

Purified Water



Less Lab Testing and More System Uptime at French Medical Device Company

For a producer of medical biopolymers, quality from the purified water loop must be very high, and out-of-spec conditions responded to immediately. Switching to METTLER TOLEDO Thornton on-line measurement solutions has significantly reduced lab testing and increased availability of the water system.

Experts in biopolymer production

SYMATESE, located in Chaponost, France specializes in the extraction, purification, and transformation of implantable organic polymers (such as collagen types I and IV, calcium alginate, hyaluronic acid gels, etc.), and the manufacture of implantable medical devices.

SYMATESE operates in an optimum quality environment, in compliance with

European and international pharmaceutical regulations, assuring that their products have a strong presence and quality reputation in their markets. Thanks to the company's expertise and know-how in the area of biopolymer technologies, SYMATESE supplies products at varying stages of manufacture, from raw materials to partly-finished, and the finished product. The biopolymers processed by SYMATESE are accredited by the European Community.

Real-time monitoring of purified water loop

The procedure of transforming SYMATESE biopolymers requires the highest water quality and quick reaction to any potential non-conformity. It is therefore necessary to monitor certain physicochemical parameters such as total organic carbon (TOC) and ozone (O_3).

In order to reduce the number of laboratory tests, eliminate potential sampling errors, and increase the speed of response, the Methods and Industrialization Manager at SYMATESE decided to implement on-line measurements in the purified water loop. This on-line instrumentation also enables simultaneous testing of the water quality in real time. TOC is therefore measured in the purified water return loop and ozone is monitored continuously in the process stream. Ozone levels are measured daily before UV (for effective ozonization), continuously following UV treatment (to verify that it has been removed), and during sanitization (to check that this process has been completed satisfactorily).

Stable, reproducible, and reliable measurements

SYMATESE found daily sample testing to monitor TOC and the associated waiting period difficult to manage. Furthermore, taking multiple samples increased the risk of false positives resulting from possible contamination when taking the samples, particularly from airborne contamination and sampling technique. The representatives in France for METTLER TOLEDO Thornton solved this problem by switching SYMATESE to on-line measurement.

The Methods and Industrialization Manager at SYMATESE wanted stable, reproducible, precise and reliable measurements, with accurate, easy to maintain, and reliable equipment that conformed to European EP standards, as well as United States USP < 643 > (for TOC) and < 645 > (for conductivity), which are required for this type of processing. It was important for him to have real-time access to the TOC and O_3 values, and he also demanded simple installation and configuration that required little user training, as well as minimal maintenance of sensors.

On-line solution meets the challenge

In order to meet all of these requirements, METTLER TOLEDO Thornton proposed the following solution:

- Thornton 5000TOC sensor and 770MAX transmitter
- Dissolved ozone sensors for M300 transmitter

SYMATESE also established continuous monitoring of the values in order to maintain a record. The measurements are transmitted to a PLC that provides the ability to record and maintain a record of the system's performance and keep the documented performance for regulatory review.

Advantages of the METTLER TOLEDO Thornton solution

METTLER TOLEDO Thornton instruments meet the customer's requirements with these benefits:

Thornton 5000TOC sensor and 770MAX transmitter

- Complete tracking and tracing of the process: continuous measurement and real-time response
- Easy operation, maintenance, and calibration
- Simple and direct installation at the appropriate measurement points

Dissolved ozone sensor

- Cost savings: reduced maintenance of measuring points
- Increased reliability of measurements: precise results, high level of performance
- Time savings: reduced installation time and maintenance

M300 transmitter

- Simple operation thanks to its advanced design and user-friendly software, allowing quick handling without the need for prior training

- Optimized process control
- Quick installation and ability to keep a record of the system configuration

Reduced costs, greater availability

The solution provided by METTLER TOLEDO Thornton has allowed SYMATESE to obtain immediate and reliable measurements. Thanks to on-line measurements, the company has reduced the costs of laboratory testing. Furthermore, the installed ozone system has resulted in a reduction in the amount of time the loop is immobilized during sanitization. SYMATESE is very satisfied with our solution and plans to use more equipment from the METTLER TOLEDO range in its future projects.

Discover more of the benefits of continuous on-line measurements at:

► www.mt.com/Thornton

