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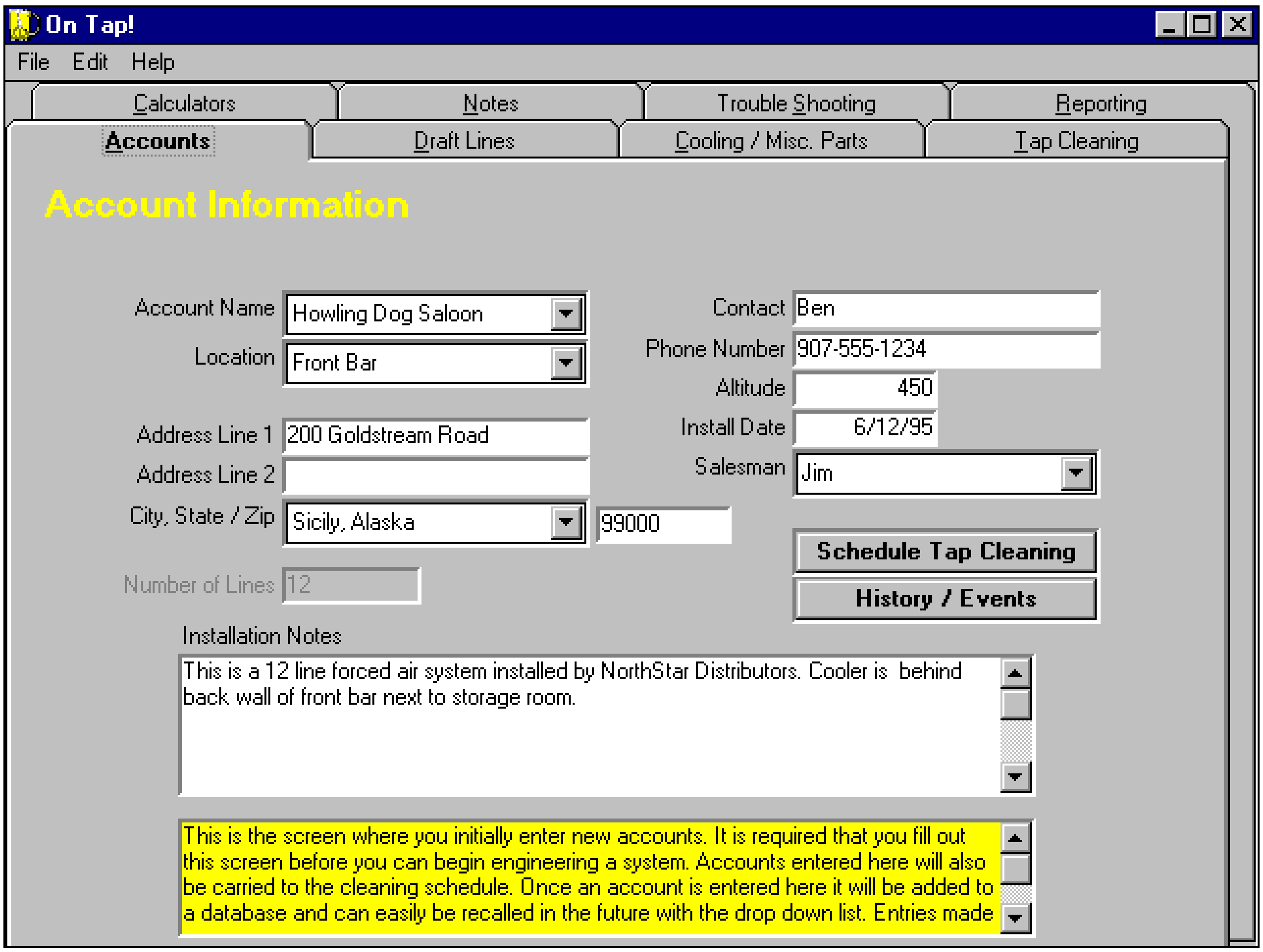
Account Screen

This is the screen where you initially enter new accounts. It is essentially a comprehensive contact manager designed for the beer industry. It is required that you fill out this screen before you can begin engineering a system. Accounts entered here will also be carried to the cleaning schedule. Once an account is entered here it will be added to a database and can easily be recalled in the future with the drop down list. Entries made on this screen can be modified at any time in the future. Note that this screen is not required to use the Calculator, Notes, and Help screens.

The Account Information screen is the first screen displayed when On Tap! is started. You can also return to this screen at any time by clicking on the Account tab or typing Alt+A. An example screen is shown below.



See Also

Account Name
Location
Address Line 1
City, State, Zip
Number of Lines to be Installed
Contact
Phone Number

Altitude
Install Date
Salesman
Installation Notes
Schedule Tap Cleaning Button
History / Events Button

Account Screen
Account Name

Enter a name for the account you will be working with in this field. Every account entered should have a separate physical address. Multiple bars at one location are designated by their location. To select an account entered here earlier, click on the down arrow to select it from the drop down list.

See Also

Account Information Screen

Account Screen Location

If the account has more than one location from which draft beer is served (front bar and back bar, upstairs, and downstairs...), please designate which location you will be working on here. The system balancer will print separate specifications and parts lists for each location. To add a new location to this account later, simply select this account and type in the new location here. To select a location entered here earlier, click on the down arrow to select from the drop down list.

See Also

Account Information Screen

Account Screen
Address Line 1 & 2

Enter the address of the account here. This field is optional but it may help identify the account in the future.

See Also

Account Information Screen

Account Screen
City, State, Zip

Enter City, State and Zip.   The city and state are important as On Tap! will use them to attempt to guess the bars altitude.   On Tap! has a database of about 150 cities and altitudes that it uses for this purpose.   If the city is not in On Tap!s database, you will be asked if you wish to add the city to the database.

See Also

Account Information Screen

Account Screen Contact

Enter the name of your contact person at the account.

See Also

Account Information Screen

Account Screen
Phone Number

Enter the accounts phone number where the contact person can be found.

See Also

Account Information Screen

Account Screen
Altitude

When you enter the city and state where the account is located On Tap! will check its database of about 150 cities and try to fill in the altitude. If On Tap! does not have it, simply enter it, and On Tap! will add it to the database. This information should be easily available through a variety of sources (city, state, airport, encyclopedia, library etc.) Please understand that in some cities there is a great amount of variability of altitude. The best we can say is try to be reasonable and get as close as you can. If the account is a restaurant on a hillside over looking town, add a reasonable amount of altitude. If the account is along Waikiki Beach it is likely that the altitude is 0! The altitude is important because as it changes so does the atmospheric pressure. This external pressure should be considered as it acts upon all components of the system.

See Also

Account Information Screen

Account Screen
Install Date

Enter the installation date of system if known.

See Also

Account Information Screen

Account Screen
Salesman

Enter the salesman that will be servicing this account. The salesman name is used on several of the reports that track salesman productivity and ranking. If the salesman has other accounts already entered, the name can be selected from the drop down list.

See Also

Account Information Screen

Account Screen
Schedule Tap Cleaning Button

Press this button to display a quick screen to enter the cleaning schedule for this account. (Note that this can be done from the Tap Cleaning screen itself in a more intuitive fashion.) The account will be added to the scheduler and will be included on future reports. This information can be modified at any time on the Tap Cleaning screen.

See Also

Account Information Screen

Account Screen
History / Events Button

Displays the Account History and Events dialog for the current account. This is an extremely useful tool for tracking almost any type of information for your accounts.

Keeping a detailed log of repairs, new placements, incentives, display activity, P.O.S. placement, sales or other important events for an account can be very useful. The Account History screen is an excellent way to organize these notes. All entries are sorted by date and category for easy review. The Account History screen allows technicians to enter notes on draft system problems and repairs as they occur for future reference. Salesmen can record incentive activities and new placements. Fields exist for the date, persons name, category and notes. The category field will accept any new category you wish to add. When viewing and printing account history reports, you may select any or all categories available. If you wish to print a recap of an incentive, you can print an Account History report for all accounts with that sales incentive category selected on the reporting screen.

Many accounts have many annual or seasonal functions and promotions. Entering these under an events category will allow you to print an events calendar for all of your accounts. This tool will help your distributor be there first to make the sale.

Records can also be entered here under a sales category of all important meetings, promotions, conversations etc.

Many suppliers ask for monthly recaps of activities and goals for their products. Again this is an excellent place to record that information. This information can be reported in a variety of formats at any time.

It is also helpful to enter notes on draft system problems and repairs as they occur for future reference. Fields exist for the date, technicians name, and notes. This is helpful to record what work was done, who did it, when it was done, and what solutions worked best. This may also help to establish patterns of problems, or anticipate what the problem might be when an account calls. At any time a report can be displayed or printed showing all of these notes in chronological order. This can be helpful to someone unfamiliar with the account who is required to fix it, or to suggest possible solutions over the phone based on historic problems. This report may also be given to the account to chronicle the work you have done.

See Also

Account Information Screen
Account History / Events Screen

Account Screen
Installation Notes

Enter any information that you feel may be of use for later reference pertaining to this installation.

See Also

Account Information Screen

Account Screen
Number of Lines

This field displays the number of Draft Lines that have been entered on the Draft Line screen. It is automatically maintained by On Tap! and can not be user modified.

See Also

Account Information Screen

Help Text

Displays help for the current field or control.

Draft Line Screen

This component of the program is designed to make the most technical aspect of installing a beer system quick and easy! On Tap! will assist you with the process of determining the lift, drop, and run of your system, and then balance it for you. You need not know any more than this, but we will explain anyway.

"System balancing" entails selecting the correct combination of beer line sizes and lengths so that your system will be balanced. In a balanced system the kegs applied pressure equals the systems resistance to beer flow.

The applied pressure usually comes in the form of compressed CO2 (carbon dioxide) or N2 (nitrogen) or a mixture of both. (These are discussed in more depth in the Notes component of On Tap! on page Error! Bookmark not defined..) A regulator is attached to the compressed gas tank, and adjusted to the correct applied pressure. We will calculate the applied pressure for you based on the cooler temperature you enter, and the brand of keg you are installing.

Next On Tap! will calculate the specifications for all of your beer lines, so that they will introduce the correct amount of "frictional resistance." The frictional resistance (resistance beer encounters while flowing through the lines) added to the static resistance (positive or negative resistance caused by the beer flow working with or against gravity that On Tap! calculates based on the lift or drop you enter) will equal the applied pressure.

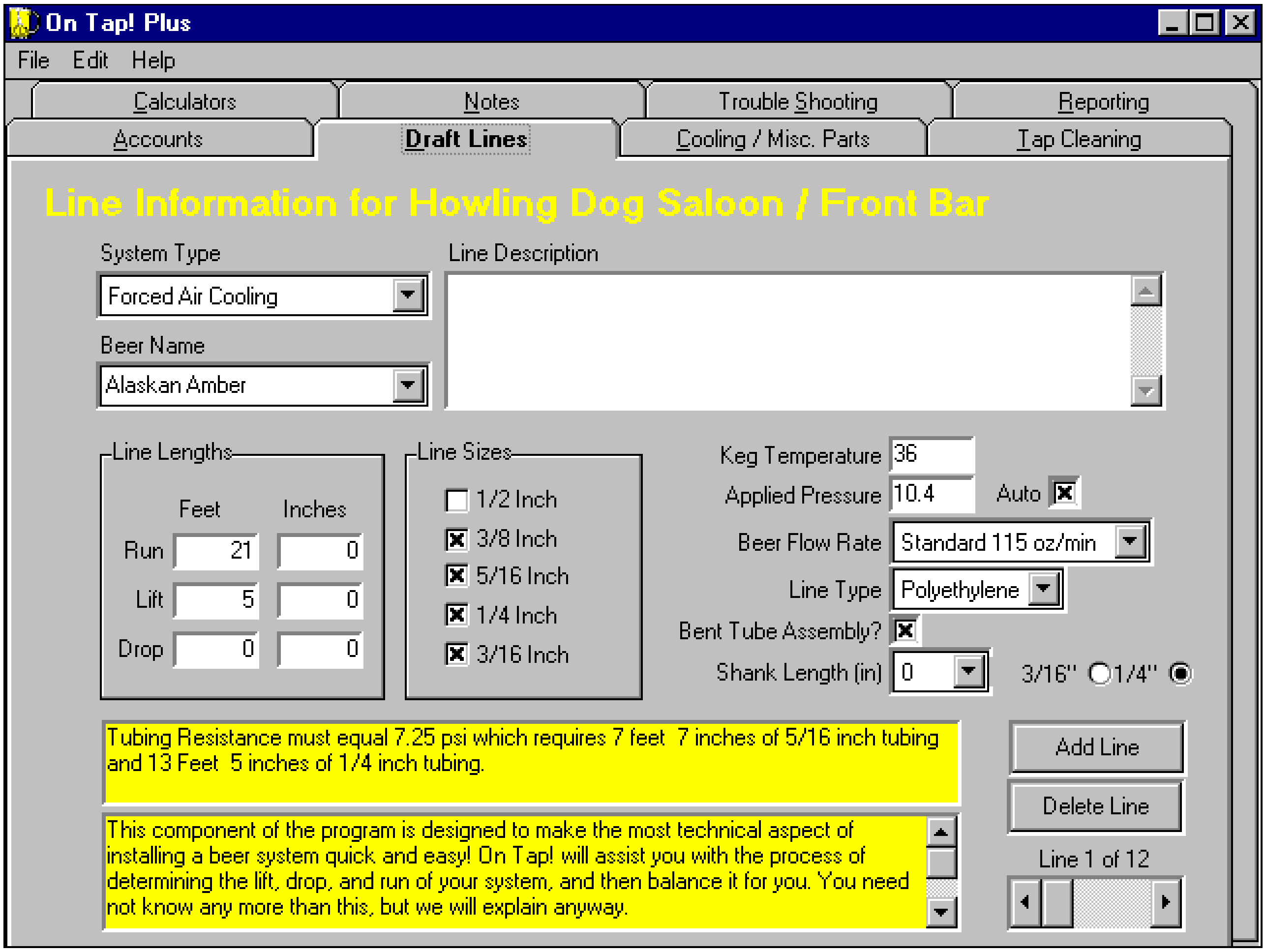
Often each kegs beer line will need to be made from two lengths of different sized beer line spliced together. Lines are spliced together using "hose unions." The larger of these lines must always be connected to the keg tap, and the smaller line connected to the faucet. These lines must then be kept cold with a Forced Air System or a Glycol System.

When beer lines are not properly balanced, they are either have too much resistance or not enough resistance. Over restricted lines cause beer to pour slowly and unevenly often causing excessive foam and slow service. Under restricted lines cause the beer to pour wildly because they allow CO2 to escape into them.

Note: More than two line sizes are never required. Theoretically, a system with one line size is best, however some brewers suggest always using two line sizes, one being a choker line at the faucet end. This is to allow fine tuning of the system after it is installed by shortening or lengthening the choker. You can force this method by selecting glycol system. When you do this it will always include single line best fit, and also an option for a line with a choker. You can also force this method without selecting glycol system by selecting the 3/16 line and one larger size line. Increase the size of the larger selection until both sizes are used.

On tap will attempt to use one size beer line. If it is not possible given the specifications that you enter On Tap may suggest a slightly longer run that will balance with one size. If the system is too long, or the lift is too high for the system to work with CO2, On Tap will suggest using a blended gas, and it will calculate the required pressure.

To display the Draft Line screen, click on the Draft Lines tab or type Alt+D.   On Tap! will display a screen similar to that below.   If this tab is disabled, you need to first select or create a new account from the Account screen.



See Also

- System Type
- Beer Name
- Line Description
- Calculating Lift and Drop
- Run
- Line Sizes
- Keg Temperature
- Applied Pressure
- Beer Flow Rate
- Line Type
- Bent Tube Assembly
- Shank Length
- Add Line Button
- Delete Line buttons
- Line Scroll Box
- Pressure Too Low Or Run Too Long Warning
- Line Pressure Too High for Run Warning

Draft Line Screen
Line Description

Enter any notes that you may have that are specific to this line in this field. You may wish to enter information such as which faucet this line is connected to or other information that is relevant to this line.

EXAMPLE:

This line is the farthest left from the servers perspective.

