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YOUR GUIDE TO HANDLING & SERVING BEER

The Anheuser-Busch Beertender Guide is a practical reminder of the basic steps you, the retailer, should take when handling beer. This will ensure the freshest, best-tasting beer reaches the most important person in the beer business, your customer.

That's why Anheuser-Busch makes such an effort to brew consistently fresh, great-tasting beer. For more than 150 years, Anheuser-Busch has been known for its tradition of uncompromising quality. We brew our beers with the finest ingredients available, using the highest-quality brewing methods in the industry.

Our success—and yours—depends on how the beer is handled at every step of distribution, from the brew kettle to the bar table. After all, a satisfied customer is a repeat customer.

Thank you for serving Anheuser-Busch beers.



TYPES OF BEER

LAGERS

Lager beers are the most popular style of beer in the world. Literally, lager beer means beer that has been stored ('lagern' in German). This type of beer, which is bottom-fermented, was invented in Germany by a Bavarian brewmaster who introduced it in the Czech town of Plzen, which is also where we get the name "Pilsner." Lager beer has a crisp, bitter taste and is light in color. The beer is fermented at low temperatures using lager yeast and a cold maturation process. There are three types of lager beers: Pilsner, Helles and American Lager.



Pilsner

Pilsner beers typically have an alcohol content (ABV) of 5 to 5.5%. The typical sharp bitterness of lager beers can be found in Stella Artois and Beck's. Lager beers are often just called pils beers.



Helles

Helles beers have a lower ABV (4 to 4.5%) and contains a slightly lower bitterness and a milder mouthfeel.



American Lager

The third type of lager beers, the American Lager, is slightly sweeter than the other lager beers. It has an ABV of 4 to 5% and is well liked because of its fruity, bitter taste. Examples of an American Lager are Brahma and Budweiser.

For more information visit tapintoyourbeer.com.



TYPES OF BEER

ALES

Ale is a type of beer brewed from malted barley using a top-fermenting brewers' yeast. This yeast ferments the beer quickly, giving it a sweet, full-bodied and fruity taste.



Pale Ales

Pale Ales, also known as 'bitters' in England, are brewed using a pale variety of barley malt. Bass beer is an example of a pale ale. Hop levels vary from barely noticeable to quite pronounced.



Abbey Beer

Abbey beer is a top-fermented beer brewed with historically proven links to a specific abbey. Leffe is Anheuser-Busch InBev's abbey beer whose recipe still respects the ancient traditions of the monks of the Norbertine order of Notre Dame.



Trappist

A Trappist is an Abbey beer brewed in a Trappist monastery. There are only eight Trappist beers in the world, six of which are in Belgium, one in The Netherlands and one in Austria.



Double/Dubbel

Double/Dubbel ale beers have an ABV of 6 to 8% and are dark in color. It is not double fermented, but uses twice as many ingredients per hectoliter of production.



Triple/Tripel

Triple/Tripel is an ale beer with an ABV of about 7 to 9%. It contains approximately three times as many ingredients per hectoliter of production.



Quadrupel

Quadrupel is an extreme version of a Double. It is dark in color and has a bitter taste. Hertog Jan Grand Prestige is an example.



Lambic

A Lambic is a beer that uses wild yeasts instead of cultivated ones. Only a few isolated regions, like the Senne Valley in Belgium, still use wild yeasts strains.



Gueuze

A Gueuze beer is typically a blend of one, two and three year-old Lambic beers. Anheuser-Busch InBev's Belle-Vue brand, originally from the Brussels region, is an example.



Wheat Beer

A wheat beer is brewed with a significant proportion of wheat and malted barley. The two main styles are Belgian White and German Weissbier.



BREWING PROCESS

INGREDIENTS

There might be thousands of recipes for beer, but only four ingredients are essential. You need barley malt, yeast, hops, and water — together they compromise the backbone of every pint of that delicious nectar we refer to as beer. Other cereals can also be used to partially replace malt, with the objective to get optimal taste for different consumer palates in different markets.



