

## Software PLC controls chemical distribution cabinets

# A concept that convinces

With 15 years of experience, Kinetics is a leading provider of high-purity process systems to the electronic and semiconductor industry. Kinetics offers a full range of products and services for the delivery of ultra-pure water, chemicals, slurries and gases. One of the most significant reasons for their success is the consequent use of off-the-shelf automation systems from leading suppliers. Kinetics Germany, responsible for the European and Asian electronic market, has selected Siemens as their standard automation platform.



Kinetics chemical distribution cabinet with Simatic WinAC MP

The fabrication of semiconductors requires slurries and high-purity acids, caustics and solvents to be made available when requested by the manufacturing equipment. The partly toxic, explosive and corrosive chemicals are transported from bulk tanks to the chemical distribution systems. From there, the chemicals are distributed on request to the various manufacturing equipment via magnetic or pneumatic valves. The cabinets provide, besides pumping, also filtering, analyzing and mixing capabilities.

Due to process control reasons, the high-end chemical distribution system MegaFlex™ from Kinetics Germany uses an independent dedicated automation system consisting of the following Siemens components:

- Simatic MP 370 (touch panel including GUI software)
- Simatic S7 315-2 DP CPU (mid performance controller)
- Profibus DP and AS Interface (fieldbus system for decentralized applications)
- Simatic ET 200M (high-density I/O).

“In the past we were very satisfied with this configuration”, explains Ralf Orth, senior project manager instrumentation & controls at Kinetics. The system brought us all the advantages we need, like plug &

play components for easy system set-up, intuitive engineering tools for less training efforts and, last but not least, the well-accepted Siemens name in the industry. But we also see a trend towards integration to the overall Facility Monitoring and Control System (FMCS). With Industrial Ethernet we are able to link easily to the factory network. Another important issue that concerns equipment manufacturers is the size of the components which are built in the machines. That can be everything from controllers, I/O modules, terminal blocks, pumps to valves and so forth. Just at the right time, Siemens presented us their new Simatic WinAC MP concept. This system combines a 12” GUI with PLC functionality including Ethernet and Profibus at the same size of a Simatic MP 370 touch panel. This is exactly what we need. At the upcoming SEMICON Europa 2003 show in Munich, we will present our MegaFlex™ with Simatic WinAC MP for the first time.“

### Perfect twin-pack: Simatic MP 370 and software PLC WinAC MP

In the future, this new duo will replace the conventional hardware PLC with a separate operating panel. This allows connection to the office world via the integrated

Ethernet interface (10/100 Mbit/s) of the MP 370. Fabs more often require the easy transfer of onsite acquired operating data – such as messages, process values/status and so forth – to higher-level systems. Vice versa, this interface enables access of the machine from the outside, for instance, by the operating staff for diagnostics purposes or location-independent by authorized users via Intranet and or Internet.

### Problem-free transition

“The change from the hardware PLC to the fully compatible WinAC software PLC and the Multi Panel of the Simatic HMI spectrum was easy“, explained Ralf Orth. “We simply ported our existing Step 7 program, set up the new hardware basis, made a few modifications and the machine immediately ran smoothly and stably. The software PLC and closed real-time operating system of the Multi Panel have proven to be a very fail-safe and high-performance unit at a competitive price.” ■

**Ralf Orth, Kinetics Eschau-Hobbach**

E-Mail: rorth@kineticsgroup.com

**Udo Heckel, Siemens Nuremberg**

E-Mail: udo.heckel@siemens.com