See Also

Draft Lines Screen

Draft Line Screen
Planned Beer

Select the beer you plan on using for this line from the drop down menu. If this account will be rotating different kegs on this line you may wish to select a "generic" beer type from the list. To add a new beer to the list, simply type in the new name and you will be prompted for the specifications, brewer, and distributor.   If you would like to edit an existing beer, simply select Edit from the menu bar and then select Beer Specs.

When a beer is selected from this list, we use its CO_2 volumes to derive the correct applied pressure. If you are not sure what the CO_2 volumes are, either contact the brewery or make your best guess. Most beer are will be around 2.5 grams. This number can be as low as 2.0 for beers with very low carbonation, to as high as 3.0 for beers with high carbonation. Most large domestic brands are around 2.7, while Micros tend to be lower, often around 2.5.   The default amount of 2.7 can be modified in the "Parameters" option under the "Edit" menu.

See Also

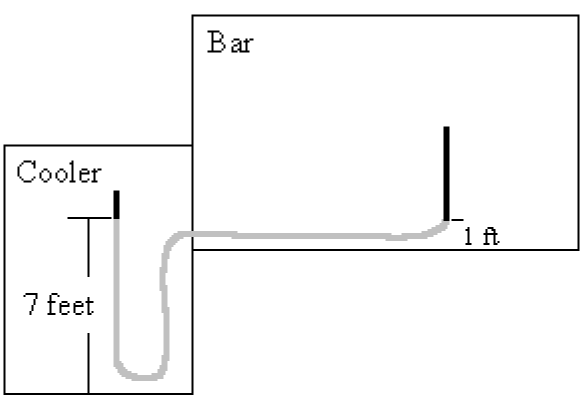
Draft Lines Screen

Draft Line Screen
Lift / Drop

The total lift or drop is the vertical distance between the bottom of the keg where the beer is drawn and the faucet where the beer is poured. If the faucet is lower than the bottom of the keg, this number will be negative (called drop). It is best to enter a number in only one of these fields. Enter either the net lift in the lift field or the net drop in the drop field. If you enter values in both fields, On Tap will simply subtract the drop from the lift you enter. The actual distance between the keg and the faucet does not matter when calculating lift, only the vertical distance is measured. This procedure may be simple or difficult depending on the layout of the building in which the system is being installed. If the cooler and bar area all share one common level floor the procedure is simplified. Measuring the distance from the bar floor to the faucet should yield the lift. If the cooler floor is raised in relation to the rest of the floor, or if the kegs are placed on a pallet or shelf, these variables must be accounted for (subtracted from or added to the initial measurement). Often the cooler and bar area are on different levels of the building. In these situations it can be difficult to accurately measure the lift or drop but it is important. Try to measure the lift incrementally. Measure the cooler floor to the cooler ceiling, then the cooler ceiling the floor above it, from that floor to the bar floor, and finally from the bar floor to the faucet. Combine all the measurements for total lift. When the route of beer lines is decided, it may ease measurement to go ahead and cut the holes first, enabling the installer to measure the thickness of a floor or pull a measuring tape or sample line through. If the design of the building is so convoluted as to make accurate measurement all but impossible, You may be able to simply cut holes, and run a test line. Pour water into the high end of the line, and see how high it rises in a section of the low end held up as high as possible. If the water overflows from the high end first you will be able to measure the lift by measuring from the floor to the waterline of the low end. Please see Calculating Lift and Drop in the reference guide of the user manual.

Below is an example installation where the draft lines first go over a wall, then down into a crawl space, through the crawl space, then up to the faucet. In this example, the lift is 8 + 7 = 15 feet total. The drop is 11 feet and the run is 3 + 8 + 2 + 11 + 5 + 7 + 3 = 39 feet.

If the design of the building is so convoluted as to make accurate measurement all but impossible, you may be able to simply cut holes and run a test line to use as a water level. Pour or pump water into the high end of the line, and see how high it rises in a section of the low end held up as high as possible (remove pump after line is full). Be sure that there are no air bubbles trapped in the line. You will be able to measure the lift or drop by measuring from the difference in height from floor to the waterline of the two ends. This will give the height difference between the two floors. In the example below, the difference in heights is 7 - 1 = 6 feet. If the faucet is 3 feet above the floor in the bar, the total lift would be 9 feet.



See Also

Draft Lines Screen

Draft Line Screen
Run

The "run" is the total length of the beer line from the keg tap to the faucet from which it is drawn. This is the length of the actual beer line. This length will usually be greater than the actual distance between the two, because the lines will inevitably have to be routed around corners, through walls, over the ceiling or under floors on their way to the faucet. For example, in below example, the total run would be 3 + 8 + 2 + 11 + 5 + 7 + 3 = 39 feet.   In addition to this we automatically take into consideration the length of any bent tube or shank. Another consideration is that on draft towers with multiple faucets, each consecutive faucet may require a slightly longer run than the previous. Although these 4 to 6 inch differences may seem unimportant, it will pay to be accurate.

See Also

Draft Lines Screen

Draft Line Screen
Line Sizes

By default we will select all the available line sizes except for the 1/2 inch line. Half inch line is not commonly used in the industry. It is useful to be aware of because it does have application in very long run situations that do not have much lift. If because of design limitations or supply limitations you wish to restrict our options to only certain line sizes. Clear the boxes next to the line sizes you do not wish to include (by default all sizes are assumed available).   No system will ever require more than two line sizes.   With glycol systems , because of the way the beer lines are bundled with the Glycol line and enclosed in an insulated trunk, it is not practical to use more than one size of line.   In this case simply choose "Glycol / Freon / H2O trunkline" and we will chose the best single line size for your system and calculate the additional choker or extra length needed to perfect the balancing.   This slack may be taken up in a cooler. If you select "Direct draw box" for the system type On Tap will use only 3/16 inch line.

Note: More than two line sizes are never required. Theoretically, a system with one line size is best, however some brewers suggest always using two line sizes, one being a choker line at the faucet end. This is to allow fine tuning of the system after it is installed by shortening or lengthening the choker. You can force this method by selecting glycol system. When you do this it will always include single line best fit, and also an option for a line with a choker. You can also force this method without selecting glycol system by selecting the 3/16 line and one larger size line. Increase the size of the larger selection until both sizes are used.

On tap will attempt to use one size beer line. If it is not possible given the specifications that you enter On Tap may suggest a slightly longer run that will balance with one size. If the system is too long, or the lift is too high for the system to work with CO2, On Tap will suggest using a blended gas, and it will calculate the required pressure.

See Also

Draft Lines Screen

Draft Line Screen
Keg Temperature

Enter the temperature that you expect the keg cooler to operate at. We expect this to range between 34 and 45 degrees Fahrenheit depending on the capabilities of the cooler and the preference of the drinkers. At times the cooler will be shared with other food items that may have their own temperature requirements (whenever possible try to use a cooler that can be used exclusively for the draft beer). We have entered a default temperature of 36 degrees as we have had good experiences in the 34-36 degree range. Some beers, especially Micros are drank like wines with an emphasis on subtle flavors. Often customers can enjoy these beers warmer. This default temperature can be modified with the Edit Parameters dialog.

See Also

Draft Lines Screen

Draft Line Screen
Applied Pressure

This box tells you the correct applied pressure that the regulator should be set to for this system. We suggest that you leave the Auto box checked. If you do, On Tap will calculate the correct applied pressure value for you based on the temperature, altitude and beer CO2 volume specified. Each time any other variable is changed this number will be recalculated. Note that the background is color coded. Yellow indicates that the user has modified this number, blue indicates that an N2 / CO2 blend is required and red indicates that pressure is above safe levels. (see Notes section for detailed information about CO2 and N2) This is all that you should ever need to know. If you are experienced however, and wish to change the value, un-check the Auto box and simply enter your own number here. The background will turn yellow. Once you enter your own number here, this applied pressure number will no longer update. This may be useful in special situations where you have one regulator running several lines, and require them all to run off one pressure. In this instance On Tap will balance the lines for proper flow regardless of the pressure you enter. (within reason) We recommend that this feature only be used by experienced technicians. If you wish to go back and modify line lengths you will see that the applied pressure does not change. This is because the program assumes that you wish to force this pressure reading into its calculation. If you wish to reset this field, simply re-check the Auto box.

See Also

Draft Lines Screen

Beer Volume

Beer Flow Rate

Select the flow rate that best suits the needs of the account. On Tap offers a range from 100 ounces per minute to 130 ounces per minute. For most accounts 115 to 120 oz/minute will work well. Accounts may wish to have slower flow fates if they use very small glassware, have inexperienced servers, want to minimize waste, or have special glassware that is difficult to use. Accounts may wish to have faster flow rates if they are a high volume account with experienced servers, or frequently sell pitchers. To determine how fast this will fill a glass simply divide the desired flow rate by 60 to get ounces per second. Multiply this number by the size of the glass in ounces. The resulting number is how many seconds it will take to fill the specified glass size.

See Also

Draft Lines Screen

Draft Line Screen
Line Type

Please select either polyethylene or vinyl beer line. Although there are a variety of materials used, these two are the most common. We recommend the use of polyethylene as it is more durable and actually resists beer flow slightly less than vinyl. If new materials are used with different resistance ratings, you may change these ratings. Go to the edit menu and select parameters. Scroll down to the tubing sizes that you wish to modify and change the coefficients.

See Also

Draft Lines Screen

Draft Line Screen
Bent Tube Assembly?

Often a draft tower will have a "bent tube assembly" inside of it. The faucet is screwed onto the bent tube assembly instead of a shank because space is limited inside the draft tower. The bent tube turns 90 degrees downward from the faucet and is connected to the beer line. Because the assembly adds resistance to the line we need to know if one will be used. The bent tube assembly is most often found in the draft towers of direct draw boxes or bar tops. If new bent tube assemblies are used with different resistance ratings, you may change these ratings. Go to the edit menu and select parameters. Scroll down to the bent tube assembly rating (2100BTA0) and change the coefficients.

See Also

Draft Lines Screen

Draft Line Screen
Shank Length

If a shank is used, enter its length here. A shank is a threaded metal tube. The faucet attaches to one end, and the beer line attaches to the other. Shanks are used when faucets are mounted on walls, barrel heads, etc. The shank must be of adequate length to reach through the wall or barrel-head with enough left over to allow for a hex nut and beer fittings. In cases where the shank goes directly into the cooler, it may be desirable to use a shank that is six to eight inches too long. This extra protrusion into the cooler will give the shank additional surface area and thermal mass to better stay as cold as the cooler.

Shanks are available in two diameters, 3/16" and ¼". A ¼" shank is usually recommended despite the line sizes because its larger size slows the beer down before it hits the faucet plunger. This may reduce turbulence and foam.

See Also

Draft Lines Screen

Draft Line Screen
Add Line Button

If the system will have more than one line to balance, selecting the Add Line button will give you a new screen for each successive line. The "line" field above the Line scroll box will keep track of which line you are currently working on. On Tap! will copy all the fields but the Line Description and Planned Beer from the previously displayed line.   This speeds the definition of the new line by just having to enter the differences between them. If plans change and you wish to delete a previously added line, simply press the delete button and the current line will be deleted.

See Also

Draft Lines Screen

Draft Line Screen
Delete Line Button

If the system will have more than one line to balance, selecting the Add Line button will give you a new screen for each successive line. The "line" field above the Line scroll box will keep track of which line you are currently working on. On Tap! will copy all the fields but the Line Description and Planned Beer from the previously displayed line.   This speeds the definition of the new line by just having to enter the differences between them. If plans change and you wish to delete a previously added line, simply press the delete button and the current line will be deleted.

See Also

Draft Lines Screen

Draft Line Screen
Line Scroll Box

Use the right and left scroll arrows to move forward and back among lines.   The caption above the scroll box will indicate the line number currently selected.

See Also

Draft Lines Screen

Draft Line Screen
Balance Text

Displays the tubing specifications for the current line or one of the two below messages:

Pressure Too Low Or Run Too Long Warning.

Required line resistance is lower than available tubing will allow at the given specifications. If the system inherently has so much resistance because of excessive lift or run, that even the largest available tubing would leave the system with too much resistance, we will tell you that. This is because when the resistance is too high the beer will not flow at an adequate rate. If you attempt to compensate by increasing the CO2 pressure, it is likely that the beer will become "over carbonated" resulting in unacceptably foamy beer. When this warning appears, On Tap will ask you if you would like to recalculate using a N2 / CO2 blend. If you select this option On Tap will calculate the required gas pressure for the blend.

In these situations, use 3/8" or larger beer line for the entire run. Instead of using CO2 use a nitrogen based gas such as Aligal or Beer Gas. This gas cannot over carbonate the beer, and therefore can be used at a much higher pressure (20-30 PSI).

It is very important to remember never to expose kegs to pressures approaching their maximum safe limit. This is usually stamped on the keg (40-60 PSI) gauges and taps designed for beer systems usually have pressure safety valves.

Line Pressure Too High for Run Warning

If this warning message is displayed, a smaller line diameter than the smallest currently selected is required or the run will have to be increased. The minimum run length is displayed as part of the warning message. To balance the system select a smaller line diameter from the Line Sizes list or enter a longer Run in Line Lengths.

Note that many of the variables used in the balancing calculations, and the accuracy (rounding) of the calculations can be modified in the Edit Parameters dialog box.

See Also

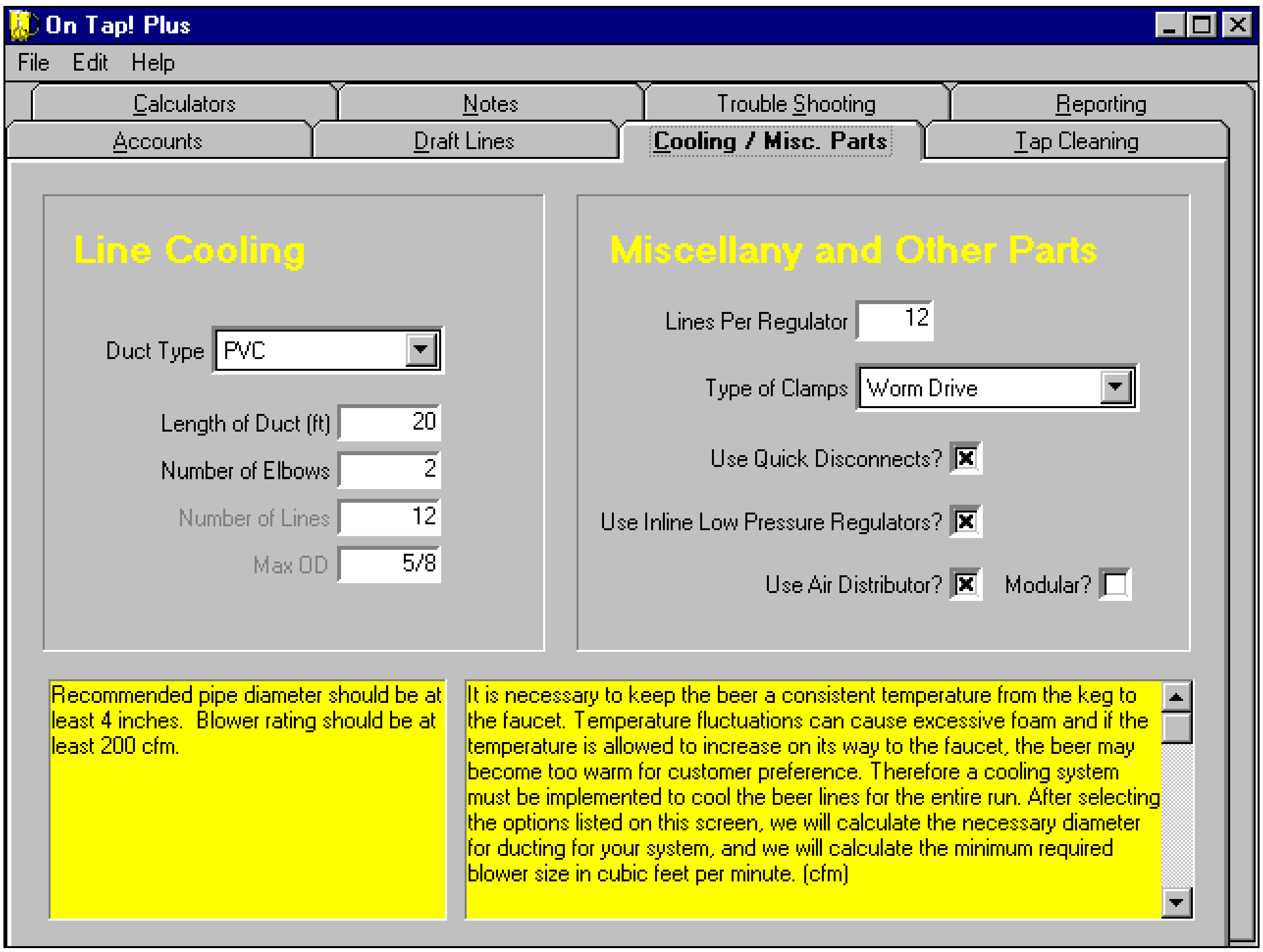
Draft Lines Screen

Line Cooling Screen

It is necessary to keep the beer a consistent temperature from the keg to the faucet. Temperature fluctuations can cause excessive foam and if the temperature is allowed to increase on its way to the faucet, the beer may become too warm for customer preference. Therefore a cooling system must be implemented to cool the beer lines for the entire run. After selecting the options listed on this screen, we will calculate the necessary diameter for ducting for your system, and we will calculate the minimum required blower size in cubic feet per minute. (cfm)

The Miscellany and Other Parts is the last section of data that must be entered and is used to generate a parts list for a draft system. This information is only required if a parts list is desired.