Water — the 'integrity' of beer

You might call water the unsung hero of beer ingredients. It doesn't get the recognition that the barley malt and hops get, but water actually constitutes up to 95% of beer's total ingredient profile.



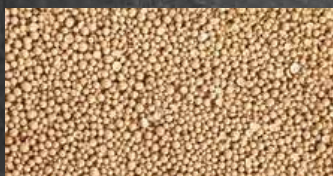
Barley malt — the 'soul' of beer

A 'germinated barley', barley malt is to beer what grapes are to wine. It is used as a source of starch and enzymes to degrade starch into a simple sugar needed for fermentation. It is also responsible for giving beer its color and its malty flavor.



Unmalted Grains — the 'enhancer' of beer

Used in conjunction with malted barley, unmalted grains provide some of the sugars needed for fermentation and create a crisp finish in American lagers



Yeast — the 'life' of beer

Brewers yeast is a living organism and one of nature's wonders. It has the ability to turn sugar into alcohol, CO₂ and fermentation flavors, which transform the taste of wort into beer and brings the beer to life.



Hops — the 'spice' of beer

Hops are the cone-shaped blossoms that give beer bitterness, contribute to its aroma and foam stability.



BREWING PROCESS

STAGES OF PRODUCTION

Malting

Malting is the first step of every brewing process—the method of converting barley into malt. There are three stages.

Steeping — The barley is soaked in water until the desired moisture level is reached. This can take 1–3 days.

Germination — The wet barley is then transported to another vessel, called a germination bed, where it's allowed to germinate under controlled conditions.

Kilning — The malt is now moved to kilns, where it's heated and dried to stop the germination process and reduce the moisture level.

Wort production

Wort is a hot tea rich in sugar and nutrients, which are substrates for fermentation. Typical wort ingredients are water, malt, other un-malted cereals and hops.

Milling — In the milling stage of brewing, the husks are crushed only enough to expose the starches in the barley kernels. The cracked grain is called grist.

Mashing / Lautering — The grist is mixed with hot water and blended to create a thick suspension called mash. It's then stirred and heated at strict time and temperature controls to convert the starches to natural sugars. All this mashing results in a sweet liquid called "wort".

Boiling — The wort is brought to a boil in the kettle, and now the brewer's skills come into play as the hops are added into the mix.

Fermentation

After the wort is cooled, it's pumped into the primary fermentation tank where the magic happens as soon as yeast is added to the cooled wort.

Aging — The fermented beer can then be moved to an aging, or lagering, tank for secondary fermentation and aging. The aging of ale style beers can vary from lager style beers from a couple of days to a couple of weeks, with some going directly to serving or finishing tanks after completion of their fermentation.

