APPLICATION:

- Trace Oxygen measurement in Carbon Dioxide in breweries and distilleries

TAI SOLUTION:

Model 3000TA Trace Oxygen Analyzer

Process Information

Fermentation of sugars and carbohydrates using yeasts produces alcohol and large quantities of CO2. Fermentation vessels are thusly only one-half to one-third filled, and can be designed to allow the collection of the CO2 produced, which can be stored and reintroduced during the bottling process.

Air must first be displaced from the fermenter before CO2 can be collected in a pure state, and the correct degree of air displacement (100 ppm O2) is best determined by oxygen analysis.

When the CO2 has been recovered, it is scrubbed of unwanted gases (i.e., SO2), deodorized, and compressed for storage. The stored CO2 is later used to blanket the beer transportation lines.

By maintaining an elevated CO2 pressure, the carbonate still present in the beer is stabilized prior to canning/bottling and oxygen contamination of the beer is reduced.

Problem

Oxygen levels must be monitored accurately at the CO2 recovery stage, the CO2 storage stage, and again at the CO2 reintroduction stage to ensure acceptable O2 levels (generally less than 100 ppm).

Solution

The Model 3000TA is ideally suited for this application. Using an A-2C or Insta-Trace CO2 sensor, it accurately measures less than 100 ppm O2 in a CO2 environment. Using the alarm contacts to control diverter valves and shut-offs, the 3000TA provides convenience and reliability. In addition, the brewer saves money otherwise lost by buying CO2.