To display the Line Cooling screen / Miscellany and Other Parts, click on the Cooling / Misc. Parts tab or type Alt+C. On Tap! will display a screen similar to that below.



See Also

Type Of Ducting
Length of Duct
Number of Elbows
Number of Lines
Maximum OD
Lines Per Regulator

Type of Clamps
Use Quick Disconnects?
Use Inline Low Pressure Regulators?
Use Air Distributor?
Modular?

Draft Line Screen
System Type

It is necessary to keep the beer a consistent temperature from the keg to the faucet. Temperature fluctuations can cause excessive foam and if the temperature is allowed to increase on its way to the faucet, the beer may become too warm for customer preference. Therefore a cooling system must be implemented to cool the beer lines for the entire run. Select the type of cooling system you plan to install for this draft system. There are four types of systems and are described below:

REMOTE FORCED AIR SYSTEMS

This selection is designed for balancing systems using forced air systems. Air systems and glycol systems are required for longer runs. Air systems allow cold air to circulate through an insulated duct. The beer lines are run inside the ducting to stay cool. Usually the ducting originates from, and returns to the same cooler the kegs are kept in making a round trip from the keg cooler to the faucet. A fan is used to force cold air through it. If the ducting is well insulated and properly balanced so that the air can flow freely, it will keep the beer the same temperature from the keg to the faucet. This is the ideal situation. This system gains the same result as the glycol system but has the following advantages and disadvantages.

Application

Air systems work best in lengths from 2 to 50 feet. We have successfully installed systems much longer than this but it is usually not recommended.

Advantages

Readily available parts.
Easily modified and maintained.
Lines are easily installed, added and replaced.
Does not require a "power pack"

Disadvantages

More difficult to design and install
Requires more space.
Not adept to many corners.

There is no replacement for quality work. An air system can work flawlessly if there are no leaks, the insulation is installed well and the airflow is good. A poorly insulated system with inadequate airflow will almost never work. In longer systems we recommend always using separate rigid lines for pressure and return air ducts rather than "tube within a tube" or flexible lines which tend to have poor airflow. Use duct tape on joints to allow for easy future disassembly and maintenance. Use glue or hangers where structural integrity is important.

GLYCOL / FREON / H2O SYSTEMS

This selection is designed for balancing liquid cooled trunked systems. Liquid (glycol) systems force cold liquid to circulate through an insulated trunk. The beer lines are run alongside the coolant lines to stay cool. The coolant lines originate from, and return to the cooling power pack. The beer lines enter the trunk in the cooler and travel to the faucet staying in contact with the coolant lines the entire way. A pump is used circulate the coolant constantly through the trunk and power pack. If the trunk is well insulated it will keep the beer the same temperature from the keg to the faucet. This is the ideal situation. This system gains the same result as the air system but has the following advantages and disadvantages

Application

Glycol systems work best in lengths from 30 to 500 feet.(500 feet is an extreme example requiring no more than 4 lift, 500 foot run, 39 psi applied pressure and 3/8" lines. Lengths above this require to much pressure)

Advantages

Insulated lines come pre-assembled.

Easy installation, requires little space

Beer is delivered at correct temperature irrespective of cooler temperature fluctuations.

Lines can travel a very long distance.

Disadvantages

More difficult modify or add lines

Requires a "power pack"

May be more expensive.

May be more difficult to repair.

DIRECT DRAW BOX

This selection is intended for balancing small portable or fixed self contained cooler boxes. A direct draw box is the easiest to cool because the draft tower or shanks are mounted directly on a small cooler box. In the case where a draft tower is simply mounted on top of a cooler box, a small 15 cfm (cubic feet per minute) fan may be mounted inside the box with a 1" flexible tube attached to it. Running the other end up into the draft tower will keep it adequately cold providing that it is insulated.

DIRECT DRAW COOLER

This selection is intended for balancing systems that do not require a line cooling system, yet will not be installed in a small keg box. An example is a bar that shares a wall with a cooler. In this case the kegs will be stored in the cooler and the beer lines will simply run along the inside cooler wall into shanks that exit the cooler into the bar where the faucets will be attached. Using extra long shanks can add surface area and thermal mass in the cooler to help keep faucets cold. Here a system must be designed that could easily be 10 to 25 feet long, but no air system or glycol system is required.

Line Cooling

 **Line Cooling Screen**

Duct Type

This field is only available if designing a forced air system. There are at least three different types of ducting that you can choose from. The most common are: Sheet Metal, PVC Pipe, and ABS Pipe. The advantages and disadvantages of each are described below.

Sheet Metal

The advantage of this type of ducting is that it is the least expensive material to use, it comes in a very large variety of lengths and diameters and the flexible corners are excellent. It may be necessary to meet building codes in some rare cases.

The disadvantage of sheet metal is more difficult to work with than plastic ducting. It is difficult to cut and drill, and the sharp edges can be hard on fingers.

ABS Pipe

The advantage of ABS pipe is that it is very easy to work with. Ten foot sections are convenient. There are a huge variety of fittings and corners.

The major disadvantage of ABS pipe is that it is more expensive than sheet metal.

PVC Pipe

The advantage is PVC pipe is it is very easy to work with. Ten foot sections are convenient. Huge variety of fittings and corners.

The major disadvantage is that it is the most expensive.

Line Cooling Screen
Length of Duct (ft)

Enter the total round trip length of ducting that will be needed. This will usually be approximately twice the length of the beer line, less the amount of beer line inside the cooler and draft tower. This will be easier to determine if you measure the ducting route and sketch the system out on paper. If you are able, try to draw out a rough blueprint of the walls, floors, cooler, and bar area you are working on. This should help you be more accurate in your measurements, and determine the best route. Remember that on longer runs you can reduce airflow resistance by using more shallow corners such as 45 degrees rather than 90s. Based on the length of the ducting, the number and size of lines, the number of elbows, On Tap will determine the required ducting diameter and blower size necessary to maintain proper air velocity. The blower size is shown as a cfm (cubic feet per minute) rating. As On Tap derives this number mathematically, it may not correspond exactly to manufacturers ratings, but it is an excellent guideline as to the approximate size needed.

See Also

Line Cooling

Line Cooling Screen
Number of Elbows

Number of Elbows required for this cooling system. On Tap will determine the required ducting diameter and blower size necessary to maintain proper air velocity. The blower size is shown as a CFM (cubic feet per minute) rating. As On Tap derives this number mathematically, it may not correspond exactly to manufacturers ratings, but it is an excellent guideline as to the approximate size needed.

See Also

Line Cooling

Line Cooling Screen
Number of Lines

Number of lines per primary regulator. Each tank and regulator should push no more than a couple of kegs per hour. This is an important consideration in higher volume accounts. When too much beer is being pushed with one tank and regulator the high flow rate of the CO_2 can freeze the regulator. The opposite is also true. One tank and regulator can easily be used on a 14 line system if the total volume of beer is relatively low.

See Also

Line Cooling

Line Cooling Screen
Max OD

This is the maximum outside diameter of the lines that are being installed. This number is automatically calculated by **On Tap!** based on the design defined on the **Draft Line** screen.

This number is used to determine the space that will be taken up by the lines in the ducting and is used to calculate the necessary ducting diameter.

See Also

Line Cooling

Line Cooling Screen Results

Displays the diameter of the ducting required and blower size for the current system. These are the two remaining variables for the system. On Tap will determine the required ducting diameter and blower size necessary to maintain proper air velocity. The blower size is shown in a CFM (cubic feet per minute) rating. As On Tap derives this number mathematically, it may not correspond exactly to manufacturers ratings, but it is an excellent guideline as to the approximate size needed.

See Also

Line Cooling

Miscellany and Other Parts

Lines Per Regulator

Number of lines per primary regulator. Each tank and regulator should push no more than a couple of kegs per hour. This is an important consideration in higher volume accounts. When too much beer is being pushed with one tank and regulator the high flow rate of the CO_2 can freeze the regulator. The opposite is also true. One tank and regulator can easily be used on a 14 line system if the total volume of beer is relatively low.

See Also

Miscellany and Other Parts

Miscellany and Other Parts
Type of Clamps

Choose the type of clamps you wish to use on the beer and air lines. The following types are available for selection:

- O-Clamp Single Ear
- O-Clamp Double Ear
- Worm Drive
- Stepless
- Snap

See Also

Miscellany and Other Parts

Miscellany and Other Parts
Use Quick Disconnects?

Quick disconnects allow for easier removal and hookup of kegs.

See Also

Miscellany and Other Parts

Miscellany and Other Parts
Use Inline Low Pressure Regulators?

Low pressure regulators allow for fine tuning of the applied CO_2 pressure. These allow each line to be individually adjusted. This is very desirable when a variety of beers are being used on one system, as different types of kegs require different applied pressures. We recommend that secondary regulators always be used when domestics and micros are dispensed from one system. There is also variability in required applied pressure between most major domestic brands.

See Also

Miscellany and Other Parts

Miscellany and Other Parts

Use Air Distributor?

Allows for the selection of air distributors to be used instead of using Air-Ts. Air Distributors allow for a cleaner more professional looking installation as they help organize air lines.

See Also

Miscellany and Other Parts

Miscellany and Other Parts
Modular?

Choose this if you wish to use modular Air Distributors.

See Also

Miscellany and Other Parts

Calculators Screen

The Profitability Calculator would be a useful program in itself. Every field can be assigned a value, or will be calculated if left blank (providing there is enough information). This ability allows the Profit Calculator to be an ultimately flexible tool. It can be used for many purposes, both on and off premise, including the following:

- Analyzing profitability of any sales scenario or comparing profitability between kegs and any package of bottled beer. Products can be compared by any cost, retail, serving size or serving style. The calculator will solve for a variety of variables.

- Creating profitability reports (through the reporting utility) for proposals.

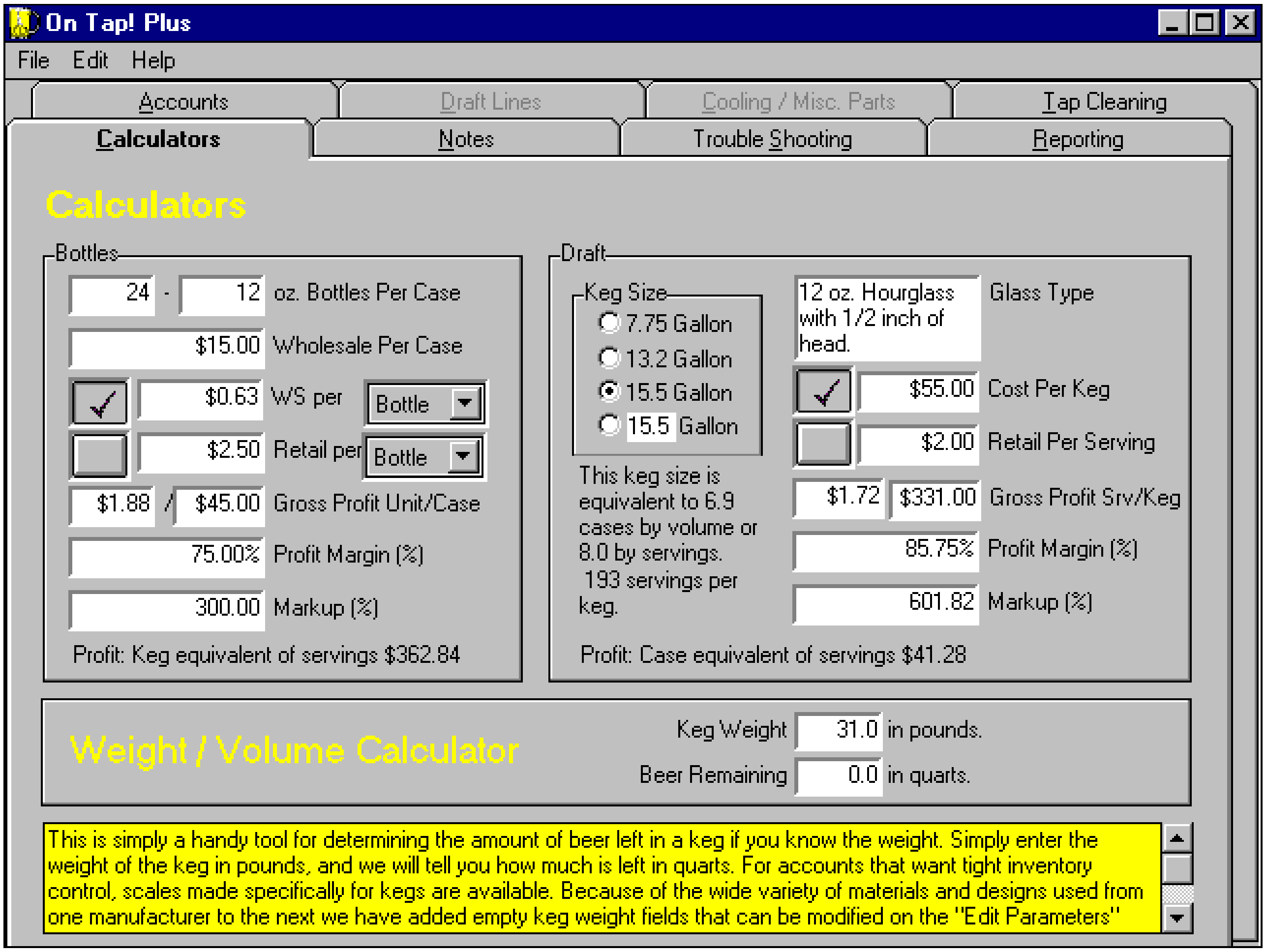
- Choosing optimum glass size, glass style, and foam height.

- Choosing best retail price points for both bottles and kegs, import, domestic or micro to maximize trade up tendency and profitability.

- Clearly comparing Mark-up, Margin, and Gross Profit between any brands, packages, and price points. This is necessary for a good proposal, and will quickly reveal any flawed competitive proposals! There are many instances where a keg can show a drastically higher Mark-up than a similar bottled beer but actually have a lower per serving profit. Understanding fallacies such as these can greatly be used to ones advantage! Salespersons can speak fluently about Mark-ups, Margins, and Gross Profits and utilize the reports to prepare a comprehensive presentation. Salesmen can decide what approach appears best by comparing margins and markup.

- Allows you to change any variable and see its effect on profitability.

- The bottled beer calculator is ultimately flexible and can work with any package by simply selecting from the drop down menus. The bottle calculator can be used by itself for a variety of calculations both on and off premise.



Profit Calculator Fields

The Profit Calculator has the following fields and buttons. See above figure for field numbers.