Filtering

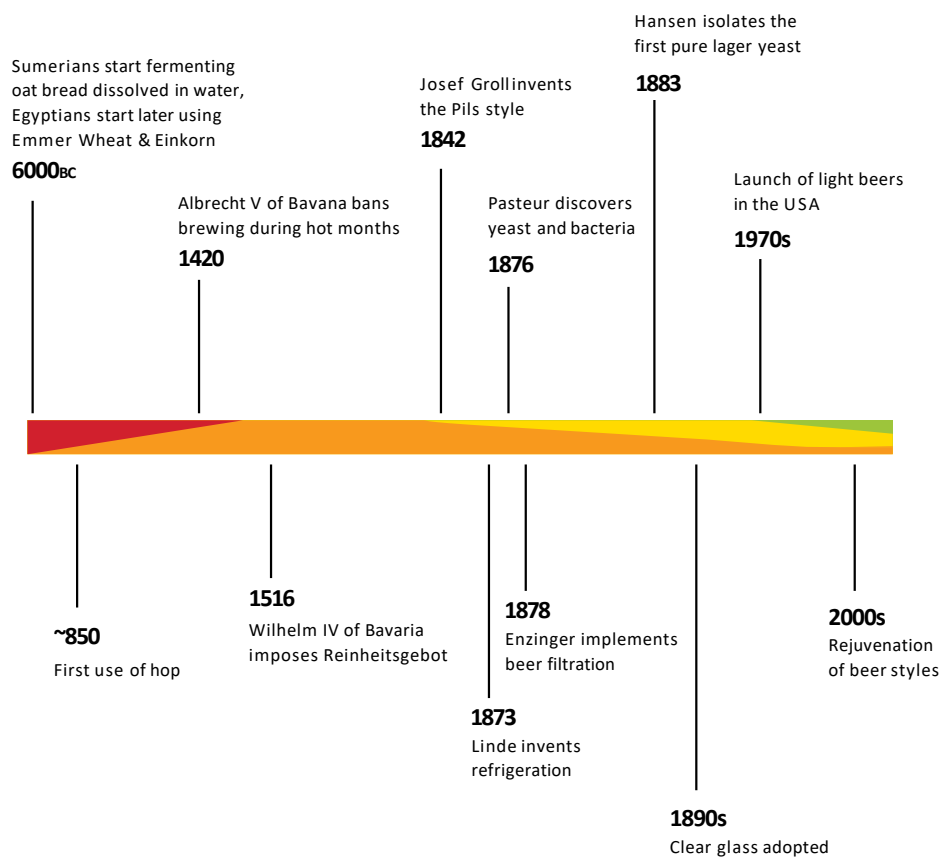
The beer is normally filtered to make it visually bright by removing yeast and protein material, and then it's transferred to a finishing tank. Not all beer is filtered.

After a final quality check and brewmaster tasting, the beer is finally ready to be enjoyed.



For more information visit tapintoyourbeer.com.

THE HISTORY OF BEER



LAMBICS	ALES	(95% Lager/5% Ale) LAGER > PILS	LIGHT
Hazy	Hazy	Clear	
Flat	Bitter	Bitter	
Spicy	Hoppy	Malty	
Sour	Slightly Sour	Clean	
Fruity	Malty	Hoppy	
	Low Fizz	Fizzy	

BEER COMPOSITION



0.5% CO₂

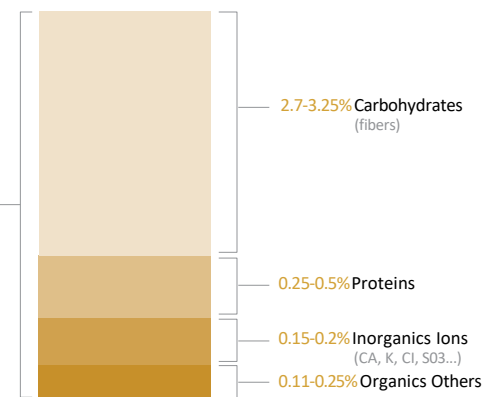
5.0% ALCOHOL

90.2% WATER

Beer is one of the most complex foods—Cider is composed of 200 volatiles; wine of 400; chocolate 600; coffee 800.

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4.3% MINERALS & EXTRACT



AROMA

~700 Isolated Volatiles
(fruity, caramel, sulphury, hoppy, oxidized, floral...)

TASTE, COLOR

500 Isolated Non-Volatiles
(mouthfeel, bitterness, sweetness, acidity, color...)

120 natural compounds characterized so far
Potentially > 2500 natural compounds

For more information visit tapintoyourbeer.com.



HANDLING DRAUGHT BEER

KEG ROTATION & TEMPERATURE

Keep Your Cooler Cold and Clean

- Check cooler temperatures daily by placing accurate thermometers in glasses of water that are chilled overnight.
- Use clear, plastic airflow curtains to help keep cold air inside the cooler.
- Place kegs in cooler immediately after delivery.
- Remind employees and delivery reps to keep the cooler door closed to minimize temperature loss.
- Avoid stacking warm goods near cold kegs.
- Never stack anything on top of full kegs.
- Avoid storing kegs against the wall of the cooler which can reduce air circulation around the barrels.
- Ideally, keg storage coolers should be 100% dedicated to beer storage and should not be used to store food or other goods.

