

## Draft Beer and Temperature

### Overview

**Introduction** One of the most essential elements for the proper operation of any draft beer dispensing system is a consistent temperature.

**Purpose** The purpose of this document is to explain the relationship between draft beer and temperature. To present the cause and effect of temperature changes on beer in kegs. To bring awareness to the problems that improper temperatures impart on the beer and the financial and beer quality consequences that may result.

---

### Temperature and Draft Beer

**The Most Common Problem** The most common problem with a draft system is incorrect temperature.

When the beer gets warm, it foams and the retailer loses profits, because foam is approximately 25% beer. If the retailer is throwing away 25% of the beer in a keg, they are pouring away several hundreds of dollars in lost profits a week.

When beer gets too cold, the carbonation in the beer stays in the beer until it is consumed and released in the customer's stomach. This also results in lost profits because the customer cannot drink as much.

So, either way, if the beer is too warm or the beer is too cold, the beer's quality is at risk and profits from beer sales will be lost.

**The Proper Temperature** What is the proper temperature for storing and for serving draft beer?  
The answer to both questions is 38 degrees F.

38 degrees F temperature, applies whether the beer is a domestic beer or an imported one. The same holds true whether or not the draft beer is pasteurized.

The reason for this is that beer stored at 38 degrees F will retain the level of carbonation that was created during the brewing process.

## Temperature and Draft Beer (continued)

### **If Beer's Temperature is Too Warm**

Allowing keg beer to warm up will cause the carbonation to be released from the beer while it is still in the keg, causing foaming. The foaming occurs because the pressure being applied to the keg is no longer enough to keep the carbonation in the beer.

This results in foam (profits) being poured down the drain because the foam is released when the faucet is opened.

**!** Once the carbonation in the beer has been released, it will affect the taste and appearance of the product being served.

### **If Beer's Temperature is Too Cold**

Having the beer too cold causes the carbonation to stay in the beer. This results in the beer glass being overfilled, and profits being lost. In addition, if the keg is too cold and the applied pressure remains at the same setting for 38 degrees, too much pressure is applied and the beer may over carbonate if not used in a short time. The beer will be wild and foamy at the faucet.

---

## Temperature Changes

### **Taking the Beer's Temperature**

Thermometers should be placed in liquid inside the beer cooler in order to accurately measure the temperature in the cooler.

The temperature of the beer at the faucet should also be measured to determine if the beer is warming up as it travels through the system from the keg to the faucet.

When possible, the temperature of the beer inside the keg should also be taken in order to determine whether or not the proper temperature is achieved. When using a kegerator or a through-the-wall direct draw system, after pouring off a couple of glasses, you will be pouring beer directly from the keg. In long draw systems, to measure the temperature of the beer in the keg, you will need either a temperature strip mounted on the side of the keg, or a hand held pump to dispense beer right from the keg.

## Temperature Changes (continued)

### **Why Temperature Changes**

It takes approximately 4 hours for a keg of beer to warm up from 38 degrees to 48 degrees, however, it can take over 10 hours for a 48 degree keg to cool down to 38 degrees.

There are several reasons why a keg's temperature increases.

One is poor refrigeration. If the keg box, or walk in cooler refrigeration unit is malfunctioning, the kegs stored inside will warm up over time.

If the door to the box or cooler is left opened, or continuously opened and closed, the temperature inside the unit will increase, and the keg will warm up resulting in foam.

Another reason why the keg could be warm is related to when the keg was delivered. A keg of beer that has been on a delivery truck for several hours going to be warmer than 38 degrees F when it arrives at the retailers location.

A fourth reason could be the venue at which the beer is served. If it is a picnic or special event, chances are good that the keg has been left outside, and allowed to warm up.

### **Preventing Temperature Changes**

To prevent foaming, make sure that the refrigeration unit is properly maintained, and capable of maintaining 38 degrees F. In addition, make certain that the unit is used only for the storage of the beer kegs. Placing other items in the unit will lead to people opening and closing the cooler door, and this will warm the cooler. If other items must be stored in the cooler, you should mount heavy duty plastic strips at the doorway to prevent cooling loss, or place a curtain of the strips half way inside the cooler, and store the beer on the side furthest from the doorway.

### **Uncontrollable Temperature Changes**

If temperature changes are uncontrollable, an effective way to prevent temperature fluctuations from negatively impacting your kegs is to install a gas blender. A blender will help to ensure that the proper amount of blended gas is being applied to the keg at all times.

See the article on, "Blended Gasses" for more information.

## Temperature Changes (continued)

**Keg Deliveries** When a keg is delivered to an account, it should be placed in the cooler immediately, and allowed to cool down. A keg that has just been delivered to the retailer should never be connected to the system until it has had time to cool to the proper dispensing temperature.

**Parties and Special Events** If a keg is to be dispensed at a special event or a picnic, try to place the keg in a cooling tub with lots of ice, or at the very least place some bags of ice on the keg, and wrap everything in an insulating blanket.

**The Bottom Line** To improve the bottom line, make certain the beer cooler is working correctly, that the glycol system is operating properly, and get the beer pouring at 38 degrees F to maximize the number of glasses served from each and every keg.

---