1. Bottles Per Case Field
2. Bottle Size Field
3. Wholesale Per Case Field
4. Calculate Wholesale Button
5. Wholesale Price per Unit Field
6. Wholesale Unit Field
7. Calculate Retail Button
8. Retail Price Per Unit
9. Retail Unit Field
10. Gross Profit Unit Field
11. Gross Profit Case Field
12. Profit Margin Field
13. Markup Field
14. Keg Size
15. User Defined Keg Size
16. Glass Type

17. Calculate Wholesale Per Keg Button
18. Wholesale Price per Keg
19. Calculate Retail Per Serving Button
20. Retail Price Per Serving
21. Gross Profit per Serving
22. Gross Profit per Keg
23. Profit Margin
24. Markup
25. Keg Weight Field
26. Beer Remaining Field
27. Keg / Bottles comparison
28. Number of Servings per Keg
29. Keg equivalent for current case scenario
30. Case equivalent for current keg scenario

Calculators Screen
Bottles Per Case

Enter the number of bottles per case.   The default is 24 (if you buy it by the bottle, then a case is one bottle).

See Also

Profitability Calculator

Calculators Screen
Bottle Size

Enter the size of one bottle in ounces. The default is 12 ounces. This field is used for comparison purposed between kegs and bottles.

See Also

Profitability Calculator

Calculators Screen
Wholesale Per Case

Enter the retailers cost per case (wholesale cost) less any deposits that will be refunded.

See Also

Profitability Calculator

Calculators Screen
Calculate Wholesale Button

Press the check-mark button next to this field if you wish this field be recalculated and the retail field to stay the same when you change other variables.

See Also

Profitability Calculator

Calculators Screen
Wholesale Unit

Use the drop down menu to select the unit size that the product is sold in and the calculator will display the wholesale cost per unit. For on premise comparisons between draft beer and bottles, select single bottle on both drop down lists.

Click on the check-mark button next to this field if you wish this field be recalculated and the retail field to stay the same when you change other variables.

See Also

Profitability Calculator

Calculators Screen
Wholesale Price per Unit

The wholesale price per unit may be entered instead of the wholesale price per case. If the price per unit is entered, the price per case will be computed and displayed.

See Also

Profitability Calculator

Calculators Screen
Calculate Retail Button

Click the check-mark button next to the Retail Unit field if you wish this field be recalculated and the wholesale field to stay the same when you change other variables.

See Also

Profitability Calculator

Calculators Screen
Retail Unit

Use the drop down menu to select the unit size that the product is sold by at retail and the calculator will display the retail price of the unit. For on premise comparisons between draft beer and bottles, select single bottle on both drop down lists. Press the check-mark button next to this field if you wish this field be recalculated and the wholesale field to stay the same when you change other variables. Bottles often demand a higher retail than draft beer. This price spread will have a dramatic effect on the difference in profitability between kegs and bottles. This price "trade-up" is a major consideration in choosing brands and pricing to maximize profitability. Note that retail price may change at different times of the day of the week. For instance the price may increase fifty cents when band is playing or on weekend nights or decrease during happy hour!

See Also

Profitability Calculator

Calculators Screen

Retail Price Per Unit

The retail price per unit is entered here. The Retail Unit should be selected before entering the retail price.

See Also

Profitability Calculator

Calculators Screen

Gross Profit Unit / Case

Enter the gross profit needed by the retailer. The calculator will then recalculate the other variables such as wholesale or retail price depending on which is check-marked. If you know the gross profit required and you know the retail, then you can determine the maximum amount you can charge thereby helping select the best beer. By the same logic, if you know the gross profit and wholesale, you can determine the needed retail. This field will be calculated if it is left blank.

See Also

Profitability Calculator

Calculators Screen
Profit Margin (%)

Enter the profit margin needed by the retailer. The calculator will then recalculate the other variables such as wholesale or retail price depending on which is check-marked. If you know the profit margin required, and you know the retail, then you can determine the maximum amount you can charge thereby helping select the best beer. By the same logic, if you know the margin and wholesale, you can determine the needed retail. This field will be calculated if it is left blank.

See Also

Profitability Calculator

Calculators Screen
Markup (%)

Enter the markup needed by the retailer. The calculator will then recalculate the other variables such as wholesale or retail price depending on which is check-marked. If you know the markup required, and you know the retail price, then you can determine the maximum amount you can charge thereby helping select the best beer. By the same logic, if you know the markup and wholesale, you can determine the needed retail. This field will be calculated if it is left blank.

Calculators Screen
Keg Size

Please indicate the size of the keg. Most domestic kegs are 15.5 gallons while most European kegs are 13.2 gallons. Pony kegs are typically 7.75 gallons. Note that we left a user definable size selection for uncommon kegs sizes.

See Also

Profitability Calculator

Calculators Screen
User Defined Keg Size

This field allows the user define a keg size in gallons for use with uncommon or non standard keg sizes. If you wish to use the Beer Remaining calculator with the user define keg size, you must enter the empty weight of the keg in parameter 5040KegOther.   See Edit Parameters for more information.

See Also

Profitability Calculator

Calculators Screen
Glass Type

When you tab into or click on this field the beer glass selection screen will be displayed. See Glass Type Selection Screen. From this screen, select the type of glass that most closely approximates the glasses that you plan to use, the size of the glass and the height of the head. Click the OK button when you are done or click Cancel if you do not wish to change the current selection.

See Also

Profitability Calculator

Calculators Screen
Calculate Keg Cost Button

Press the check-mark button next to this field if you wish this field be recalculated and the retail field to stay the same when you change other variables.

See Also

Profitability Calculator

Calculators Screen
Cost Per Keg

Enter the retailers cost per keg less any deposits that will be refunded. Press the check-mark button next to this field if you want this field to be recalculated and the Retail Price per Serving field to remain unchanged when other variables are changed. This field will be calculated if left blank.

See Also

Profitability Calculator

Calculators Screen
Calculate Retail Per Serving Button

Press the check-mark button next to this field if you wish this field be recalculated and the wholesale field to stay the same when you change other variables.

See Also

Profitability Calculator

Calculators Screen
Retail Per Serving

Enter the retail price charged per serving. Press the check-mark button next to this field if you want this field to be recalculated and the Cost per Keg field to remain unchanged when other variables are changed. This field will be calculated if left blank.

See Also

Profitability Calculator

Calculators Screen
Gross Profit per Serving

Enter the gross profit per serving required by the retailer. If this field is left blank it will be calculated.

See Also

Profitability Calculator

Calculators Screen
Gross Profit Keg

Enter the gross profit per keg required by the retailer. If this field is left blank it will be calculated.

See Also

Profitability Calculator

Calculators Screen
Profit Margin (%)

Enter the profit margin needed by the retailer. The calculator will then solve for any other missing variable such as wholesale or retail price. If you know the profit margin required, and you know the retail price, then you can determine the maximum amount you can charge thereby helping select the best beer. By the same logic, if you know the margin and wholesale, you can determine the needed retail. This field will be calculated if it is left blank.

See Also

Profitability Calculator

Calculators Screen
Markup (%)

Enter the markup needed by the retailer. The calculator will then solve for any other missing variable such as wholesale or retail price. If you know the markup required, and you know the retail price, then you can determine the maximum amount you can charge thereby helping select the best beer. By the same logic, if you know the markup and wholesale, you can determine the needed retail. This field will be calculated if it is left blank.

See Also

Profitability Calculator

Calculators Screen
Keg Weight

Enter the weight of the keg that you wish to compute remaining beer into this field.

See Also

Profitability Calculator

Calculators Screen
Beer Remaining

If you should wish to compute the weight of a keg with a known amount of beer remaining, enter the number of quarts into this field.

See Also

Profitability Calculator

Calculators Screen

Keg / Bottles Comparison

Displays the number of cases that this keg is equivalent to based on both number of servings and the actual volume of beer.

See Also

Profitability Calculator

Calculators Screen
Number of Servings per Keg

Displays the number of servings per keg based upon the keg size and glass type selected.

See Also

Profitability Calculator

Calculators Screen
Keg Equivalent for Current Case Scenario

At the bottom of each side of the calculator are "Profit equivalent statements." These are designed to make a quick comparison between cases and kegs from either perspective. Compare the "Profit: Keg equivalent of servings" on the case side to the "Gross Profit Srv/Keg" field on the keg side of the calculator. Compare the "Profit: Case Equivalent of Servings" on the keg side with the "Gross Profit Unit/Case" field on the Case side of the Calculator.

See Also

Profitability Calculator

Calculators Screen
Case Equivalent for Current Keg Scenario

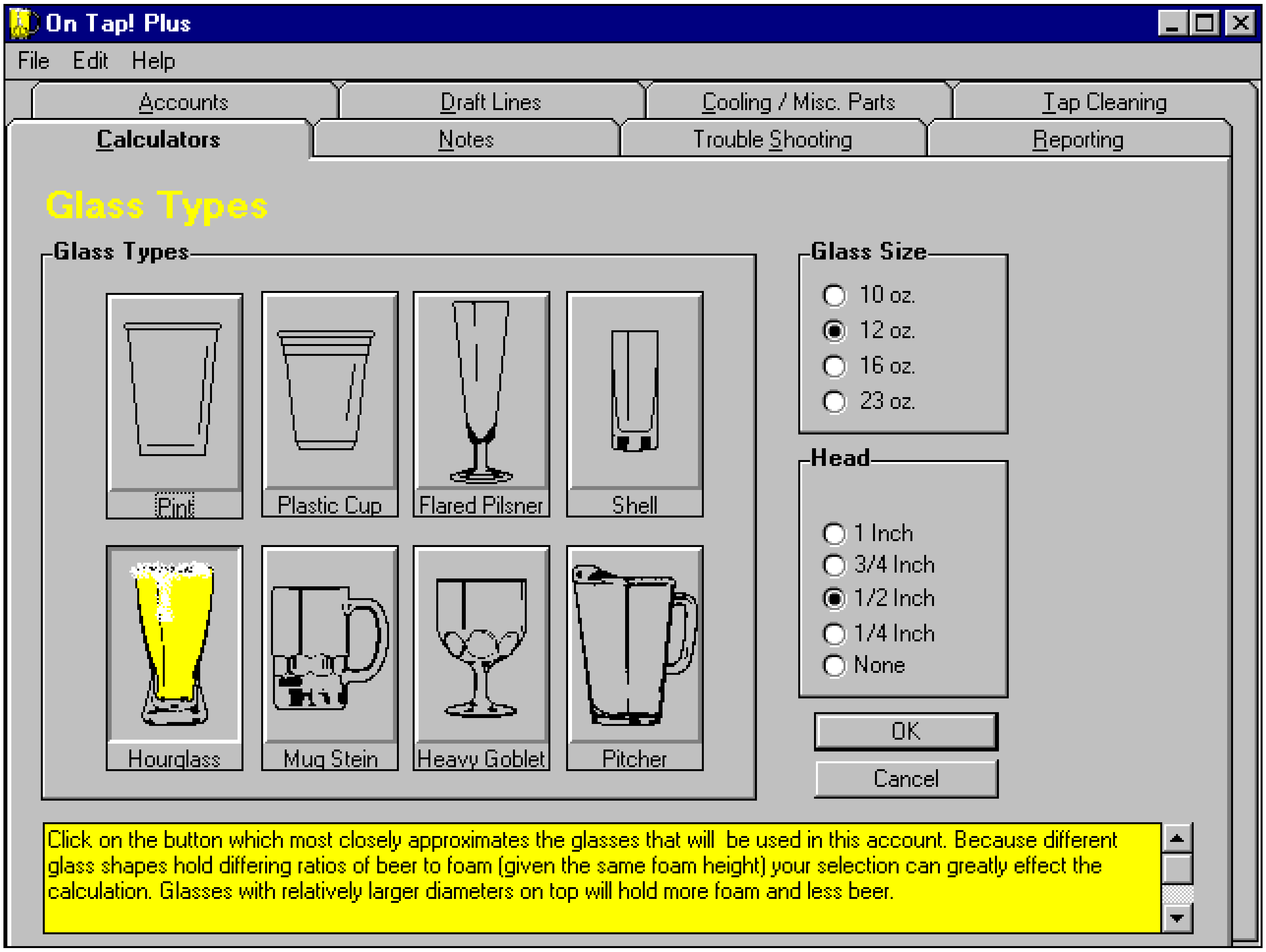
At the bottom of each side of the calculator are "Profit equivalent statements." These are designed to make a quick comparison between cases and kegs from either perspective. Compare the "Profit: Keg equivalent of servings" on the case side to the "Gross Profit Srv/Keg" field on the keg side of the calculator. Compare the "Profit: Case Equivalent of Servings" on the keg side with the "Gross Profit Unit/Case" field on the Case side of the Calculator.

See Also

Profitability Calculator

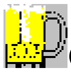
Glass Type Selection Screen

This screen is used in conjunction with the Calculator screen and allows you to select the type of glass you plan to serve draft beer in as well as the size of the glass and the desired amount of foam. On Taps calculator will use this information to determine the number of servings you should be able to get from each keg of beer.



See Also

Profitability Calculator
Glass Type
Glass Size
Head
OK
Cancel Button



Glass Type Selection Screen

Glass Type

Click on the button which most closely approximates the glass that will be used in this account. Because different glass shapes hold differing ratios of beer to foam (given the same foam height) your selection can greatly effect the calculation. Glasses with relatively larger diameters on top will hold more foam and less beer.

See Also

Profitability Calculator

Glass Type Selection Screen
Glass Size

Select the glass size you will be using or would like to try.

See Also
Profitability Calculator

Glass Type Selection Screen
Head

Select the approximate height of foam (head) you expect your glasses to contain when served. The amount of foam can vary greatly depending on pouring technique, draft system performance, customer taste, temperature of beer, etc. This variable can also substantially effect your profitability comparison. Remember, too much foam and the customer will become dissatisfied, too little foam and profitability is reduced. We prefer ½" to ¾" of foam.

See Also

Profitability Calculator

Glass Type Selection Screen
OK

Click OK to return to the Calculator.

See Also

Profitability Calculator

Glass Type Selection Screen
Cancel

Press Cancel to disregard changes and return to the Calculator.

See Also

Profitability Calculator

Tap Cleaning Screen

The most important aspect of draft system maintenance is regular cleaning. A weekly cleaning routine is optimum for system performance, and ease of scheduling. The tap cleaning scheduler is an excellent tool for setting up and tracking this service regardless of whether it is done in house or by contract. The tap cleaning scheduler maintains records of accounts, appointments, number of lines on tap, and who performed maintenance. Schedules can be printed by day, biweekly, or by draft specialist. After accounts have been cleaned for that day or that week, they can be recorded as cleaned with the click of a button. A report can be printed for the cleaning history of any account. Click on the Tap Cleaning tab or type Alt+T and the Tap Cleaning Schedule screen will then be shown with any previously scheduled appointments. See below for an example of this screen.

This screen is divided into two different areas: the Date Bar and the Account rows. The Date Bar is used to select and display the dates for the schedule and also to select which appointments are displayed. By clicking on a particular date, all appointments for that date will be displayed. Click on the Account / Location column heading to display all accounts again. The Account rows are used to enter and display appointments in On Tap!

See Also

Account / Location Field
Glasses Button
Clock Button
Checkmark Button
Date Scroll Left and Right Button
Date Buttons
Schedule Time Buttons

Tap Cleaning Screen
Account / Location Field

Account information entered in the "New Account" section of the Account Information screen is automatically transferred here. All accounts must be entered on the Account Information screen before they can be scheduled with the Tap Cleaning Scheduler.

If you click on the Account / Location heading of the column, On Tap! will sort all account names that have been defined into alphabetical order.

See Also

Tap Cleaning Schedule Screen

 **Tap Cleaning Screen**

Glasses Button

Clicking on the glasses button for any given account will return you to the Account Information screen allowing you to view more detailed information for this account or to make modifications to this account.

See Also

Tap Cleaning Schedule Screen

Clock Button

Clock Button

Clicking the mouse pointer on the "clock" for any given account or click on any day in that accounts row and On Tap! will display the Make Appointment dialog box. See Make Appointment Popup. Select the day and time of the first appointment. Next select the what frequency the account will me cleaned. Default value is two weeks. This information can be modified or canceled at any time.