Rotate Your Stock — Always Sell the Oldest Kegs First

- Do not stock new deliveries on top of or in front of barrels already in the cooler.

Draught Beer Should Be Kept Cold at All Times

- The ideal temperature range for draught coolers is 36° to 38°F.
- If stored over 42°F, draught beer will draw wild or foamy, sacrificing the taste of the beer and profitability.

38°F
40°F



HANDLING DRAUGHT BEER

PRESSURE REQUIREMENTS

Draught Beer Gas Serves Two Purposes

First, it maintains beer's natural carbonation. Second, it provides the power to deliver beer from the keg to the faucet.

As a general rule, any system requiring less than 15 psi to achieve a flow rate of two ounces per second should use 100% CO₂. Any system requiring more than 15 psi to achieve the same flow rate should use a blended beer gas.

Short-draw systems only require beer to be pushed a small distance, so only a small amount of gas pressure is necessary. According to the rule set out above, if your system requires less than 15 psi to achieve a two-ounces-per-second flow rate, you should use 100% CO₂. As pressures less than 12 psi can result in beer going flat towards the end of the keg, if the pressure you require is less than 12 psi, you should add an amount of tubing to your system that will allow you to increase your pressure to between 12 and 15 psi.

As stated above, systems requiring more than 15 psi to achieve a flow rate of two ounces per second require a blended beer gas. While many blenders come preset, they may not be ideally suited for every situation. In order to determine the correct blend required for your particular set of circumstances, simply download the Easy Blend Calculator from abdraught.com.

Please note that nitrogenated beers always require a 25% CO₂/75% Nitrogen blend, but this beer gas mixture should never be used on regular beers.

Long draw draught beer systems today should be balanced to dispense draught beer at 36°F at a 2 oz per second laminar flow rate.

The most recommended gas blend to dispense Lagers and Ales through long draw draught systems is 70%CO₂/30%Nitrogen.

Premixed "beer gas" cylinders will always contain a much higher ratio of Nitrogen to CO₂ and should only be used to dispense Nitrogenated Ales.

Before using any compressed gas cylinder, you should read and familiarize yourself with all safety precautions to avoid serious injury or death.

EXACT BLEND CALCULATOR

Keg Temperature (°F)	36
Pressure (psig)	32
American Premium *CO ₂ Content	2.7
Perfect Blend	57%

* Use the drop down option to adjust CO₂ Content (vols/vol) by style accordingly.

ACCEPTABLE VOLS/VOL RANGES

American Premium	2.7
Micro/Craft	2.5
Nitrogenated	1.2

* Only use premix tanks for nitrogenated ales.



