All beer is not created equal, as you probably already know. Beer can taste very different—even the same brand and same style of beer—depending on how it is handled at the distributor and account levels. These elements of handling will affect the longevity of your beer.

A few elements are the enemy of beer. Light, temperature, and age are the biggest triggers. But offering beers on draught impacts the consumer experience, too.

Draught beer is always served in a glass, allowing the beer to agitate, release some of its aroma (esters.) This can result in a differing drinking experience for the consumer. Try them side by side! Because any location wants to best enhance the draught beer experience for their customer, they should consider the following points:

**ROTATE STOCK**
Draught beer is best served fresh. The kegs must be properly rotated, or the beer will lose its original taste and aroma. Always use the oldest beer first. Do not stock new deliveries in front or on top of kegs already in the cooler.

**TEMPERATURE**
Draught beer must be kept cold at all times. The optimum storing temperature is between 34° and 38°F. Temperatures above 45°F may cause the beer to turn sour and cloudy. A beer keg takes a long time to cool down, so they should never be stored outside of a cooler for any length of time. For example, a beer keg that is allowed to heat up to 44°F will take approximately 18 hours to cool down in a 36°F cooler. Always place keg beer in a cooler immediately upon delivery.

A beer keg that is allowed to heat up to 44°F will take approximately 18 hours to cool down in a 36°F cooler.

It is best to store beer kegs in a cooler that is used exclusively for draft beer and not foods. Frequent opening of the cooler door can raise the beer temperature. Also, unpleasant food odors can affect the taste of the beer by penetrating the beer lines (and Kegs) over time.

Improper temperature is one of the most common causes of draft beer drawing problems. Draught beer is more likely to foam when the beer temperature is above 38°F. Temperatures lower that 28°F can cause the beer to freeze, which causes the beer to be cloudy and have an off taste. Once again, the optimum storing temperature is between 34° and 38°F.

Temperatures lower that 28°F can cause the beer to freeze, which causes the beer to be cloudy and have an off taste.
PRESSURE
It is important to keep a constant and uniform level of pressure on the beer. Never turn off the CO₂ gas at night. You cannot save gas this way.

Is your regulator accurate? A sluggish needle, which falls downward when beer is drawn, will result in flat beer toward the end of the barrel. A creeping regulator, which creeps upward during idle periods, will result in wild or over-carbonated beer. If you suspect that your regulator is operating improperly, please contact the original installer or the factory.

A beer barrel at 38°F has an internal pressure of 12 to 16 P.S.I.

COUNTER-PRESSURE
Since CO₂ is chemically the same as the natural carbonation in draft beer, pressurized CO₂ tanks are used to provide the pressure to a keg for dispensing. By maintaining the natural head pressure on the keg, the beer is prevented from going flat or becoming over carbonated. Most remote beer systems require the use of counter-pressure that is higher than the natural carbonation level of draft beer (a beer barrel at 38°F has an internal pressure of 12 to 16 P.S.I.). However, if the counter-pressure is provided by pure CO₂, the beer will over carbonate and foam, so a counter pressure system other than straight CO₂ is required.

The counter-pressure method may consist of blended nitrogen and CO₂ or mechanical beer pumps. Blended nitrogen and CO₂ comes pre-blended in a tank or is blended on site using a blender and a tank of pure nitrogen and a tank of pure CO₂. Blended nitrogen and CO₂ provides counter-pressure by mixing nitrogen and CO₂ to lower the CO₂ content in the overall pressure mixture, allowing system pressures placed on the kegs to be above 16 pounds without over carbonating the beer.

Mechanical beer pumps are another type of counter-pressure method. Pressurized CO₂ is used to actuate the mechanical diaphragm inside the beer pump; however the CO₂ does not come in to contact with the beer, thus eliminating the risk of over carbonation.

A BALANCED SYSTEM
A properly balanced system should provide at least some head (foam) on a glass of beer. A normal head can be up to one inch thick. While most bartenders tend to pour off the foam until there is virtually no head, at least some foam should be expected. Proper pouring techniques will help minimize excess foaming. It is also important to remember that frosty mugs cause the beer to foam more than normal, so this should be considered when system performance is being evaluated. Frosty mugs then kill head on beer. Since the sanitizer that is used is usually what is frozen.

Once a beer system is operating, there are really no adjustments that need to be made, unless a new brand of beer is introduced. In fact, adjusting the pressure regulators haphazardly creates more problems than it solves. Fluctuations in walk-in cooler or keg temperature are often the cause of temporary foaming problems. In these instances, adjusting the regulators will not help and will likely create problems later on when the temperature problem goes away. The best way to ensure proper system operation is to follow the regular maintenance schedule outlined in the operation manual.

(Source: GlasTender, Saginaw, MI)
CARING FOR YOUR DRAUGHT SYSTEM

Yeast and bacteria routinely enter draught systems where they feed on beer and attach to draught lines. Minerals also precipitate from beer, leaving deposits in lines and fixtures.

Within days of installing a brand new draught system, deposits begin to build up on the beer contact surfaces. Without proper cleaning, these deposits soon affect beer flavor and undermine the system’s ability to pour quality beer.