See Also

Tap Cleaning Schedule Screen

 **Tap Cleaning Screen**
Check-mark Button

Click the mouse pointer on the check-mark button of every account that has been cleaned. Clicking on the check-mark button for any given account will add this cleaning appointment to the tap cleaning category of that accounts history database. On Tap will allow you to verify this by showing the account history screen with the entry already added. Simply click on the Save button to go back to the Tap Cleaning screen. Note that this is a good opportunity to add any special notes about problems you may have encountered or fixed. To do this, select a category and then enter the notation in the description space provided.

Date Scroll Left and Right Button

Date Scroll Left and Right Button

The left button simply scrolls the cleaning calendar to earlier dates and the right button scrolls the cleaning calendar to future dates.   Use the scroll buttons to manipulate the calendar forward and backwards.

See Also

Tap Cleaning Schedule Screen

 **Tap Cleaning Screen**

Date Buttons

Clicking the mouse pointer on the date column headings will cause all of the accounts scheduled to be cleaned that day to be shown exclusively. This can be useful for planning and scheduling for a particular day. Accounts will be sorted by their scheduled cleaning times.

See Also

Tap Cleaning Schedule Screen

Tap Cleaning Screen
Schedule Time Buttons

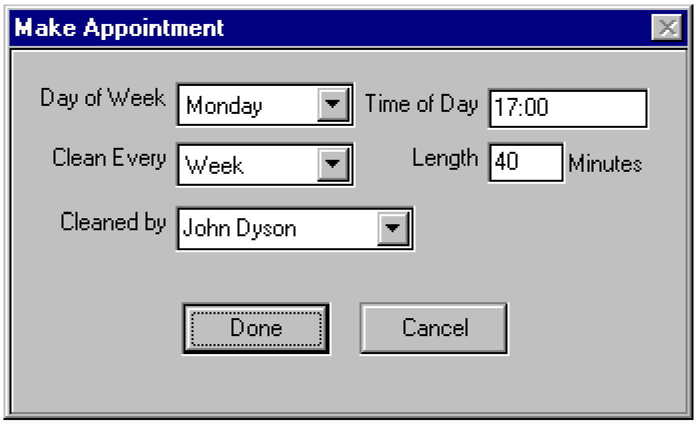
Clicking the mouse pointer on any day in that accounts row and On Tap! will automatically display the Make Appointment dialog box. See Make Appointment Popup. The day of the appointment will automatically be filled in based on which day column was clicked. Enter the time of the appointment, the frequency the account will me cleaned, the length of the appointment, and the draft specialist to do the cleaning. This information can be modified or canceled at any time.

See Also

Tap Cleaning Schedule Screen

Make Appointment Popup

Draft system maintenance is necessary aspect of servicing draft accounts. The most important service is the routine cleaning of draft systems. This is necessary to prevent the build up of bacteria, yeast, and calcium (beer stone). These can cause off taste, particles floating in beer, and poor system performance. Cleaning should be performed at a minimum of once every two weeks, but preferably weekly. The Tap Cleaning Scheduler allows you to make and track a consistent cleaning schedule.



New appointments are made with the Make Appointment screen. This screen can be accessed in several different ways:

- From the Account Information screen, press the Schedule Tap Cleaning button.
- From the Tap Cleaning screen, click on the box in the grid below the day of the week for which you wish to schedule an appointment.
- From the Tap Cleaning screen, click the clock button for the account you wish to schedule an appointment.

See Also

Day of Week
Clean Every
Cleaned By
Time of Day
Length
Done Button

Make Appointment Popup
Day of Week

Using the drop down list, select the day of the week that you plan on regularly cleaning this account. Most accounts will appreciate a routine cleaning schedule. When accounts are expecting you, it is unlikely that they will ever feel inconvenienced by your timing. If you pop in randomly, you may be turned away and forced to reschedule.

See Also

Make an Appointment Dialog box
Tap Cleaning Schedule Screen

Make Appointment Popup
Clean Every

Using the drop down list, select how often this account will be cleaned. This interval will vary from account to account, but should be one or two weeks depending on the demands of the account. Accounts that frequently rotate beers, use "heavy" or dark flavorful beers, or simply need the attention are good candidates for weekly cleaning. (Accounts that have been neglected for some time may need to be cleaned with a highly acidic cleaner, or have the lines replaced.)

See Also

Make an Appointment Dialog box
Tap Cleaning Schedule Screen

Make Appointment Popup
Cleaned by

Enter the name of the person or company that you expect to clean this account. This will allow you to print out separate schedules and records for each person or company.

See Also

Make an Appointment Dialog box
Tap Cleaning Schedule Screen

Make Appointment Popup
Time of Day

Enter the time of day that you have scheduled to clean this account. Times may be entered in 24 hour format or with am / pm. 24 hour format is as simply as adding 12 hours to conventional afternoon (pm) times. Accounts will typically be scheduled according to their location so that all accounts in one section of town can be cleaned by the same person on the same day. Decide on the most efficient route and try to schedule the accounts accordingly.

See Also

Make an Appointment Dialog box
Tap Cleaning Schedule Screen

Make Appointment Popup Length

Enter in minutes the amount of time that this account takes to clean. We will guess based on the number of lines in this account multiplied by the number of minutes entered in the "Line Time" section of the "Edit Parameters" screen if this information has been included in the "Draft Lines" section, but experience will be best to determine this value.

See Also

Make an Appointment Dialog box
Tap Cleaning Schedule Screen

Make Appointment Popup Done Button

Saves the entered appointment and closes the Make Appointment Popup.

See Also

Make an Appointment Dialog box
Tap Cleaning Schedule Screen

Add a Brew Popup

The Add a Brew dialog box allows the user to add to new beers to On Taps!   database. On Tap! comes with an extensive database of products, but as new products are introduced or if you should decide to use a product that was not included you will need to add them to the database.

New products are added at the time they are first used, i.e. if you enter a product name in the Beer Name field on the Draft Lines screen that is not in the database, the Add a Brew dialog box will be displayed allowing you to enter the information required by On Tap!. Be careful when adding beer specifications as invalid data may cause incorrect draft designs to be generated by the draft line balancer. You may want to call the brewery for accurate information, although the defaults will generally work. We also ask you to add the brewer and the distributor who sells this brand in your market. This information is necessary for some of the reporting. At any time you can change these entries using the Edit A Brew dialog box. If you wish to include this beer in the Distribution Cross-tab report, check that box also. (The more beers that you elect to include in the Distribution Cross-tab report, the more pages it will take.)

See Also

- Tap Type
- Volume of CO2 in Beer
- Is This a Light Beer?
- Distributor
- Brewery
- Include on Distribution Cross-tab?
- OK Button
- Cancel Button

Add a Brew Popup
Distributor

Type or select from the drop down list the distributor that sells this brand in you market. This is necessary for some of the distribution reports.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup
Brewer

Type or select from the drop down list the brewery that makes this brand. This is necessary for some of the distribution reports.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup
Volume of CO_2

The necessary CO_2 pressure is dictated by the internal keg pressure of the beer measured in CO_2 volume. On Tap! has a substantial database of products in this program that include CO_2 volumes so that On Tap! can calculate the pressure for you.

When you are defining a beer that is not included in this program, please contact the brewer for this information. If that is not possible please attempt to select a similar beer or similar generic beer type. Most beer are will be around 2.5 grams. This number can be as low as 2.0 for beers with very low carbonation, to as high as 3.0 for beers with high carbonation. Most large domestic brands are around 2.7, while Micros tend to be lower, often around 2.5.   The default amount of 2.7 can be modified in the "Parameters" option under the "Edit" menu. After installation make minor adjustments until it pours correctly.   See Notes for more information on CO_2.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup
Light Beer?

As light beers are more susceptible to problems resulting from temperature and pressure variations, it is advisable to compensate by adding slightly more restriction. If you know that a line will be pouring exclusively light beers, please select the "light beer" option. We will add a slight amount of resistance to our line calculation. Please understand that this is not absolutely necessary. It is merely a option designed to optimize your system.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup
Tap Type

Select from the drop down list the type of tap receptacle that the keg has. Most of the major beers brewed in the U.S now use "Sankey" kegs. Most of the major European brewers use a similar European Sankey. Often small micro brewers will buy used Golden Gate kegs from the majors to save money initially, but upgrade to sankeys when able. Hoff Stevens kegs are also fairly popular.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup
Always Include on Distribution Crosstab?

Check this box if you want to include this beer in our Distribution Cross-tab report. We allow you to select individual beers so that you can customize the cross-tab report to include only those beers you wish to report on. This allows you to customize the report to the needs of your sales crew or specific suppliers.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup OK Button

Saves the information you have entered for this beer to On Tap!s database and closes this dialog box.

See Also

Add a Brew Dialog box
Draft Lines Screen

Add a Brew Popup
Cancel Button

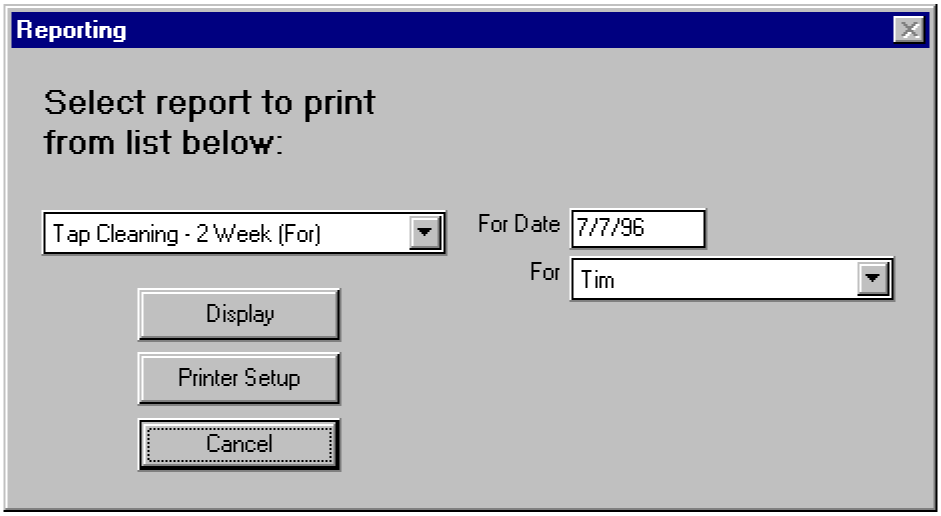
Closes this dialog box without doing anything. The beer is not added to the database.

See Also

Add a Brew Dialog box
Draft Lines Screen

Report Dialog Box

The Reporting dialog box allows you to select which of On Tap!s 21 reports you wish to print.



See Also

- Select report list
- Display Button
- Printer Setup Button
- Cancel Button
- For Date
- For
- Salesman
- Category
- Products

Report Dialog Box
Select Report List

This list allows you to select one of 11 reports with the On Tap! standard version, or 21 reports with the On Tap! Plus version as listed below. Note that as you scroll through the reports the dialog box changes to accept relevant information On Tap! Standard Version reports:

1. **Account Detail Current Account** - Displays and prints a comprehensive report showing all information on the current account from the Account Screen, and a list of all bar locations, tap handles, and brands carried.
2. **Account History Current Account** - Displays and prints a compilation of all notations made in the current accounts history dialog box. They are displayed chronologically from most recent. This report displays and prints information including, address, salesman and contact information for the current account, and all notes and information entered for this accounts "Account History" database. Each history entry shows its title, who reported it, category and the date. Histories are sorted first by category and then by date. Use the category drop down list to select one or all of the categories available.
3. **System Balancing Current Account** - Displays and prints the design specifications for each line of the current account and location selected.
4. **System Parts List Current Account** - Displays and prints a comprehensive draft system parts list for the current account from whichever parts supplier has been selected as the default. See page Error! Bookmark not defined. on setting up catalogs. If product numbers and prices are included for the parts supplier they will be included in report.
5. **Calculator** - Displays and prints a side by side comparison of current product profiles in Profit Calculator.
6. **Tap Cleaning** - 2 Week (All) - Displays and prints a two week draft cleaning schedule for all accounts to be cleaned irrespective of who cleans them.
7. **Tap Cleaning - Date (All)** - Displays and prints a daily draft cleaning schedule for all accounts to be cleaned on a specific date irrespective of who cleans them.
8. **Tap Cleaning - 2 Week (For)** - Displays and prints a two week draft cleaning schedule for specific person.
9. **Tap Cleaning - Date (For)** - Displays and prints a daily draft cleaning schedule for a specific date and specific person.
10. **Form: Keg Rotation Form** - Displays and prints a sales tool for helping accounts plan what brands they will put on each draft line over a period of time such as 6 weeks. This is useful in accounts that rotate the beers on some of their lines.
11. **Form: Cooler Temperature Form** - Displays and prints a temperature tracking tool for use in account and distributor keg coolers. Systematically using this will ensure that product is being properly stored and served.

OnTap Plus Version additional Reports:

1. **Account Detail All Accounts** - This report displays and prints information including, address, salesman, and contact information, brands placed, and subtotals for taps and market distribution for every account in the market. Grand totals are displayed.
2. **Account History All Accounts** - This report displays and prints information including, address, salesman and contact information for every account, and all notes and information entered in each accounts "Account History" database. Each history entry shows its title, who reported it, category and the date. Histories are sorted first by account, category and then by date. Use the category drop down list to select one or all of the categories available.
3. **Salesman Account Summary** - This report displays and prints all salesmen for the distributor. Under each salesman is a list of her accounts. For each account, distribution and salesman statistics are shown in three columns, in-house, competitive and total market. Statistics are subtotaled for each salesman and finally a grand total is shown for the market.

4. **Salesman Account Detail** - This reports displays and prints a list of all accounts for the salesman specified. Under each account is a list of all brands currently placed at this account, and six columns of in-house and competitive statistics for each beer. A subtotal for each account shows total taps, in-house taps, competitive taps, in-house salesman distribution percentage and competitive sales distribution percentage. Finally grand total statistics are shown for this salesman including total in-house taps and distribution and total competitive taps and distribution.

5. **Market Distribution** - This report displays and prints distribution statistics for each distributor in the market subtotaled by brand and brewery. Finally grand totals for the market are shown. Statistics shown for each brand are total taps, percent of brewer distribution each brand represents, percent of distributor distribution each brand represents, percent of market distribution each brand has and totals for each.

6. **Salesman Rank, Taps Sold** - This report displays and prints a ranking of salesman by number of total tap placements each has. Also included are the total number of possible tap handles currently available in all of his accounts, each salesmans distribution percentage and the number of accounts each salesman has.

7. **Salesman Rank, % Available Taps** - This report displays and prints a list of the salesmen in order of the salesmans percent of their possible distribution. Additional columns show the total number of tap handles each salesman has, the total number of possible tap handles currently available in all of his accounts, and the number of accounts each salesman has. This is an excellent tool to evaluate performance or conduct incentives.

8. **Salesman Rank, # of Accounts** - This report displays and prints a list of the salesmen in order of the number of accounts that each has. Additional columns show the total number of tap handles each salesman has, the total number of possible tap handles currently available in all of his accounts, and each salesmans percent of their possible distribution.

9. **Salesman Account Survey** - This form displays and prints draft distribution survey forms for all accounts, sorted by salesman. These forms are meant to be used as a tool to gather distribution and other information about each account in a uniform manner. This information then can be entered into On Tap!

10. **Distribution Cross-tab Report** - Prints a variety of distribution cross-tab reports. This is a report showing accounts down the left column, brands across the top row. In the grid formed, distribution is indicated by a number showing how many taps this brand has in the account.

See Also

Report Dialog box

Report Dialog Box
For Date

This field is displayed whenever a Tap Cleaning report is selected. Enter the date for which you wish to print the report.

See Also

Report Dialog box

Report Dialog Box For

This field is displayed whenever you select Tap Cleaning report for a specific person.   Select the person and the click the Display button.

See Also

Report Dialog box

Report Dialog Box
Salesman

This field is displayed when the Distribution Crosstab report is selected. All accounts can be shown in one report by selecting "All Combined" in this field. Cross-tab reports can be printed for each salesmans account list individually by selecting "By Salesman" or an individual salesman may be selected.

See Also

Report Dialog box

Report Dialog Box
Category

Use the category drop down list to select one or all categories.

Report Dialog Box
Products

This field is displayed when the Distribution Crosstab report is selected. Select the brands that are reported from this list. The first list allows you to select from the options listed below.