MAINTAINING POWER PACKS

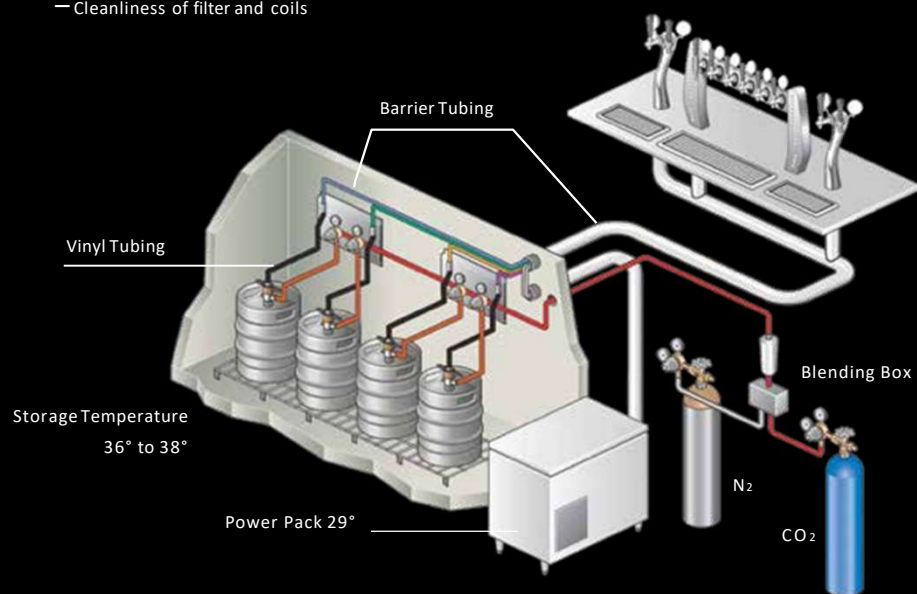
A Power Pack ensures the beer is kept cold from cooler to faucet. It is filled with a mixture of food-grade glycol and water.

Tips on Maintaining Power Packs:

- Glycol should be changed annually and maintain a 29° temperature for best beer serving temperature
- Follow a maintenance schedule, which requires a service call every six months by a refrigeration expert that includes:
 - Temperature verification
 - Verify glycol in reservoir is at proper fill level
 - Ensure proper ventilation and airflow for power pack performance
 - Cleanliness of filter and coils

Glycol should be changed annually and maintain a temperature of

29° F



HANDLING CO₂ CYLINDERS

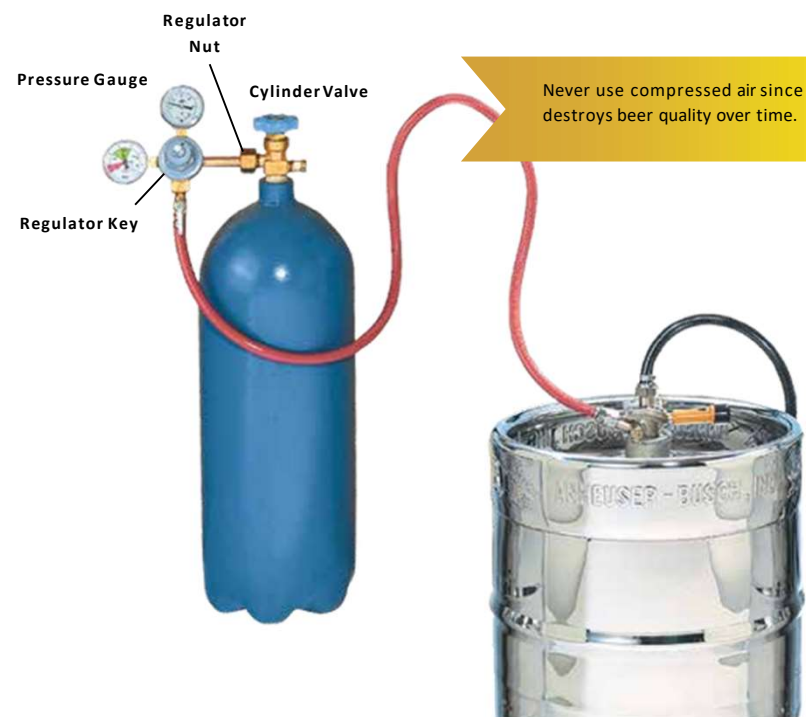
Changing the Cylinder

- 1) Close cylinder by turning the **cylinder valve** clockwise.
- 2) Remove regulator from empty cylinder by turning **regulator nut** counter-clockwise.
- 3) Examine inside of **regulator nut** to ensure an O-ring or plastic fiber washer is in place (prevents gas leakage).
- 4) Attach regulator to new full cylinder by tightening **regulator nut** clockwise.
- 5) Fully open **cylinder valve** counter-clockwise.

