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## **Importance of Beer Line Cleaning**

A brewer may take up to several months to brew, finish, and package a keg of beer. The quality and flavor of that beer can be ruined in the few seconds it takes for a beer to travel from a keg to the faucet in a draft system that has not been properly maintained.

The enemies of draft beer may include the following:

- Yeast - May result from an extremely small amount left from the brewing process, or it may be wild yeast which floats in the air. It is usually found as a surface growth on components of a beer system that is exposed to the air such as faucets, keg couplers, and drains and can be recognized by its white or grey color.
- Mold – is usually introduced into a beer system through exposure to the air. It also is usually found as surface growth on components of a beer system that are exposed to air such as the faucets, keg couplers, and drains and is usually brown or black in color.
- Beer stone – The raw materials, grains and water, that are used in the brewing process contain calcium. Oxalic acids or salts are present in hops and may be created during the process of changing barley into malt. The combination of these ingredients and the fact that beer is dispensed at cold temperatures may result in Calcium Oxalate deposits known as beer stone.

Beer stone will build up and eventually flake off on the inside of the beer tubing if the system is not properly maintained. High amounts of beer stone may also have a negative effect on taste. These flakes are often grey or brown in color.

- Bacteria – Bacteria found in beer are not significantly hazard to human health; however, its effect is noticeable in the appearance, aroma, and taste of beer. The presence of bacteria results in an “off taste” and cloudy appearance that makes beer unappetizing. A beer that tastes sour, vinegar-like, or smells like rotten eggs may indicate a beer system is contaminated with beer spoiling bacteria.

Failing to clean and maintain a beer system on a regular basis will result in the ability to pour a “brewery fresh” beer.

## **Brewery Policies on Line Cleaning**

Brewers know the importance of proper line cleaning and the impact it has on their products, reputation, and sales. Most breweries publish beer line cleaning procedures and schedules within their quality assurance policies. These policies are monitored and enforced by contracted distributors where legal, depending on state statutes.

A review of the individual brewery policies reveals that there is a consensus that it is important to clean a draft system at a minimum of once every two weeks. Long draw beer systems in excess of 25 feet in length, and accounts serving large volumes of draft beer should be cleaned more frequently. Once a week is the recommended frequency for cleaning lines in these high volume and long-draw accounts.



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The cleaning process and chemicals used to clean and sanitize the system will also vary with the type and length of the beer dispensing system. The next section will describe the variables to consider when assessing the best method for cleaning.

## **Line Cleaning Chemicals**

An effective line-cleaning chemical must be used when cleaning lines to attack the enemies of beer that were previously mentioned. Line cleaners will be either caustic with a high PH, or acidic with a low PH depending on the line conditions and the type of system being cleaned.

Alkaline (Caustic) cleaners attack and dissolve proteins, carbohydrates, hop resins and bio-films. They also are very effective in killing mold, bacteria, and yeast.

Acid line cleaners dissolve minerals that are commonly referred to as beer stone.

Both caustic and acid line cleaners can be very dangerous if not handled and used properly. You should always follow the directions printed on the package and strictly adhere to the manufacturer's recommended concentration levels. Using the proper concentration level is the safest and most cost-effective method for beer line cleaning.

You should always wear personal safety equipment including eye protection and rubber gloves when handling line-cleaning chemicals. It is also important to never mix an alkaline solution with an acid solution.

Brewery tested and approved line cleaners are available from Micro Matic. The patent pending formulas feature:

- The latest surfactant, which reduces surface tension, resulting in fast easy cleaning.
- Effectiveness in all water conditions.
- Low foam formula

## **Line Cleaning Equipment & Procedures**

There are two unique methods employed to clean draft beer dispensing systems:

**Pressurized Cleaning** – This method usually is done by putting the cleaning agent into a plastic or metal container and forcing it through the beer lines via the use of a hand pump or gas pressure (CO<sub>2</sub> or compressed air).

The containers have a means of to connect the beer system either through a faucet adaptor or a coupler for the beer valve (tap). Pressurized cleaning containers make it quick and easy to clean picnic pumps, direct draw and short-draw systems of less than twenty feet in length.

- **Re-circulating Cleaning** – Uses a motorized electric pump that is especially built by Micro Matic for beer line cleaning. These pumps are equipped with connectors to enable the cleaning the system from the tap or faucet end.

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Re-circulating cleaning is always the best choice for long draw systems that are over twenty feet. The turbulent flow of the cleaning solution is up to eighty times more effective than simply allowing the cleaning solution to soak inside the beer lines as is the case through pressurized cleaning.

No matter what type of cleaning system you are using, Micro Matic recommends

a proven three step cleaning procedure to ensure that the lines are thoroughly cleaned and sanitized in order to maintain the integrity of the beer.

- Begin by flushing the beer from the lines with water. This eliminates beer from the lines so as not to dilute the cleaning properties of the chemical.
- Next, clean the lines with the appropriate solution. Allow chemicals to circulate or soak in the lines for at least ten minutes. Micro Matic offers two types of patented brewery approved chemicals for cleaning, either alkaline or acid based depending on the conditions. Always be sure to follow the manufacturer's recommendations on proper mix ratio, correct temperature, and ample contact time.
- The final step is to thoroughly flush the chemical from the lines with water. After the water rinse cycle is completed, it is recommended to check the ph level with a ph tester or litmus paper to insure that no cleaning solution remains in the lines. Then reconnect the kegs and allow some beer to run through the faucet and discard to make sure all the lines are completely refilled with beer.

It is important to note that not only should the beer lines be cleaned at least every fourteen days but so should the keg couplers and faucets. These components also require cleaning because they too are in contact with the beer and need to be maintained at the same level as the beer lines.

Following the three-step cleaning process, along with these guidelines will allow you to maintain your draft beer system while providing brewery fresh draft beer each and every day. Serving great tasting draft beer will keep your customers and your friends coming back for more.