Just Used Beers

This option will use only the brands that are currently assigned to an account on the Draft Lines screens. This should represent all the products currently have distribution.

Just Selected Beers

This option will use only the brands that have the "Include On Distribution Crosstab" box checked on the - Edit Beer Specifications Dialog box. See page 37.

Used and Selected Beers

This option will print all brands that are currently in use by any account and all brands that have the "Include On Distribution Crosstab" box checked on the - Edit Beer Specifications Dialog box. See Figure 10

Brewery

You can also disregard the previous options and simply select a brewery. This will force the Cross-tab report to display all the beers that are assigned to this brewery in the Edit Brews Dialog box. If you select this option another Products list appears. This gives you the option of comparing breweries by selecting another one . If you do select another brewery another Products list will again appear. You are allowed to select up to four breweries to compare for your report. See Figure 16 - Brewery Comparison.

See Also

Report Dialog box

Report Dialog Box Display Button

Displays the currently selected report.   See Navigating Around a Displayed Report

See Also

Report Dialog box

Report Dialog Box
Printer Setup Button

Allows you to change the currently selected printer as well as other features of the printer such as paper size or orientation.   This should be done before the report is displayed.

See Also

Report Dialog box

Report Dialog Box Cancel

Closes the Report dialog box without printing anything.

See Also

Report Dialog box

Edit Beer Specs Popup

The Edit Brews dialog box allows the user to modify the beer database. You may edit both beers that you have entered as well as the beer definitions that come with On Tap!. Be careful when modifying beer specifications as invalid data may cause incorrect draft designs to be generated by the draft line balancer.

To display this dialog box, select Beer Specs from the Edit menu.

See Also

- Beer to Edit
- Distributor
- Brewery
- Include on Distribution Cross-tab?
- Beer Name
- Tap Type
- Volume of CO2 in Beer
- Is This a Light Beer?
- Modify Button
- Undo Button
- Delete Button
- Done Button

Edit Beer Specs Popup
Beer to Edit

Select the beer you wish to modify from the drop down list.   You may also click on the scroll arrows or use the up / down arrow keys to scroll through the list of beers.

See Also

Edit Brews Dialog box

Edit Beer Specs Popup Scroll Buttons

Click on these up and down buttons located next to the Beer to Edit field to scroll through the list of beers.

See Also

Edit Brews Dialog box

Edit Beer Specs Popup
Beer Name

This field is used to modify the name of the beer. This is commonly needed when a brewer adds a new beer to their line so as to differentiate between beers with similar names. An example would be Miller Beer changing to High Life.

See Also

Edit Brews Dialog box

Edit Beer Specs Popup
Modify Button

Saves the changes you have made to this beer to On Tap!s the database.   You will not be able to use the Undo button after Modify has been selected.

See Also

Edit Brews Dialog box

Edit Beer Specs Popup
Undo Button

Undoes any changes that you have made to this beers specifications. It will not undo changes once the Modify button has been pressed.

See Also

Edit Brews Dialog box

Edit Beer Specs Popup
Delete Button

Permanently deletes this beer from the database. If this beer is being used in one of the Draft Line designs, you will be asked if you wish to delete these lines. If you select No, .the word unknown will be entered as the Beer Name on all effected lines.

See Also

Edit Brews Dialog box

Edit Beer Specs Popup Done Button

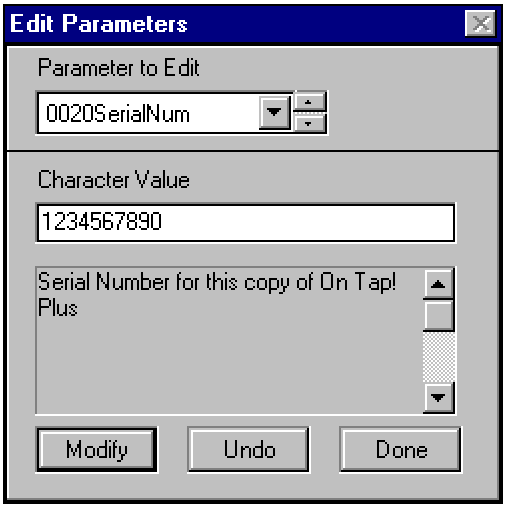
Save any changes and exit.

See Also

Edit Brews Dialog box

Edit Parameters Dialog

The Edit Parameters dialog box allows the user to change some of the internal variables and settings that are used by On Tap!. It consists of three fields: parameter name, current parameter value and a short description of the parameter. Parameters come in two flavors, character and numeric. Be careful not to enter character values for numeric parameters. The type of parameter is indicated by the label on the parameter value field.



See Also

- Parameter to Edit Field
- Character Value / Number Value Field
- Parameter Descriptions
- Modify Button
- Undo Button
- Done Button
- Scroll Buttons

Edit Parameters Dialog
Parameter to Edit

Select the parameter you wish to change. Parameters can be selected from the drop down list or by using the scroll arrows.

See Also

Edit Parameters Dialog box

Edit Parameters Dialog
Value

Enter the value for the parameter you have selected in this field. Character parameters can contain any characters. Number parameters must contain only numbers.

See Also

Edit Parameters Dialog box

Edit Parameters Dialog
Parameter Descriptions

Displays a short description of what the parameter is used for.

See Also

Edit Parameters Dialog box

Edit Parameters Dialog
Modify Button

Saves the changes you have made to this beer to On Tap!s the database. You will not be able to use the Undo button after Modify has been selected.

See Also

Edit Parameters Dialog box

Edit Parameters Dialog
Undo Button
Undoes any changes that you have made to this parameter.   It will not undo changes once the Modify button has been pressed.

See Also

Edit Parameters Dialog box

Edit Parameters Dialog Done Button

Save any changes and exit.

See Also

Edit Parameters Dialog box

Edit Parameters Dialog
Scroll Buttons

Click on these up and down buttons located next to the Parameter field to scroll through the list of Parameters.

See Also

Edit Parameters Dialog box

Registration Dialog

This dialog is only displayed the first time that On Tap! is run or after a demo version of On Tap! has expired. This dialog allows the user to enter serial numbers, distributor name and address.

See Also

Program Serial Number
Name
Address Line 1
Address Line 2
City, State, Zip
OK

Program Serial Number

If you have purchased this copy of On Tap!, your serial number will be located on the setup disks. If you are installing this copy as a demonstration version fill in all blanks but the Serial Number.

If you have not purchased On Tap! and do not have a valid serial number, you may install On Tap! as a demonstration version. The first time you run On Tap! it will prompt you for registration information. Enter your name and address leaving the serial number blank, then press the OK button. This will take the default, which is to install On Tap! as a demo.

The demo version is a fully functional version of On Tap! with the only limitation being that it has a lifetime of 14 days. That is, after 14 days, On Tap! will no longer run. The data is not lost and On Tap! can be reactivated by obtaining a valid serial number from Innovative Software Solutions, Inc.

Registration Dialog
Name

Enter the name of the distributor that is using this software.

See Also

Registration Form

Registration Dialog
Address Line 1

Enter Address Line 1 of the distributor using this software.

See Also

Registration Form

Registration Dialog
Address Line 2

Enter Address Line 2 of the distributor using this software.

See Also

Registration Form

Registration Dialog

City, State, Zip

Enter City, State, Zip of the distributor using this software.

See Also

Registration Form

Registration Dialog
State

Enter the state of the distributor using this software.

See Also

Registration Form

Registration Dialog
Zip

Enter the Zip of the distributor using this software.

See Also

Registration Form

Registration Dialog OK Button

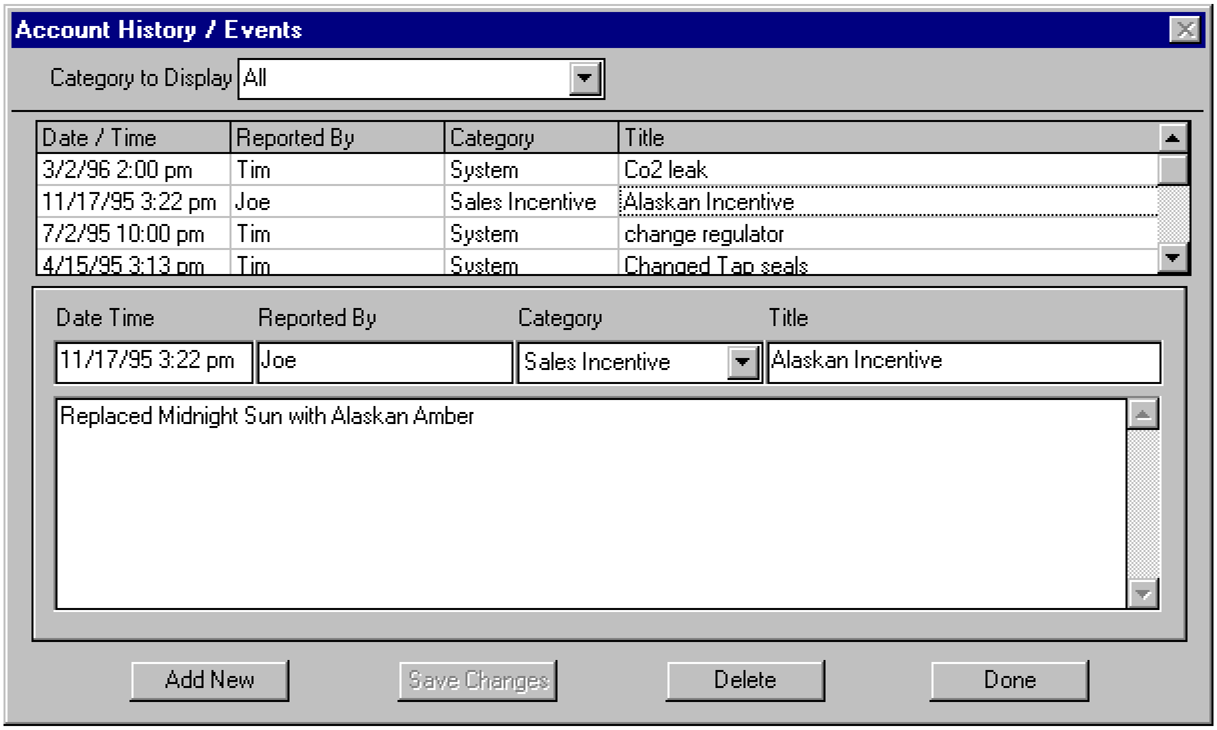
Saves the information entered in the Registration dialog box.

See Also

Registration Form

Account History / Events Dialog

Displays the Account History and Events dialog for the current account. This is an extremely useful tool for tracking almost any type of information for your accounts.



Keeping a detailed log of repairs, new placements, incentives, sales or other important events for an account can be very useful. The Account History screen is an excellent way to organize these notes. All entries are sorted by date and category for easy review. The Account History screen allows technicians to enter notes on draft system problems and repairs as they occur for future reference. Salesmen can record incentive activities and new placements. Fields exist for the date, persons name, category and notes. The category field will accept any new category you wish to add. When viewing and printing account history reports, you may select any or all categories available. If you wish to print a recap of an incentive, you can print an Account History report for all accounts with that sales incentive category selected on the reporting screen.

Many accounts have many annual or seasonal functions and promotions. Entering these under an events category will allow you to print an events calendar for all of your accounts. This tool will help your distributor be there first to make the sale.

Records can also be entered here under a sales category of all important meetings, promotions, conversations etc.

Many suppliers ask for monthly recaps of activities and goals for their products. Again this is an excellent place to record that information. This information can be reported in a variety of formats at any time.

It is also helpful to enter notes on draft system problems and repairs as they occur for future reference. Fields exist for the date, technicians name, and notes. This is helpful to record what work was done, who did it, when it was done, and what solutions worked best. This may also help to establish patterns of problems, or anticipate what the problem might be when an account calls. At any time a report can be displayed or printed showing all of these notes in chronological order. This can be helpful to someone unfamiliar with the account who is required to fix it, or to suggest possible solutions over the phone based on historic problems. This report may also be given to the account to chronicle the work you have done.

Note that the Tap Cleaning scheduler uses this database to record accounts that have been cleaned under a category called Tap Cleaning. Therefore reports can be easily printed showing the cleaning record of any account by selecting this category from the reporting screen.

Example:

Replaced Midnight Sun Keg with Alaskan Pale Ale. (incentive)

Placed new Alaskan Smoked Porter. (New Placement)

Replaced bad regulator. (System maintenance)

Had meeting with buyer. Submitted proposal for new products. (Sales)

See Also

Category to display
Selection Grid
Date and Time Field
Reported By Field
Category
Title Field
Description
Add New Button
Save Changes Button
Delete Button
Done Button

Account History / Events Dialog
Category View

Select from the drop down list the category that you would like to display. You may select one or all of the categories. When you select a specific category, all unrelated categories will be hidden. This will make it easier to scroll through the notes that are pertinent.

Selection Grid
Selection Grid

The Selection grid is a scrollable list of entries sorted by date and including a short title describing the notes. To access the notes for a specific date or event, simply click on its entry. Every time you add a new notation, it is automatically added to the selection grid.

See Also

Account History / Events Screen

Account History / Events Dialog
Add New

Click the Add New button to create a new entry.

See Also

Account History / Events Screen

Account History / Events Dialog
Save Changes

When you are finished adding a notation, Click the Save Changes button to add it to the database and Selection Grid.

See Also

Account History / Events Screen

Account History / Events Dialog Delete

Click on this button to delete the current entry.

See Also

Account History / Events Screen

Account History / Events Dialog Done

Click the Done button to exit the Account History / Events dialog box.

See Also

Account History / Events Screen

Account History / Events Dialog
Date Time

When adding a new notation enter the date and time here. It automatically enters the current date and time when you click the Add New button. If you wish to change the date and time simply click on the field and modify it. You will need to keep the same format as the default time. This will be added to the selection grid entries when you click save changes.

See Also

Account History / Events Screen

Account History / Events Dialog
Reported By

Enter the name of the technician or salesman reporting the notation. This will be added to the selection grid entries when you click save changes.

See Also

Account History / Events Screen

Account History / Events Dialog
Category

Enter the category that this event falls under. If you have entered this category before, simply use the drop down list and select the category without retyping it. Suggested categories are "New Placements," "Sales Incentives," "System maintenance," Sales Notes," or any other category that you find useful. When you view the information in the future you will be able to select one or all of these categories. When printing Account History reports you will also be able to select one or all categories to print.

Account History / Events Dialog

Title

Enter a descriptive title for your notation. This will be added to the selection grid entries when you click save changes.   Try to make this a short description of the entry to enable you to find it easily at a latter time.

See Also

Account History / Events Screen

Account History / Events Dialog
Description

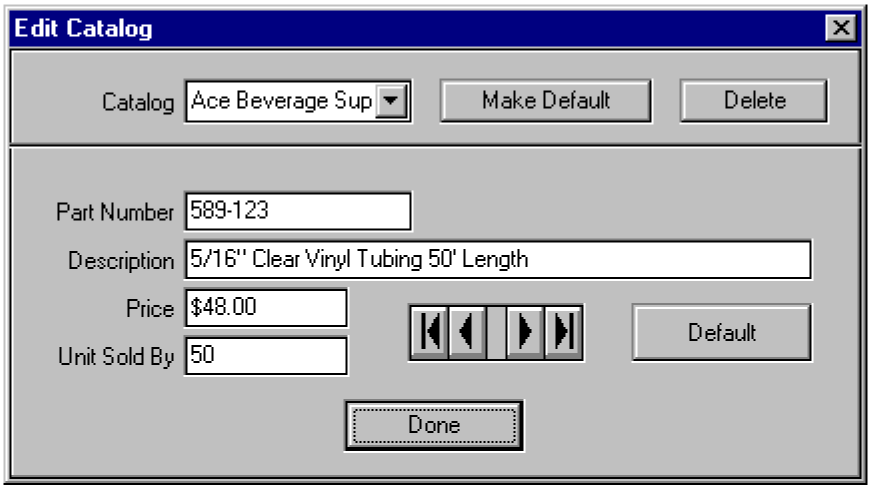
Enter a detailed description of the problem or event you are documenting in this field.

See Also

Account History / Events Screen

Edit Catalog

The Edit Catalog box allows the user to create and edit draft system parts catalogs. From the Edit menu select Catalog and the dialog box shown below will be displayed.



