



Electronic differential pressure detects density changes in the beer fermentation tank: Application of the Month

There's nothing like an ice cold beer at the end of a job well done. Whether it's accomplishing yardwork on a hot day or a big project that takes weeks or months to accomplish, the task at hand always turns out to be more complicated or time-consuming than enjoying the end result.

Beer is no exception. There's a lot that goes into that little can, bottle, or perfect draft pour. Perfecting the process and getting the same end result every time takes reliable and accurate instrumentation along the way.

Wort, yeast, and density

Near the end of the beer-making process, wort (unfermented beer) is piped into fermentation tanks. As the sugary wort is filling the vessel, yeast is slowly added. The yeast's job is to convert the sugars in the wort into alcohol and produce the flavors and carbon dioxide we expect from beer. This is an important step for brewers, so it requires an important measurement.

When the wort arrives at one of these fermentation tanks, it arrives at a certain, known density. As the wort reacts with the yeast, the density decreases. VEGA can use electronic differential pressure to detect the changing density. Two VEGABAR pressure transmitters connected by a cable are installed on the vessel – one near the bottom and another near the top. The sensors monitor pressure in both places, and using the pressure formula, they can calculate the density in real-time and provide it as an output.

This virtual window into the fermenter allows brewers to ensure each brew is consistent. Whether a consumer orders a draft from a tap or brings home a case from the grocery, every beer will be identical in every way a beer should.



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Pressure is paramount

From [local craft brewers](#) to the major breweries known around the world, they all use [pressure measurements](#) to control and monitor their process from start to finish. Pressure can be used for a range of measurements, including process pressure, hydrostatic pressure for level, and differential pressure for level or density measurements. Pressure is used not only because it's versatile, but it's also reliable, repeatable, and accurate.

Learn more about VEGA's pressure measurement instrumentation:

