

Hach helps brewery reduce costs by ensuring beer quality

Hanoi, Vietnam

Who is the client?

Client is a famous brewery, well-known to all Vietnamese. Being a state-owned beer brewery, client is mostly preferred by most locals for their end products.

What is the challenge?

Great care is required from client to avoid contamination of the final beer by air as oxygen would reduce the product shelf-life and contributes to off tastes known as stall or cardboard. This is to add the fizzy effect to the final beer and when recovering the CO₂ during fermentation would help reduce cost.

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

Carbon dioxide in the brewery is generated by the yeast during fermentation, together with heat and alcohol due to requirement of CO₂ at the end of the manufacturing process.

During this process, CO₂ recovery system is installed with Hach Orbisphere A1100, O₂ Electrochemical (EC) sensor with Hach Orbisphere 410 controller for O₂ (EC) sensor at the point sampling.

This is because:

- CO₂ is required at the end of the manufacturing process to add the fizzy effect to the final beer.
- It reduces costs by recovering it during fermentation.
- Great care needs to be taken to avoid contamination of the final beer by air.
- Oxygen in final beer reduces the product shelf life and contributes to off tastes known as stall or cardboard.
- Additionally, maximum CO₂ recovery yield is expected from this process
- Oxygen impact on CO₂ purity is presented as well as Hach solutions for reliable oxygen measurement.

During fermentation:

- CO₂ gas is produced and collected by CO₂ recovery system and stored under liquid phase after removing impurities.
- Before reusing in brewery, CO₂ liquid goes through vaporization part to convert CO₂ liquid to dry gas having 27-38°C temperature with pressure in main line ~ 7 bar.
- There is a flow chamber to obtain CO₂ gas from main line after reducing pressure down to 0.7 bar and measure O₂ gas to determine how purity of CO₂ gas.

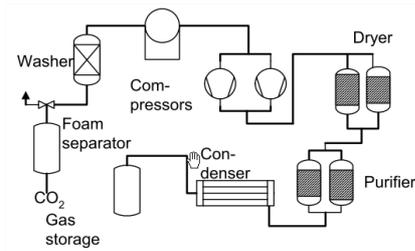


Figure 1: The standard method for CO₂ recovery



Figure 2: CO₂ recovery system includes Hach A1100 sensors with Hach 410 controllers at point sampling.

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
CO ₂ : Hach Orbisphere A1100, O ₂ Electrochemical (EC) sensor	Point Sampling
CO ₂ : Hach Orbisphere 410 controller for O ₂ (EC) sensor	Point Sampling

Client's feedback: Hach helped client install CO₂ recovery system that includes sensor and controllers at the point sampling to recover the CO₂ during fermentation stage. This could help reduce cost and unnecessary double jobs. Because Hach is very experienced in monitoring process in the brewery, client has handed their challenge to us.

FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:

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