Adjusting Pressure on CO₂ Regulator

- **To Increase Pressure:** Turn **regulator key** clockwise until **pressure gauge** shows desired dispensing pressure (psi).
- **To Decrease Pressure:** Fully turn **regulator key** counter-clockwise. Pour beer from faucet to draw pressure out of system. Return to CO₂ cylinder and turn **regulator key** clockwise until **pressure gauge** shows desired dispensing pressure (psi).

NOTE: Pressure in the dispensing system should not exceed 60 psi. Two pressure-relief devices are necessary in every system, preferably built into the equipment: one at the regulator, one at the tap.



TAPPING A BARREL

Anheuser-Busch uses only barrels with a single-valve tapping system which:

- Taps quickly and easily with only one connection.
- Is completely sanitized.
- Has a pressure-release valve for maximum safety.



T-handle



Lever-handle

With a Lever-handle Tap



1.) Align slots on keg coupler with lugs inside keg valve



2.) Turn body clockwise until firmly in place



3.) Pull handle out and press downward until it locks into place. You are ready to draw beer

THE IMPORTANCE OF THE BEER-READY GLASS

A “beer-ready” glass ensures no invisible film, odor, or bacteria.

- **FILM** can be caused by several factors: the wrong sanitizer or lanolin-based soap, grease-based residues (lipstick), food in the wash water, fingerprints, or smoke from cigarettes.
- **ODORS** may be left on glasses when detergents and sanitizers are used improperly, from contact with bar towels, or from stale air in refrigerated areas.
- **BACTERIA** can contaminate your glassware if your sanitizer is measured incorrectly, not changed at recommended intervals, or is incompatible with your detergent.

It is critical that draught beer is served in a “beer-ready” glass.

- Use “beer-ready” glasses for beer only.
- It is important to have “beer-ready” glasses free from any residue that will affect the beer’s flavor or appearance.
- Properly chill glasses to 33°F.
- Freezing glassware is not recommended.
- Frost on glasses may contain sanitizer that can affect taste.
- The temperature difference between glass and beer may cause a bad pour.
- The frozen glass may cause the beer to freeze and separate.

A beer-ready glass is crucial to ensure you are not serving beer that is flat, has a false head, or an off-taste.



Flat Beer

Film or grease residues actually attack the head, which rapidly disappears, causing the beer to look and taste flat.



False Head

A film or soap on the glass produces a head formed from overly large bubbles that quickly disappear.



Off-Taste

Because of the close relationship between taste and smell, a glass with a residual odor can actually give the beer an off-taste.

ENSURING YOUR GLASSWARE IS PROPERLY CLEANED

To ensure glasses are “beer-ready,” use a three-sink system for washing, rinsing, and sanitizing.

Empty



Empty used glasses into an open drain and rinse with water.

Wash



In the **first sink**, wash glasses in warm water with an approved odorless, low-sudsing, non-fat cleaning compound (your wholesaler can recommend an approved cleaning compound). Use a nylon, three-spindled brush so you can clean two glasses at once, thoroughly brushing all surfaces, including the bottom. Make sure your brushes are tall enough to reach the bottom of your tallest glass. Clean brushes with salt or detergents. Use a special brush for pitchers.

Rinse



In the **second sink**, rinse glasses with fresh water. Insert the bottom of the glass in the water first to prevent air pockets. Take the glass out bottom first using the “heel-in, heel-out” method three times to rinse completely.

Sanitize



In the **third sink**, rinse glasses in cold water with approved sanitizer, using the “heel-in, heel-out” method three times to rinse completely.

Dry



Dry the glasses upside down on a stainless-steel wire rack or a deeply corrugated, free-draining plastic surface for maximum air flow and complete, odor-free drying. If glasses will be chilled, make sure they are completely dry first.

NOTE: This is an Anheuser-Busch recommended procedure, which may be preempted by state or local laws/regulations.

