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Practical Keg Cleaning and Racker Performance

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ABSTRACT

Quality draught beer can only be maintained with proper attention to keg cleanliness. The enclosed nature of the keg has traditionally made it difficult to control the cleaning process. With the help of a monitoring device, it is possible to record exactly what happens inside the keg as it is cleaned, disinfected, and filled. The data provided make it possible to identify common racking problems that might otherwise be overlooked. Armed with this information, the brewer can directly address and quickly solve such problems, thereby controlling the racking process to provide optimal keg cleaning and achieving the goal of shipping beer to the customer in the best possible condition.

Keywords: cleaning, disinfection, kegs, performance, racking

SÍNTESIS

La calidad de cerveza de sifón sólo se puede mantener si se le presta la atención apropiada a la limpieza del keg. El hecho que el keg es un sistema cerrado ha sido tradicionalmente un escollo al control del proceso de limpieza. Existe un dispositivo de monitoreo que permite registrar lo que ocurre dentro del keg mientras se este lavando, desinfectando y llenando. Los datos proveen la posibilidad de identificar problemas comunes que normalmente pasarían desapercibidos. Con esta información en sus manos, el cervecero puede dirigirse directamente a, y rápidamente resolver, dichos problemas, así controlando el proceso de lavado y llenado de los kegs, optimizando el proceso de lavado y así consiguiendo la satisfacción de despachar su cerveza a sus clientes en el mejor estado posible.

Palabras claves: limpieza, desinfección, kegs, desempeño, llenado de kegs

Introduction

Proper keg cleaning is critical to the racking process and draught beer quality. Thorough cleaning and disinfecting of the kegs during racking is imperative in order to provide the customer with a guarantee that one's draught beer is in optimal condition. Whereas this is a simple premise, in practice, it can be an elusive goal. Keg sanitation is a blind process. Cleaning-in-place sequences similar to tank cleaning are used, utilizing a variety of rinsing and washing techniques (Table 1). A few critical differences make keg cleaning more challenging than tank cleaning; kegs are enclosed systems with neither portal nor sample valve and offer no opportunity for visual inspection or rinse water sampling, and cleaning generally takes place in automated and moving lines.

Situations arise in which the brewery may not be entirely satisfied with the performance of the racker, and yet initial examination of the utilities and racker programming does not indicate problems. The brewer may be unhappy with the speed of the racker and may even encounter occasional microbiological positives in supposedly clean kegs. The steam and carbon dioxide (CO_2) supply to the racker may seem normal; beer flow, unobstructed; and process times, unaltered; yet the racker performs less efficiently than desired. In such cases, it is time for an in-depth audit of the process.

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Methods

One method of monitoring racker performance is the classic sight-keg (Fig. 1). Such a keg may be purchased, but just as often it may be manufactured in-house by the brewery. It usually features an analog thermometer and manometer and often has one or two windows built into the side. Such a keg is often bulky and may be off balance or not fit through the racker as would a normal keg. The sight glasses, intended to offer a visual check of wash spray patterns inside the keg, usually fog over immediately and remain that way, or else are covered by running water, and are generally not very useful. Analog thermometers and manometers require that personnel remain in attendance next to the keg and record all the relevant readings by hand as they occur. This is often impossible because of time constraints, since many activities occur rapidly inside the keg during the 60 s the keg sits at any one station on the racker, and because, on most multiple-lane rackers, one would have to crawl inside the machine during operations to read the gauges, a difficult and unsafe practice.

There are, however, a number of manufacturers who offer electronic-monitoring kegs. We have been working with a monitoring keg from Rotech, Ltd. (Swindon, U.K.), that is equipped with PT1000 temperature sensors (Sensing Devices, Ltd., Southport, Merseyside, U.K.), a bridge-style pressure transducer, a clamp detector, and a microprocessor to continuously record the process data (Fig. 2). The ability to continuously record data collected from precision instruments allows a much more accurate and comprehensive analysis than human-observed analog gauges can supply, especially when combined with software to illustrate the details. The nickel metal hydride (NiMH) batteries allow nearly 50 h of operation before needing a recharge. The microprocessor can store 2.5 h of data at a time, and the data download is simple because of an infrared transfer straight from the keg to the computer. The electronics and battery are completely submersible, although it is not rec-