

CASE STUDY

SUMMIT BREWING COMPANY INTRODUCES STATE-OF-THE-ART TECHNOLOGY TO WATER DEAERATION AND CARBONIZATION

Inline carbonator - Static mixers - Membrane deaeration - Fully automatic - Function-tested "plug-and-play" modules

In a Nutshell:

Summit Brewing Company

Saint Paul, Minnesota, USA

Output: approx. 135,000 hl/a

25th largest craft brewery in the USA

Portfolio: Eight beers as standard assortment as well as seasonally or otherwise limited beer specialties

Installed systems: Carbo Controller CCR, membrane deaeration MDS, Inpack c-TPO, various content meters



Founded in 1986 by Mark Stutrud, the Summit Brewing Company has remained true to its roots and continues to focus on the Midwest and the Great Lakes region of the United States. Summit has also remained true to another core principle of its business activities: The brewery has always successfully met the challenge of reconciling growth, sustainability and profitability with the vision of brewing the best possible beer. An essential factor in this is the cooperation with Pentair.

"When we bought the DGM CO₂ content meter in 2009, we entered the fascinating world of Haffmans analysis," says plant manager Tom Thomasser. Since then, Summit has trusted a wide range of Pentair Brewery Solutions. These include the CO₂/O₂ content meter type c-DGM as well as inline OGM content meters in the wort lines, filling lines and water lines and an Inpack TPO/CO₂ meter type c-TPO.



Water deaeration prevents oxygenation

Another important milestone in the collaboration between Summit and Pentair resulted from the brewery's transition from sheet filtration to centrifugal beer clarification. This change in process created a need for deaerated water. Otherwise, oxygen could be introduced into the beer, which would have a negative effect on its taste stability and shelf life. It is well known that oxygen is one of the greatest enemies of beer.

The challenge was solved by the installation of a membrane deaeration system type MDS. The hollow fibre membranes used in these guarantee residual oxygen contents of less than 10 ppb at very low pressures and ambient temperatures. This virtually oxygen-free water is used in the separator as a sealant to prevent oxygen from being transferred into the beer and to push out the product lines.



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More effective production time and more consistent beer quality

Parallel to this modernization step, the brewery brought the carbonization of its beers up to the latest technology. Summit normally adjusts their CO₂ content via the bung pressure in the storage cellar. From time to time, however, post-carbonization had to be carried out in the pressure tank. That meant in case of the classic static procedure: Waiting time and significantly fluctuating degrees of carbonization. Consequently, a Carbo Controller CCR was integrated into the beer stream. This now guarantees the exact and fully automatic adjustment of the desired CO₂ content during ongoing production. For the Summit brewery, this means nothing more than more effective production time and more consistent beer quality. Both the membrane deaeration system and the carbonator, including the control unit and lines, were pre-wired and function-tested and delivered as a module. Both systems were therefore quickly and easily integrated into the production process of the Summit Brewing Company and put into operation.



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