

Siemens Process instruments provide for reliable vaccine production

Vaccines

A vaccine is an antigenic substance used to produce active immunity to a disease in order to prevent or reduce the effects of infection. The idea of vaccinations dates back to 1796 when it was noted, that people who had caught cowpox (a minor disease) could not catch the more fatal smallpox.

Today, vaccines are important for the health of individuals and nations. A world without vaccines is un-imaginable and very large effort are spent in developing new vaccines and to produce them with highest quality.

The large companies of this industry segment prefer to centralize their development activities while the production facilities are located in many different countries close to the local markets.

At a recent project in Europe, Siemens Building Technology (SBT) was awarded to automate important parts of a vaccine plant such as air conditioning and various supply units (utilities).

Siemens A&D SC received the order through SBT to deliver the process instrumentation to the utilities.

pharmaceutical INDUSTRY

Vaccines play an outstanding role in today's worldwide health policy, and tremendous resources are spent in developing and producing vaccines. Plants are modernized and new plants erected using best available production technologies. With the objective of increasing cost efficiency and product quality high performance automation systems are implemented in both new and revamped plants.

Siemens is very much involved in this kind of projects with process automation and process instrumentation deliveries. This is not only due to the availability of suitable products and services but also based on the worldwide and local presence, best technological experience and the crossfunctional cooperation of various Siemens groups.

SIEMENS

Case Study

Utilities

Utilities are groups of equipment within a larger plant that are designed to provide a needed service such as heat or electricity or water necessary to fulfill the plant main goal. A typical vaccine plant utility is structured as shown in Fig. 1. Even though utilities are not part of the main production line, their reliability in operation and accuracy in parameter adherence are crucial for a continuous and efficient manufacturing and even more for product compliance with specification. Therefore, plant owners and operators emphasize very much to choose and install robust, reliable and highly precise devices that are suitable for use in industrial environment with difficult materials.

Measuring task and Siemens solution

Measuring task in the actual project was control and monitoring of level, temperature, pressure and flow as well of pH and conductivity in tanks and vessels. Measuring media are fluids such as glycol water, cooling water, de-ionized water, industrial water, city water, and others.

From the wide scope of Siemens process field instruments numerous different device types are typically used to solve this measuring task (Fig. 2). They must be carefully selected and adapted in order to comply best with the individual application requirements, for example the SITRANS LC 500 (Fig. 3) which is designed for operation under extreme and critical process conditions.

Efficient project management

The global presence of Siemens, besides the technical performances of the Siemens process instruments, has a vital influence to the success of such projects. At the actual project, e.g., *Siemens Building Technologies Group* acquired the entire contract and subcontracted *Siemens Process Instrumentation*.

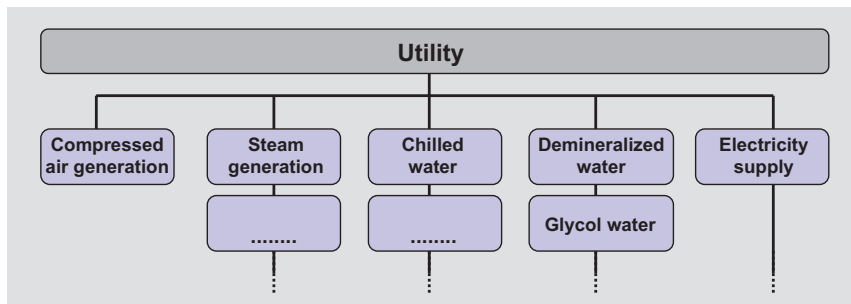


Fig. 1: Typical structure of a vaccine plant utility

Parameter	Device	
Pressure	SITRANS P	Precision digital transmitter for pressure, absolute pressure, differential pressure, flow and level.
Temperature	SITRANS T K	Part of the head transmitter family for assembly in the connection head.
Flow	SITRANS F O	Orifice type flowmeter used to measure volume flows of liquids, gases and vapors.
Level	SITRANS CLS 200	Inverse frequency shift capacitance switch with a high level of chemical resistance.
Level	SITRANS LC 500	Inverse frequency shift capacitance level controller for extreme and critical process conditions.
pH	SIPAN pH	Liquid analyzer for pH determination.
Conductivity	SIPAN Cond	Liquid analyzer for conductivity determination.

Fig. 2: Siemens field devices, typical scope of delivery for a vaccine plant utility

In special cases, the function of the *Corporate Account Manager (CAM)* as a "stringpuller" on Siemens side has proved to be extremely helpful. The function of the CAM is to coordinate and support the project with the objective to fully satisfy the customers expectations.

User experience and benefits

Some users, particularly during revamping or expanding their plant, get first experiences with Siemens process instruments, systems and services. This exactly happened during the actual project, where the customer was very satisfied with the reliability of the instruments, the efficient project management and the helpful local support.

Concrete benefits in reducing project time and costs arise from

- the high performance and measuring quality of the devices,
- the efficient project management and
- the total project responsibility and delivery of all devices from one hand.



Fig. 3: SITRANS LC 500 product family