Please note that all parts of these recommendations must be implemented in order to be effective. The proper cleaning solution strength won’t be effective if the temperature is too cool or there is insufficient contact time with the lines. The lines themselves will remain vulnerable to rapid decline if faucets and couplers aren’t hand-cleaned following the recommended procedures.

CLEANING GUIDELINES

Many states require regular draught line cleaning, but all too often the methods used fall short of what is needed to actually maintain draught quality.

As a retailer, you may or may not clean your own draught lines, but you have a vested interest in making sure the cleaning is done properly. Clean lines make for quality draught beer that looks good, tastes great, and pours without waste. Simple checks like maintaining cleaning logs, and checking keg couplers for visible buildup will help to ensure your beer lines are being properly maintained and serviced.

CLEANING SAFETY

Line cleaning involves working with hazardous chemicals. The following precautions should be taken:

• Cleaning personnel should be well trained in handling hazardous chemicals.
• Personal protection equipment including rubber gloves and eye protection should be used whenever handling line cleaning chemicals.
• Cleaning solution suppliers offer Material Safety Data Sheets (MSDS) on their products. Cleaning personnel should have these sheets and follow their procedures while handling line cleaning chemicals.
• When diluting chemical concentrate, always add chemical to water and never add water to the chemical. Adding water to concentrated caustic chemical can cause a rapid increase in temperature, possible leading to violent and dangerous spattering or eruption of the chemical.

SYSTEM DESIGN AND CLEANLINESS

• Draught system designs should always strive for the shortest possible draw length to help reduce operating challenges and line cleaning costs. Foaming beer and other pouring problems waste beer in greater volumes as draw length increases. Line cleaning wastes beer equal to the volume of the beer.
Longer runs also place greater burdens on mechanical components, increasing repair and replacement costs.

- Be sure to check with the manufacturers of the various components in any draught beer system to ensure that all components (line material, fittings, faucets, couplers, pneumatic pumps, fobs, etc.) are compatible with the cleaning methods and procedures you plan to use. The acceptable range of variables such as cleaning solution concentration, temperature, and pressure can vary by component and manufacturer.
- Large venues like stadiums, arenas, and casinos often combine very long draught runs with long periods of system inactivity that further complicate cleaning and maintenance. Additional maintenance costs eventually outweigh any perceived benefits of a longer system.

CLEANING FREQUENCY AND TASKS

**Every two weeks (14 days)**
- Draught lines should be cleaned with a caustic line-cleaning chemical following the procedures outlined herein.
- All faucets should be completely disassembled and cleaned.
- All keg couplers or tapping devices should be scrubbed clean.
- All FOB-stop devices (a.k.a. beer savers, foam detectors) should be cleaned in line, and cleaning solution vented out of the top.

**Quarterly (every three months)**
- Draught beer lines should be de-stoned with an acid line cleaning chemical or a strong chelator that is added to or part of the alkaline chemical formulation. (The DBQ working group is working with brewing industry researchers to complete further studies on line-cleaning chemistry, including additives such as EDTA.)
- All FOB-stop devices (a.k.a. beer savers, foam detectors) should be completely disassembled and hand-detailed (cleaned).
- All couplers should be completely disassembled and detailed.

**TROUBLE SHOOTING**

**ISSUE**
Dispensed beer temperature is too warm (may result in excessive foaming)

**PROBABLE CAUSE**
A. Line chiller glycol tank is too warm.
B. Walk-in cooler temperature is too warm.
C. Line chiller is not running.

**SOLUTION**
A. Glycol bath should be maintained between 28°F and 32°F. If it is warmer, adjust the thermostat to a colder setting.
B. The walk-in cooler temperature should be maintained between 35°F and 40°F. Place a thermometer in a glass of water inside the walk-in cooler for two hours to check the temperature inside the walk-in.
C. Check the line chiller power cord is plugged in or a circuit breaker is not blown.
No CO₂ pressure on beer system.

A. Empty CO₂ cylinder.
B. CO₂ shutoff valve is closed at CO₂ cylinder.
C. CO₂ shuttoff valves in lines loading to keg taps are closed.
D. CO₂ regulators have been changed from their original settings.
E. Leak in the CO₂ system.

A. Switch to new CO₂ tank supply.
B. Open CO₂ shuttoff valve at CO₂ cylinder.
C. Open CO₂ shuttoff valves in lines leading to the keg taps.
D. The original beer system installer will set the regulators at the proper pressure to run your beer system. Contact the original installer if the original settings were not recorded.
E. Find the leak and repair it.

Beer is sour or has an off taste.

A. Beer system needs to be cleaned and sanitized.
B. Beer is spoiled due to inadequate walk-in cooler temperature.
C. Different beers have been mixed in the same beer line.

A. Clean and sanitize the beer system or contact the local line cleaning contractor.
B. Correct the walk-in cooler temperature problem, check line chiller operation, then clean and sanitize the beer system.
C. Clean and sanitize the beer system before switching to a new beer supply.

For additional reading: Glastender Operation Manual & Draught Beer Quality Manual, Brewers Association