HANDLING GLASSWARE AFTER CLEANING

After you’ve cleaned your glasses, it’s important to keep them clean and odor free.

- Store glasses in a stainless-steel wire basket to provide maximum circulation. A deeply corrugated surface is also acceptable.
- Storing glassware on a towel, a rubber drain pad, or any other smooth surface may cause odors to be transmitted to the glass and may slow the drying process.
- Store your glassware in an area free of odors, smoke, grease, or dust.
- Air-dry glassware.
- Drying glasses with a towel can leave lint and may transmit germs and odors.
- Store glasses in a refrigerator away from food products such as meat, fish, cheese, or onions.
- Store dry beer glasses in a chiller.
- Never use a freezer. Chill glasses at 33°F.

If you use a mechanical glass washer, be sure to regularly service the machine based on the manufacturer’s/installer’s guidelines. Do not use dish washing machines.

Test your glasses to see if they are “beer-ready”.



Sheeting Test

Dip the glass in water. If the glass is clean, water will shed evenly off the glass when you lift it out of the water. If the glass still has an invisible film, water will break up into droplets on the surface.



Salt Test

Salt sprinkled on the interior of a wet glass will adhere evenly to the clean surface, but will not adhere to parts that still contain a greasy film.



Lacing Test

Fill the glass with beer. If the glass is clean, foam will adhere to the inside of the glass in parallel rings after each sip, forming a lacing pattern. If not properly cleaned, foam will adhere in a random pattern, or may not adhere at all.

DRAWING THE PERFECT DRAUGHT BEER

A properly poured draught beer has a 1" head of foam to release the natural carbonation, which allows the aromas to escape, resulting in a more flavorful, smooth-tasting, and less-filling beer.



1.) Tilt the glass at a 45° Angle under/not touching the faucet



2.) Open the faucet quickly from its base



3.) Straighten the glass as you pour



4.) Serve with a 1" collar of foam



PROFITABILITY

A properly poured draught beer has a 1" head of foam to release the natural carbonation, which allows the aromas to escape, resulting in a more flavorful, smooth-tasting, and less-filling beer... and increases profit.

1" HEAD of FOAM

16 OZ PINT	0" FOAM	1" FOAM
Servings / 1/2 bbl	124	161
Ozs / serving	16	12.25
Cost / 1/2 bbl*	\$125	\$125
Cost / oz	6¢	6¢
Price / serving	\$5.50	\$5.50
Kegs sold / year	100	100
Profit / keg	\$557	\$765.78
Profit / year	\$55,700	\$76,578
% margin	82%	86%

*Average Bud Light Cost /½ bbl



No Head of Foam

Beer looks flat, unappetizing, and may taste gassy. Fewer servings per keg mean less profit.



Head of Foam too Large

Visually unappealing. Customers perceive they are getting less beer for their money.

! CLEANING THE BEER LINES

Materials needed for cleaning draught lines include:

- Fresh water, buckets, towels
- Brewery-recommended line cleaner (ask wholesaler)
- Faucet cleaning attachment, twin male coupler
- Tools/wrenches for disassembling tapping equipment and faucets
- Brush, electric pump, cleaning pot or hand pump

Clean your lines at least once every two weeks.

Follow local and state guidelines to remove any sediment that can cause an off taste. If your state requires an outside line cleaner, monitor the cleaning methods and chemicals used, making certain that faucets and tapping equipment are taken apart, examined and then cleaned.

- A full 5 gallons of solution should be flushed through, followed by 5 gallons of fresh, cold water to remove the solution.
- Electric pump should be used for all long draws.
- Test beer with a pH tester. The reading should not exceed 5.5.

