems, a need arose on this area that can only be fulfilled by few laboratory blenders today.

Wolfgang Naton has dealt with the problem of mixing and granulating on a laboratory scale for the last ten years. The process engineer is the manager for Somakon Verfahrenstechnik, a company that develops and sells blending systems for numerous fields of application. The blenders from Somakon are used in the research laboratories of the chemical industry and the producers of pharmaceuticals and pesticides. Along with their entry model, the LB, which was designed as a pure blender, Somakon also offers the MP blender family.
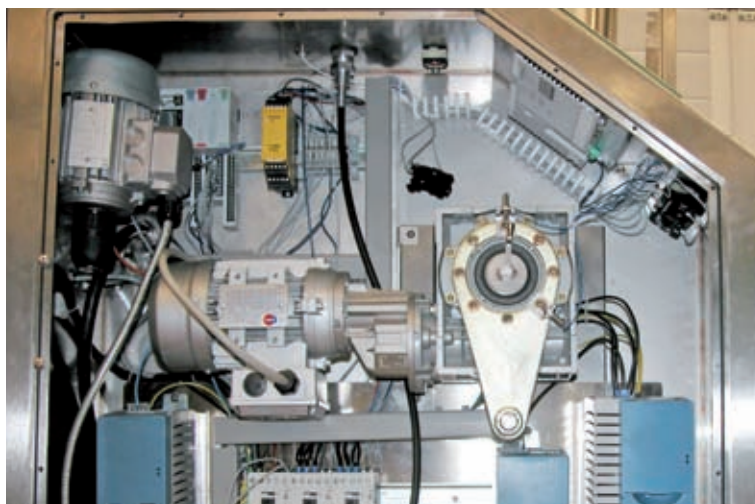
The VT250 (at the slant) communicates via Ethernet over the BL20 remote I/O (upper left) with sensors and frequency converters

MP blenders from Somakon can be adapted to the requirements of the customer

Modular blender concept

"MP stands for multi-purpose, which means that we can configure the systems individually according to the requirements of the customer," Naton explains. "Many customers start with a base model, but quickly request further functions. With our MP solution, we have the flexibility to update the base model according to our customers wishes, and add temperature, pressure or humidity measurements. With this you can handle whole processes."

In addition to blending, the MP machines can be used for granulating, pelletizing, emulsifying, suspending, kneading, loading, crushing or drying – based on the configuration level. Along with the containers and tools, the blender is equipped with sensors and actuators, depending on the process steps that are performed. To offer the needed flexibility of its machines, Somakon turned away from mechanical control elements and classic controls, and tried the VT250 from Turck instead.

The VT250 is a compact operator terminal with a PLC that was developed especially for independent control and the operation of small and medium sized machines – the ideal solution for the MP blender family. VT250 includes a 5.7"-QVGA-TFT touchscreen in a compact plastic housing; QViS visualization software provides the communication between human and machine, which is implemented by the common control software CoDeSys 3. "With the VT250 from Turck, we have a PLC that meets all our requirements at an

optimal price performance ratio," Naton adds. "We have implemented the first project with Turck and received a lot of support during the set-up of the new machine. This includes the programming of the controls with CoDeSys." Naton has had bad experiences with other renowned PLC providers in the past, especially in regard to their support: "I worked with the PLC from another provider, but as a comparatively small company, it takes ages until you get the right contact on the phone. That is different with Turck. We experienced exceptional support from the product management, as well as the field and indoor service."

As well as using the VT250, Somakon uses the economy version of Turck's BL20 I/O system to connect the sensors and drives of the blenders. The BL20 Ethernet gateway coordinates the communication with four I/O modules and serves as the interface to the controls within the VT250. For example, one module with eight analog inputs may be used for PT100 or pressure signals, another module with four analog outputs is used for the frequency converter, as well as two modules with 16 digital inputs and outputs are used for the binary signals.

Container identification via RFID

The subject of wireless container identification is another important factor for the future plans of Naton. In this area, Turck's modular RFID system, BL ident, with tags that can be installed directly onto metal and the possibility to connect the combined read/write head via RFID module over the existing BL20 I/O system, can be easily included into the machine. Alternatively, there also is the possibility to connect the combined read/write head to the VT250 directly. The RFID labeling makes sure that containers or tools are used exclusively for the process steps for which they are designed. That increases the safety and the lifespan of the blender.

Concludes Naton, "Turck doesn't just offer the fitting products for my requirements but also has employees that are very supportive and find a solution for everything." ∎

❝With the VT250 from Turck we have a PLC that meets all our requirements at an optimal price performance ratio.❞
Wolfgang Naton, Somakon

▶ **Quick read**

The blenders at Somakon are very popular at the research and development departments of renowned industrial users, because they can be adapted individually to most tasks because of their modular concept. To offer this flexibility at a good price performance ratio, Somakon uses Turck's HMI/PLC, VT250, as efficient control and operation unit.