Creating a New Catalog

To create a new catalog simply type the new vendor name in the Catalog field and press the return key. You will then be asked it you want to create a new catalog with the name you entered. Click on the Yes button. A new catalog will be created using generic parts descriptions. Scroll through the parts list and edit the part numbers and prices to reflect those from the vendor you wish to use. You do not have to edit parts that you know you will not use. If the program does call for them, the parts list report will simply show a zero price and no part number. The description will still be there.

See Also

Creating a New Catalog
Deleting a Catalog
Setting the Default Catalog
Catalog
Part Number
Description
Price
Unit Sold By
Default Button
Item Selector
Done Button

Edit Catalog
Catalog

Select the catalog you wish to work with from this drop down list.   All catalog that are currently defined are shown in this list.   To create a new catalog see Creating a New Catalog.

See Also

Edit Catalog Dialog Box

Edit Catalog
Part Number

Enter the part number for the part described in the Description field for the catalog you are modifying or creating.

See Also

Edit Catalog Dialog Box

Edit Catalog Description

This is the description for the current part. You may make minor changes to this field to fit that of the catalog you are using. Be sure not to change this field to a different part type. An example of an exceptable change would be "Hose Splicer" to "Hose Union," i.e. the same part, but a different name. Do not change the description to a different part type such as "Hose Splicer" to "Hex Nut." If you do this, On Tap! will not print correct parts lists. Should you ever become confused as to what this part should be, click the Default button and the description will be returned to its generic value.

See Also

Edit Catalog Dialog Box

Edit Catalog Price

Enter the price of the part described in the Description field.   This price will be used on the Parts List to calculate the cost of the installation.

See Also

Edit Catalog Dialog Box

Edit Catalog
Unit Sold By

Most items are sold by units of 1 each but items like tubing are sold by rolls of varying lengths. For example, a fifty foot roll of vinyl tubing would have 50 as the Unit Sold By.

See Also

Edit Catalog Dialog Box

Edit Catalog
Item Selector

Use the arrow buttons to scroll through the parts list.

See Also

Edit Catalog Dialog Box

Edit Catalog
Make Default Button

To make a catalog the active catalog for printing parts lists, select the catalog from the drop down list and then click on the Make Default button.

See Also

Edit Catalog Dialog Box

Edit Catalog
Delete Button

You may delete any catalog except for On Taps "Generic Catalog." First select the catalog from the drop down list and then click the Delete button.

See Also

Edit Catalog Dialog Box

Edit Catalog
Default Button

If you wish to return the current part to its generic description click on the default button. This is useful if you ever modify the part description, and you become unsure as to what part the program is calling for.

See Also

Edit Catalog Dialog Box

Edit Catalog Done Button

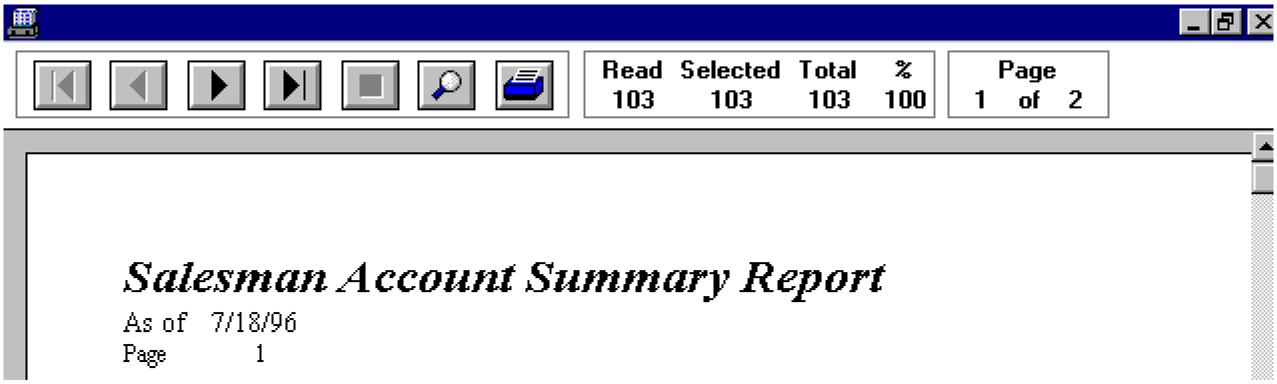
Closes the Edit Catalog dialog and returns you to the previous screen.

See Also

Edit Catalog Dialog Box

Navigating Around a Displayed Report

With all of the reports, with the exception of the Distribution Crosstab, you are able to preview the report before printing. When you click on the Display button a screen similar to the one below will be displayed.



Report Display Buttons

The button is used to move to the first page of the displayed report. The button is used to move to the previous page of the report. The button is used to move to the next page of the report and the button is used to move to the last page of the report. You may also use the scroll bars located on the right and bottom of the report to scroll the visible part of the report in the display window.

The button is used to shrink the report so that you can see how the entire report will look on the page or enlarge it to enable to more easily view it. By default the report is in the enlarged state.

If you are satisfied with the report and wish to obtain a hard copy of it, click the button. The report will be sent to the currently selected printer.

If you wish to close the report window without printer, chose Close from the System Menu or if using Windows 95, click the button.

Delete Location

Delete Location

Deletes the currently selected location. All information associated with this location including all defined draft lines and tap cleaning appointment information will be deleted. When the last location for an account is deleted, the account will be deleted and no longer appear in the account list. Deleted locations cannot be restored and will need to be re-entered if they are to be used again.

File Menu
Reporting

Displays the Reporting dialog box. Note that this dialog box changes as you scroll through the reports list.   See Report Dialog for more information.

File Menu
Databases -> Compact

As you use **On Tap!**, the database file used for storage can become fragmented. This is especially so if you are adding or deleting a large number of accounts or locations. The compacted database file is usually smaller and often provides better performance. The Compact Database command compacts and defragments the database allowing for the most efficient access.

File Menu
Database -> Repair

You may need to repair the databases that On Tap! uses if **On Tap!** is not exited properly, for example, if there is a power outage or your computer experiences a hardware problem. The databases won't become corrupted if you quit On Tap! normally.

Normally when On Tap! detects a corrupted database it will automatically attempt to repair the affected database. If you notice any unusual problems with using On Tap! you may wish to attempt a repair manually.

File Menu
Exit

Saves any unsaved data that you may have entered and exits **On Tap!**.

Edit Menu
Parameters

Displays the Edit Parameters dialog box. See Edit Parameters Dialog for detailed information.

Edit Menu
Beer Specs

Displays the Edit Brews dialog box. See Beer Specs Dialog for detailed information.

Edit Menu
Catalog

Displays the Edit Catalog dialog box. See Edit Catalog Dialog for detailed information.

Edit Menu
Contents

Displays the Contents page of the On Tap! help file.

Edit Menu
Context

Activates Context sensitive help. When you select this command, the mouse cursor will change to a ?. Click on the field or menu item you wish to obtain help on and On Tap! will display it.

Edit Menu
About

Displays the About dialog box for On Tap! which contains On Tap!s copyright notice and serial number(s).

Acknowledgments

We would like to thank Herb Bailey for his suggestion that we add an Account History screen to track the maintenance of draft systems. Mr. Bailey works for Mt. Hood Beverage Company in Oregon.

We would like to thank Reed Van Billiard for his help in developing the reporting utility. Mr. Van Billiard works for Farrell Distributing in Vermont.

We encourage you to share with us your thoughts, comments and ideas regarding On Tap! We greatly appreciate your feedback as it helps us improve our program. If we are able to use one of your ideas, we cannot pay you but we will certainly acknowledge your contribution.

Please forgive us for any mistakes we may have made developing this product. We had to drink an incredible amount of beer to determine many of the statistics used in On Taps database.

Notes

Pouring Beer
Pour rate
CO2 vs. N2 Blend vs. Compressed Air
CO2 Pressure
CO2 Safety
Regulators
Secondary Regulators and Keg Savers
Beer line and connectors.
Pulling beer line
Hooking Kegs in Series
Tapping and Untapping Kegs Hooked in a Series
Beer Switches (Hooking kegs in parallel)
Parts Descriptions
Cooler Temperature
Forced Air Systems
Selecting Blower Size
Very Long Draw or High Lift Systems
Glycol Systems
Coils
Turbulence
Cleaning Beer Systems
Types of Beer
Beer Pumps

General program notes

Pouring Beer

Using the correct method of pouring beer is necessary to minimize waste. Start with a clean chilled glass (or submerge a warm glass in cold water). The Glass or Pitcher should be placed under the faucet at a 45 degree angle. The tap handle should then be quickly snapped back with two or three fingers at the base of the handle. If the valve is opened too slowly, the beer will tend to spray out initially causing foam. Do not let the glass touch the handle. As the glass fills, gradually bring it to an upright position. When the glass is almost full, allow the remaining beer to pour straight down the middle of the glass. This will cause enough turbulence to release some CO_2, and form an attractive head (see profit!) of about 1/2 inch. When the glass is full, quickly shut the faucet.

Pour Rate

Pour rate is the rate of beer flow expressed in ounces per minute. A typical target flow rate under normal conditions is 120 oz/min. A 120 oz/minute flow rate will pour 2 ounces per second or fill a 12 ounce glass in six seconds. Therefore an easy way to measure flow rate is to count the time it takes to fill a 10, 12 or 16 ounce glass and divide it into the seconds it takes to fill. This will give you ounces per second. Next multiply this number by 60 to get ounces per minute. If it takes 10 seconds to fill a 16oz glass, then 16/10=1.6. 1.6*60=96. Therefore the pour rate is 96oz per minute.

Normal accounts should be designed to pour approximately 120 oz/min. High volume accounts using pitchers and large glasses may want higher pour rates such as 130 oz/min. Accounts desiring slow pour rates, such as accounts pouring small sample glasses may want pour rates closer to 100 oz/min.

On Tap! will design systems with three different flow rates. We assume a default rate of 120 oz/min. If you wish to have faster or slower pour rates, select high or low from the beer volume drop-down list in the Line Balancer.

CO2 vs. N2 BLEND vs. COMPRESSED AIR

In all draft systems an external force is required to push the beer through the lines and out the faucet. This is typically a pressurized gas routed into the keg exerting pressure on the surface of the beer, forcing it out of the keg.

CO2 is a natural byproduct of beer and it is economical. A CO2 tank is filled to 800 psi at 70 degrees F. and will maintain that pressure until empty. Each pound of CO2 should push one and a half kegs of beer. Therefore a 20 pound tank of CO2 should push 30 kegs.

As a tank of CO2 cools down, its pressure drops. As its temperature rises, its pressure increases. This phenomena necessitates the use of pressure release valves.

As you use the line balancer, you will notice that the recommended applied pressure is only slightly higher than the kegs internal pressure at any given temperature. This allows the kegs to maintain their natural carbonation level. Too little pressure will allow the natural carbonation to escape from the beer causing it to go flat and loose its flavor. Too much pressure will tend to increase the carbonation of the beer, causing it to pour with too much foam. Over carbonation can also affect the flavor of the beer.

When very long draw or high lift systems have problems with over carbonation because of the higher applied pressures required, it may be necessary to use compressed air or an N2 blend. Higher pressures (pressures that greatly exceed the kegs internal pressure) can be used with these because they do not carbonate the beer as much. On Tap will automatically determine if a blend is required, and it will calculate the required pressure.

Compressed air is less desirable because it is a foreign substance to beer, and it can pick up undesirable tastes from the surrounding environment. Air contains moisture that must be bled out of a compressor. Air compressors are noisy, require electricity, and may introduce more odors into the beer from oil, cigarette smoke, disinfectants, and other vapors from the ambient air.

Air-gas blenders mix air and CO2 in the right proportion. Too much air causes flat beer, too much CO2 causes Over carbonation. These blenders require maintenance and tuning, but may be more cost effective than tanks in high volume accounts. When using air blend systems, as the required applied pressure increases, the percentage of CO2 in the blend decreases. The required ratios may differ slightly among brands of beer as different beers have different levels of carbonation. Again, because of all the inherent complications and maintenance with Air blend systems we do not recommend them.

If you find it necessary to tune an air blend system, try the following steps to adjust it.

N2 blends contain approximately 70% nitrogen and 30% carbon dioxide. N2 is an inert gas that is less soluble and less dense than CO2. Because it is not very soluble in beer it does not add the effervescence to beer that CO2 does at high pressures necessary in long runs. Because it is less dense, a tank of N2 blend will push less beer than an equivalent sized tank of CO2.While CO2 is liquid in the tank and measured in pounds, N2 remains a gas in the tank and is measured in cubic feet. A 75 cubic foot tank of N2 blend is about the same size as a 20 pound tank of CO2.Before purchasing a tank of N2 you will need to buy a regulator designed for it. Because it is designated as a fuel it has reverse threads.

CO2 and Nitrogen blends are available premixed from most gas supply and welding companies.

There are other advantages to N2 blends. It provides beer with a head that is creamier and lasts longer. It smoothes out the flavor of beer by lowering the carbonation. This can be especially desirable to micro brew drinkers who may be more sensitive to the subtle flavors, and quality of "Brussels Lace"

See Also

CO2 Pressure

CO2 PRESSURE

The necessary CO2 pressure is dictated by the internal keg pressure of the beer. We have included a substantial database of products in this program that include internal pressure, so that we can calculate the pressure for you. If you are installing a beer that is not included in this program, please attempt to select a similar beer. After installation make minor adjustments until it pours adequately.

See Also

CO2 vs. N2 BLEND vs. COMPRESSED AIR

CO2 Safety

Innovative Software Solutions , Inc. assumes no liability related to our safety suggestions. Do not work with any pressurized gas including CO_2 unless you have had training in the proper handling of these materials. Please consult product manufacturers for proper handling instructions.

Generally speaking:

- Always keep cylinders secured in an upright position so the cannot tip over. If a cylinder falls, the valve body can break. If this occurs the cylinder can be propelled by the release of pressure and cause bodily injury and death. Often cylinders are held in place with a safety chain. Also, because CO_2 cylinders partially contain liquid, they should be kept upright to keep the liquid from entering the valve body and regulator.

- When moving a cylinder, always be sure that the regulator is removed, the main valve is closed and the safety cap is in place.

- Ensure that cylinder has a safety relief valve before handling it. A CO_2 cylinder at room temperature will be pressurized at about 850 psi. This pressure will remain fairly constant until the tank is almost empty. The relief valves are typically set to open at 2500 to 3000 psi.

- Store CO_2 cylinders in a cool environment. Do not expose to sunlight. As the temperature increases more of the pressurized liquid will turn to gas. This will cause the pressure to increase. This can be dangerous for two reasons. First, it can cause the pressure relief valve to release CO_2 into the air. This can be a health hazard. Secondly, if the relief valve is not working the cylinder could rupture if pressures became too high.

- Check the test date on the cylinder. If it has been over 5 years, do not use. Send cylinder back to supplier.

- Always connect the CO_2 cylinder to a regulator before hooking it into a keg system. Kegs are designed to operate at very low pressures, usually under 60 psi. If they were hooked directly to an 850 psi cylinder they would explode. Always make sure that the regulator is in good working condition and it should also have a pressure relief valve. The relief valve on the regulator should open between 50 and 60 psi.

- Only use tanks, regulators, taps, and gas distributors that have pressure relief valves.

- Immediately ventilate any area where there is a CO_2 leak.

- Inform retailers that their staff should be trained in the proper handling of pressurized gas cylinders.

Regulators

The regulator attaches directly to the CO2 tank. Its function is to reduce the high tank pressure down to the appropriate applied pressure for the keg. The regulator will typically have a high pressure gauge indicating the pressure in the CO2 tank, and a low pressure gauge indicating the pressure applied to the keg. A pressure release valve should blow if this pressure exceeds the safe operating range of a keg.(approximately 50 to 60 psi) A shutoff valve is usually included to allow servicing of the draft system. An adjustment screw on the body of the regulator is used to adjust the output pressure. Always make sure that a O-ring or washer is in place before attaching regulator to CO2 tank. Faulty regulators can be the cause of a variety of problems as noted in the troubleshooting section. Note that regulators can often be repaired inexpensively. Rebuild kits are usually available from the manufacturer that include a new valve, diaphragm and spring. Many times regulators can be fixed by simply cleaning the parts, realigning them and reassembling. The most common malfunctions include:

- Leaks
- Pressure Creeping
- Pressure Sluggishness
- Freezing
- Beer in regulator
- Regulator shows low or no reading.
- Physically damaged regulator
- Secondary regulators
- Safety

If you find that the system is using an excessive amount (less than 1.5 kegs per pound) of CO_2, you may wish to spray some soap water on the regulator. If bubbles form you will need to either tighten a connection or replace the regulator and repair it, depending on the location of the leak.

