

## Success story

Industry: Food and beverage

**PLC  
+ HMI**  
ALL IN ONE™



My experience with Unitronics products has enabled me to produce systems that are more productive and user friendly ... This system has kept our products at the optimum temperature while keeping our development and operating cost at their lowest.

Steve Becker



## How can craft brewers achieve the product consistency of larger operations despite limited automation experience?

### Summary:

Twisted Vine Brewery is a three-man craft brewery located in Iowa, with a passion for creating the best possible beer. To achieve this goal, they wanted to implement a control system in order to automate and monitor the brewing process.

The Twisted Vine team selected a Unitronics Vision1040 PLC+HMI because it was reliable and robust, capable of running in the steamy brewing conditions. Additionally, the all-in-one programming software was easy to use and quick to set up.

Situated in the picturesque hills of St. Charles, Iowa, Twisted Vine Brewery creates unique, hand-crafted beer. Beer is a labor of love at this three-man operation and the Twisted Vine team is dedicated to both the art and science of brewing. In order to produce their great craft beer, the team at Twisted Vine was searching for a robust and reliable controller that would enable them to brew with meticulous attention to detail for a consistent, delicious end result.

No one at Twisted Vine had experience using PLCs, so they were looking for a platform that was easy to learn and use. They needed to be able to monitor and control the fermentation temperature, to implement tools like the timers for tracking hop additions, and to monitor trends and outputs remotely. They also wanted a control system that they could expand easily as their business grows.

Additionally, space in the brewery is very limited, so they needed a compact PLC robust enough to be mounted next to the mash tun. Their mash tun is kept at 150 degrees Fahrenheit during the brewing process and the mash is rinsed in water as hot as 170 degrees Fahrenheit. Any PLC Twisted Vine installed needed to be robust enough to be exposed to high temperatures and large amounts of steam and condensation without failing.

The Unitronics Vision1040™, paired with a V200-18-E3XB snap-in I/O module, was able to accommodate all these requirements with ease. The Twisted Vine team programmed the Vision1040 to control a rotary phase converter, which powers a three-phase chiller, glycol pump and the glycol valves on the jacketed fermentation and conditioning tanks. They also rely on Unitronics' complimentary data-logging and remote access software utilities; they monitor temperature trends remotely, turning temperature loops on and off as needed from anywhere with internet access. Additionally, with a NEMA4X/IP65 environment rating, the Vision1040™ was able to withstand the hot steamy conditions.

Not only did Unitronics provide a powerful PLC, according to co-owner Steven Becker, the all-in-one design and single-environment software made the Vision1040 an intuitive and cost-effective choice for their operations. "The free software and many online tutorials made it easy to learn and it was a low cost and powerful solution," explains Becker.

In fact, Twisted Vine Brewery is already planning to expand their control system with the help of Unitronics. They are introducing water-use monitoring and valve control to control the amount of water in their mash, which will improve the consistency of the product and free up their attention from watching the water meter to more productive tasks. Becker says, "my experience with Unitronics products has enabled me to produce systems that are more productive and user friendly ... This system has kept our products at the optimum temperature while keeping our development and operating cost at their lowest."



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