

Hach helps world's famous pharmaceutical company achieve high product quality at low operating costs

Tuas, Singapore

Who is the client?

Also a leader in research-focused healthcare with combined strengths in pharmaceuticals and diagnostics, client is the world's largest biotech company that has a manufacture facility in Tuas Biomedical Park in Singapore, which serves as their regional headquarters.

What is the challenge?

Being the world's famous pharmaceutical company, client is exceptionally strict on regulations in the life sciences industry. They call for extremely reliable measurement methods. When used continuously, they need to ensure that production faults are identified quickly. Producing ultrapure water (UPW) is a challenge and is difficult without controlling the whole UPW production process.

What is the process and Hach's solution to client?

A wide variety of products are made in the pharmaceutical manufacturing industries, typically requiring large volumes of chemicals, materials, and substances that are used throughout process operations. Waste streams generated in these industries can be heavily laden with contaminants, toxins, nutrients, and organic content, presenting unique challenges in terms of treatment, especially as regulations become more stringent.

Additionally, as is the case in other industrial manufacturing sectors, water is a critical ingredient in pharmaceutical manufacturing operations; consistent and high-quality supplies are needed for a range of purposes including production, material processing, and cooling. As disruptions in raw water supply represent a significant concern, more companies are turning to water efficiency initiatives to help mitigate water scarcity-related risks.

Another issue most notably in the pharmaceutical industry relates to contaminants of emerging concern (CECs) including pharmaceuticals and personal care products (PPCPs). These compounds are increasingly being detected in surface waters, driven largely by advances in analytical detection technologies, enabling constituents to be measured down to levels that were previously thought not possible. CEC compounds may have an impact on aquatic life.

The exceptionally strict regulations in the life sciences industry call for extremely reliable measurement methods. When used continuously, they ensure that production faults are identified quickly. It is also vital that employees are protected from harmful substances and that, products or their components are not released into the wastewater.

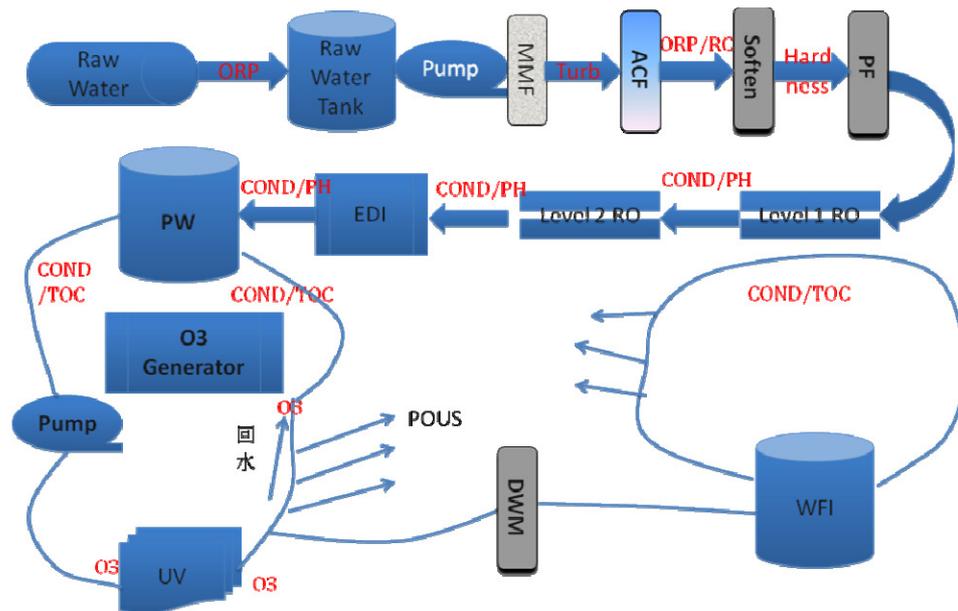


Figure 1: Water Cycle Example

Parameters	Pre-Treatment	UPW	WFI	Online	Lab
PH	•	•		Poly 9535	DKK
ORP	•			Poly 9535	DKK
Conductivity	•	•	•	Poly 8394	DKK
Turbidity	•			1720E	2100N
Hardness	•			APA6000、SP510	DR6000
Redual Chlorine	•			CL17	PC II
TOC		•	•	PAT 700	PAT700
Ozone		•	•	Orb 410C	

Figure 2: Hach's Solution Table

The above shows the Hach solution table for the pharmaceutical industry where the instrumentations could be applied to your process, tailor made.

With this case-study example, the instrumentations used in the pre-treatment water are Hach CL17 Chlorine Analyzer to monitor for chlorine to protect the RO membranes, Hach SP510 Hardness Analyzer to monitor quality of reverse osmosis water, and Hach 2100N Turbidimeter to measure the turbidity in the water.

The Hach CL17 Chlorine Analyzer was used to control the chlorine reading (current chlorine reading is at 0.01), to

ensure that the deionized water doesn't contain any bacteria and is clean for pharmaceutical usage. Client also used Hach SP510 Hardness Analyzer to test for the hardness of water.



Figure 3: Multiple units of CL17 Chlorine Analyzer in the world's largest biotech company manufacture facility in Tuas Biomedical Park, Singapore.

How is the end result?

In summary, Hach offers total solution for client with the solution table for list of instrumentation as follows:

Products	Application Point
Chlorine: CL17 Chlorine Analyzer	Pre-Treatment
Hardness: SP510 Hardness Analyzer	Pre-Treatment
Chlorine and Hardness: DR890 Colorimeter	Pre-Treatment
Turbidity: 2100N Turbidimeter	Pre-Treatment

Client's feedback: To ensure deionized water's quality, client has to test for parameters like chlorine, hardness, turbidity and etc., As Hach is very familiar and knows the water cycle in this industry, Hach was being chosen to provide client with solutions to overcome their tough challenges. Hach provided water analysis solutions to the world's largest biotech company manufacture facility at the Tuas Biomedical Park in Singapore.

FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:

Tel: 65-6799-5813 | E-Mail: seasia@hach.com

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