Cleaning and rinsing beer lines regularly is essential to serving a consistently great-tasting draught beer



! DRAUGHT TROUBLESHOOTING

Wild/Foamy Beer

- Warm draught cooler
- Frozen glasses
- Beer line systems not properly refrigerated or insulated
- Beer drawn improperly
- Tap/faucets broken, leaking, or dirty
- Too much pressure

Flat Beer

- Beer too cold
- Glasses are not “beer-ready”
- Not enough CO₂ pressure on barrel
- Sluggish (broken) pressure regulator
- Air compressor used for pressure
- Pressure required does not correspond to beer temperature

Cloudy Beer

- Beer frozen in dispensing system
- Beer has been frozen in barrel
- Old beer hose in poor condition
- Beer lines not properly cleaned
- Contaminated pressure source

90%
of all draught problems are temperature related



Off-Tasting Beer

- Air compressor used for pressure
- Sanitizer remains on glasses (often when frozen)
- Beer lines not properly cleaned
- Oily air; greasy kitchen air
- Old draught, kegs not rotated
- Glasses not “beer-ready”
- Contaminated pressure source

No Pour

- Keg is not tapped properly
- Keg is empty
- The gas is turned off
- The lines are frozen
- The gas supply is exhausted



STORING PACKAGED BEER

5 KEY POINTS TO REMEMBER

Keep it Fresh

- Rotate your stock—always sell oldest packages first.

—Don't stack new deliveries in front of or on top of cases already in your storeroom or cooler. Restock coolers to always sell the older beer first.

Keep it Clean

- Keep all storage areas clean and dust free.
- If a can or bottle looks dirty, the customer may think the beer tastes bad.
- Cases stored in dirty areas can absorb odors that customers may notice when drinking directly from the package. Cans may be affected more than bottles.
- Avoid storing food items that emit odors near beer stock.

Keep it Dry

- Consider stacking your cases on pallets or racks to protect them from damp floors.
- Damp storage coolers may cause labels to soften or shred, making bottles look less appetizing.

Keep it Cool

- Store packaged beer between 36° to 38°F and consider restocking the bar coolers at day's end to ensure proper chilling of the beer.
- Warm storage should not exceed 70°F. High temperatures can cause the flavor of beer to degrade quickly.
- Avoid cold storage below 28°F.

If bottles or cans should freeze:

- Fix any malfunctioning thermostat or cooler.
- Let the case thaw, but avoid temperatures higher than 70°F.
- Gently turn the cans or bottles over end-to-end to remix the beer.
- Open the package to check for clarity. If flakes are present, do not sell.

Cold... Warm... Cold Again?

Bottles and cans may be refrigerated, allowed to warm, and then be rechilled without sacrificing quality. Just be sure the temperature range isn't extreme—colder than 28°F or warmer than 70°F. Warmer temperatures can accelerate off taste.

Keep it Dark

- Draw shades in storerooms to prevent sunlight from penetrating bottled beer, which can make beer smell bad or skunky. Most beers are brewed with hops that are sensitive to light. Brown glass helps protect the taste, but too much light can still be harmful.



SERVING PACKAGED BEER

Serving Temperature

Bottles and cans taste best when served at 38° to 40°F.

Opening the Bottle or Can

- Hold bottle at the shoulder, not at the bottom when opening, or it may foam over. Rough handling causes beer to foam or gush when opened.
- Check for worn bottle openers to prevent damaging the bottle lip.

Pouring Packaged Beer

A 1" head of foam allows the natural carbonation to escape, enhancing the flavor and drinkability, and keeps the customer from filling up too fast.

To produce a proper head or collar of foam:

- Place the neck of the bottle or lip of the can over the edge of a "beer-ready" glass.
 - Quickly raise the bottom of the bottle or can to a high angle, causing the beer to agitate in the glass.
- Don't pour the beer by the "down-the-side" method. It minimizes the foam, making the beer look flat and taste gassy.
- Lower the bottom of the bottle or can to reduce the flow until the foam rises to the rim. A 1" head of foam is ideal.
 - Open bottles or cans where they are served, whether bar or tableside, to prevent foaming over when walking to the customer.

1" HEAD of FOAM