A "creeping regulator" allows the pressure to gradually increase during periods of non use such as night time. This increased pressure can over carbonate the beer causing excess foam, or wild beer. To detect, write down the pressure at the end of the evening and compare it to the pressure reading the next morning. If it has risen replace regulator.

A "sluggish regulator" does not keep up with the demands of the system and allows the pressure to decrease as the beer is drawn. This can cause the beer to loose its carbonation and taste flat. To detect, simply watch the keg pressure gauge as beer is drawn. If it doesnt immediately return to correct pressure, replace regulator.

This can occur when too much beer is being pushed by one regulator. The excessive flow of CO2 freezes the regulator. In high volume accounts you may not wish to run more than three faucets per regulator. Each regulator will need its own CO2 tank. Leaks in the CO2 lines can also cause enough flow to freeze the regulators. Other causes of leaks include tap pressure relief valves that sometimes leak when other kegs are stacked up against them in the cooler, and taps that are not hooked to kegs but are left partially open.

This usually occurs with a faulty or missing back-flow or Thomas valve

This can be caused by empty tank, closed valve on tank, airflow passageway blocked by bad washer, or malfunctioning gauge.

Malfunctioning regulators can often be fixed with inexpensive repair kits.

Secondary regulators are low pressure regulators that can be used down line from the main regulator to adjust the pressure for each keg independently. The pressure of the main regulator is adjusted up to about 25 pounds, and the secondary regulators adjust each keg down further to the right level. High pressure and low pressure regulators are not interchangeable.

- Always secure them with a chain in the upright position.
- Transport with safety caps on.
- Use only regulators in good condition.
- Do not store near heat.

Secondary Regulators and Keg Savers

Often one system will pour a variety of brands. Many account even rotate different brands weekly, sometimes pouring micros, imports and domestics on the same line. Because different brands sometimes require different pressures it is a good idea to use inline regulators in these accounts. Inline regulators are low pressure regulators that are hooked between the main regulator and each individual keg. They are often used inside the cooler in place of an gas distributor. Each regulator has a shut-off valve. On Tap! includes a field in the Edit Beer dialog box for the internal CO2 volumes for every beer in its database, and will show the recommended pressure for each brand. Please consult the brewery for specifications on any new beers added.

If one line is dedicated to a specific brand, a simple keg saver may be used. The advantage of a keg saver is that it is preset to factory specifications to a specific pressure for a specific brand. Adjustable keg savers are also available. They are also cheaper than inline regulators and not as susceptible to tampering. Be sure to always use parts designed for food and beverage dispensing.

Beer line and connectors

Beer line is used to transport beer from the keg to the faucet without imparting any taste into the beer. The beer line serves a second function as a means to restrict the flow of the beer. This restriction controls the flow rate of the beer, and the carbonation of the beer. Typically beer line is made from vinyl or polyethylene, connectors are made out of stainless steel, and washers are made from neoprene. Other non food grade materials should be avoided.

Hose unions are used to connect segments of beer line together, tail pieces and hex nets are used to connect the end of the beer line to taps, shanks and etc. Using unions and tail pieces that are one size larger than the beer line I.D. (inside diameter) will ensure that they do not introduce unwanted turbulence or restriction. Most beer line will have the size stamped on it for easy identification. If it does not a tube gauge is a handy tool for determining size.

To ease insertion of hose unions and tail pieces into the beer lines, first place the beer line in a pitcher of hot water to soften it. Do not use lubricants as they can effect flow and flavor of beer. Clamp beer line using one of a variety of available clamps designed for beer line. While screw clamps are reusable and require no special tools, they are larger than single ear clamps and may not pull through ducting as easily. Screw clamps also tend to dig into the hose allowing it to loosen.

Pulling beer line

It is often necessary to replace existing beer lines in a system. This situation arises if the existing line is incorrectly balanced, obstructed or deteriorated or if it is imparting a bad taste into the beer. Sometimes running flavored beer or root beer through a line can cause it to give subsequent beers these flavors. Sometimes beer lines can develop leaks. If these lines are run through ducting in a forced air system, new lines will have to be pulled. For this reason it is always a good idea to install lines in such a fashion as to allow them to be pulled out in the future. To allow lines to be pulled individually in the future, do not tape lines together, and do use a food grade lubricant on the lines to keep them from gripping each other.

If the ducting can be accessed and separated in areas throughout its run, this may help feed the new line through. Using duct tape instead of glue when installing systems will allow this in the future. In a difficult case, you can pull the line through one segment at a time.

Precut the new line to the correct length. Using a hose union and electricians or duct tape, secure the new line to the old one. Make sure that you securely tape the lines together so that they do not pull apart. You may wish to wire them together for added strength.

Apply a food grade lubricant to the new beer line to help pull it through. This will also help if it needs to be removed in the future.

Using two or more people will make this job much easier. One person should pull on the old line while another person feeds the new line.

Hooking Kegs in Series

A series of kegs may be desirable in accounts where usage is high or access to the kegs is difficult. Two or three kegs will double or triple the time span needed between keg changes. This might allow a busy beer line to work all night without repeatedly running out of beer. In cases where usage does not really justify a series system it is preferable to use single keg systems. This will reduce chances of getting old beer, having technical problems or allowing one bad keg to ruin the others. In some very high volume accounts such as fairs or other events as many as 10 kegs can be hooked in series.

The first keg in a series is hooked up in the normal fashion using 5/16" clear air line from the CO_2 regulator to the tap. The beer exiting the first keg is then routed through 3/8" or ½" clear line into the CO_2 inlet of the second keg tap. On all kegs except for the keg hooked to the CO_2, the Thomas valve must be removed. Repeat this procedure for every additional keg in the series. On the last keg in the series, hook up the correct size beer line from the line balancing calculation.

The Thomas Valve must be removed from the second tap and all successive taps. (The Thomas valve is the small rubber valve that keeps beer from flowing into the CO_2 line. It is located in the CO_2 inlet of the tap.) Obviously if the Thomas valve was left in place, the beer could not flow!

When balancing a system in which one line is hooked to a series of kegs, always balance from the keg closest to the faucet. The length of the lines between the kegs is not important. A slight increase in applied pressure may be desired in systems with more than three kegs hooked in series.

When using a series of kegs it is a good idea to always use at least 3/8 I.D. line and tail pieces. If one of the kegs does not empty, replace the tap on that keg. If the probe washer on the tap is bad it must be replaced. If the rubber keg seal on the keg is bad, the keg is defective.

When cleaning a series system, you must rinse, and empty the lines before re-connecting them. If not you may pump cleaning solution into a keg.

Tapping and Untapping Kegs Hooked in a Series

The compressed gas pushes the beer out of the first keg (gas keg) into the intermediate kegs, and finally into the last keg (faucet keg) and finally out the faucet. The first keg to empty is the one hooked up to the compressed gas, followed by the intermediate kegs in succession. The faucet keg is the last to empty. For this reason, when the any new keg added to the system must replace the faucet keg, and each remaining keg must replace the keg prior to itself. Whichever keg contains the least amount of beer should end up as the new gas keg. If all the kegs are empty, simply replace them all with new kegs. If they are all full, dont replace any!

Using Beer Switches(Hooking kegs in paralell)

A beer switch allows two kegs (or series of kegs) to be routed into one beer line, with a selector switch to determine which keg is used. This has advantages over a straight series. The beer from the kegs is not mixed, therefore one bad keg will not destroy the others and old beer is not mixed with new beer.

The design is straight foreword. Several feet away from the kegs in the cooler, the beer line is cut. A selector switch is connected to the line. Lines from two taps are then hooked into the switch. The system balancing is not affected. When hooking up the CO2 use an air distributor so that each keg can be independently turned on.

Use Beer Switches that have at least 3/8 I.D. so that the do not add too much restriction to the line. When using the switch, be sure that only one valve is open at a time.

Parts Descriptions

Air hose - Air hose is low pressure line that connects the output of the regulator to the keg taps. It is commonly 5/16" line that comes in blue or red. We recommend using 5/16" clear beer line so that contamination or back flow are more evident when troubleshooting.

Air T - This is a plastic or steel adapter that connects to a low pressure air line and converts one line into two. This is used when there is one regulator and two taps. An air valve assembly is preferable because it has shut off valves, but they are more expensive.

Beer lines - Flexible tubing made from a variety of plastics.

Bent tube assembly - This is a 3/8" or ¼" stainless steel tube designed to fit inside of a draft tower. It has a tight 90 degree elbow that connects to the faucet. It is used in place of beer line that would otherwise kink

Blower - This is essentially an electric fan used to force cold air from a cooler through ducting to keep beer lines cold. These blowers are rated cubic feet of air they move per minute. (cfms) There are many fan designs and adapters to connect these to your ducting. Most commonly used are the "squirrel cage design, but in-line blowers are also used on the return ducting where there are no beer lines. Determining the best size to get maximum airflow and efficiency is complex but we will calculate it for you with our "Line Cooling" utility.

Clamps - These small devices are used to crimp and secure the beer line and air line at any connection such as tail pieces and hose unions.

Draft Tower - This is the tube (usually chrome or brass) that surface mounts on the top of a bar or keg cooler to which the faucet is attached. These are typically available as complete assemblies, and include the faucet, bent tube assembly, mounting hardware, and insulation.

Elbow connector - This is essentially a "tailpiece" with a 90 degree turn in it. This allows beer lines to be connected to parts such as shanks where there is little space and the beer line would likely kink otherwise.

Faucet - This is simply the pour spout that the beer flows from into a glass. It has a valve to control the beer flow which is designed to be completely on or completely off. The valve has a threaded bolt controlling it on which the tap handle is fastened.

Faucet shank - A threaded tube that serves two functions. It acts as a fastener by securing a faucet to a wall or barrel head, and it functions as a tube that carries beer to the faucet.

Glycol system trunked housing - A flexible bundle of beer lines and glycol lines encased in insulation. These are typically prefabricated to your specifications by the supplier. The glycol lines are connected to a power pack and the beer lines are plumbed normally.

Hex nut - This is usually the term for the nut that is used to fasten tail pieces to draft parts such as taps, shanks, and bent tube assemblies

Hose unions - These are small stainless steel or plastic fittings that are used to splice to beer lines of the same or differing sizes together. Hose clamps are required.

Power pack - This is the heart of a glycol system. It is a refrigeration system and a pump for the glycol.

Regulators - The regulator attaches directly to the CO_2 tank. Its function is to reduce the high tank pressure down to the appropriate applied pressure for the keg. The regulator will typically have a high pressure gauge indicating the pressure in the CO_2 tank, and a low pressure gauge indicating the pressure applied to the keg. Regulators have an adjustment screw. When this screw is turned clockwise, It increase the pressure allowed to escape the regulator. When this screw is turned counter-clockwise, It decrease the pressure allowed to escape the regulator.

Standard - This is another name for the draft tower.

Tailpiece - This is a stainless steel connector that accommodates a beer line on one end and has a flange on the other. Using a nut and a washer the flange end is attached to taps, shanks, and bent tube assemblies.

Tap - This is the part of the system that connects to the keg. The tap serves several functions. It channels the CO_2 into the keg to pressurize the beer. It channels the beer out of the keg into the beer line. The tap acts as a valve also. When the tap is inserted into the keg, turned ¼ turn clockwise and the lever is pressed downward and locked into position it opens a valve allowing the CO_2 into the keg and the probe is forced into the keg allowing the beer to flow into the system.

Thomas Valve - This is a one-way valve in the tap that keeps moisture from backing up into the pressure line, but allows CO_2 into the keg. If the valve is not working properly and moisture travels into the pressure line, it can cause problems.

Wall bracket - This item can be in the form of a hose union or simply a fastener that is used to hold or guide tubing in an organized manner. These are commonly used inside of coolers to keep lines untangled, and easy to maintain.

Washers - These are small rubber or neoprene washers that are used between tail pieces and other draft parts such as taps, shanks and bent tube assemblies.

Wing nut - These are simply nuts that have "wings" on the rather than hexagonal sides. They are very convenient for connecting taps because they can be removed and installed by hand rather than requiring a wrench. This is handy for lines that are rotated often, and for cleaning.

Cooler Temperature

The optimum keg temperature varies greatly on the type of beer and customer preference. We expect this to range between 34 and 45 degrees Fahrenheit depending on the capabilities of the cooler and the preference of the drinkers. We have found that about 36 degrees F works excellent for optimum system performance. If beer is stored too cold, it will tend to over carbonate much more quickly. When ever possible kegs should be kept in their own cooler. Sharing a cooler with food and other restaurant supplies usually causes increased use. As people walk in and out of the cooler the beer becomes susceptible to increased temperature, and contact with warm or frozen foods. If it is not possible to use a separate cooler, it is a good idea to keep the kegs as far away from the door as possible, and to use plastic curtains. We have entered a default temperature of 36 degrees as we have had good experiences in the 34-36 degree range. Some beers, especially Micros are drank like wines with an emphasis on subtle flavors. Often customers can enjoy these beers warmer. This default temperature can be modified with the Edit Parameters dialog.

Forced Air Systems

Forced air systems use cold air to keep the beer lines cool. Air systems are used in direct draw applications and for longer runs. Longer air systems allow cold air to circulate through an insulated duct. The beer lines are run inside the ducting to stay cool. Usually the ducting originates from, and returns to the same cooler the kegs are kept in making a round trip from the keg cooler to the faucet. A fan is used to force cold air through it. If the ducting is well insulated and properly balanced so that the air can flow freely, it will keep the beer the same temperature from the keg to the faucet. This is the ideal situation. Air systems work best in lengths from 2 to 50 feet. We have successfully installed systems much longer than this but it is usually not recommended. This air system gains the same result as the glycol system but has the following advantages and disadvantages.

Advantages:
· Readily available parts.
· Easily modified and maintained.
· Lines are easily installed, added and replaced.
· Does not require a "power pack".

Disadvantages:
· More difficult to design and install.
· Requires more space.
· Not adept to many corners.

There is no replacement for quality work. An air system can work flawlessly if there are no leaks, the insulation is installed well and the airflow is good. A poorly insulated system with inadequate airflow will almost never work. In longer systems we recommend always using separate rigid lines for pressure and return air ducts rather than "tube within a tube" or flexible lines which tend to have poor airflow. Use duct tape on most joints to allow for easy future disassembly and maintenance. Use glue or hangers where structural integrity is important. It is hard to beat two inch rigid foam insulation for the ducting. It comes in halves and is easy to install, and it is an excellent insulation.

The Line Cooling utility will tell you the required diameter of ducting that you will need based on the length of the system, the number of lines, and the number of corners.

Here are several tips for better installations, or system improvements:

Install the blower intake next to the output of the condenser fan. This will ensure that the air is being picked up from the coldest point, and will not be effected as much when a door is opened.

Use duct tape for connecting ducting. This will allow easier access for future maintenance.

Avoid bends in the ducting as much as possible as they slow the airflow considerably, and require that larger ducting be used. The Line Cooling screen has a calculator to help determine the proper duct size based on length of line, amount of beer lines housed, and number of corners.

Use pre-formed urethane foam pipe insulation for the ducting. This insulation comes in two foot and four foot lengths. It is split lengthwise, and installs easily. We recommend using one to two inch thickness.

On existing systems with poor air flow you can add a suction blower to the return line. This can be added in-line if there are no beer lines in the return tube, or added in the cooler if there are. Simply installing a blower with the output side connected to the end of the return duct in the cooler works well.

Use in-line wall brackets for the beer line in the cooler. This will not only help organize and support the beer line, but will allow the section of beer line in the cooler to be easily replaced as it is exposed to much more wear.

Use toilet flanges to connect ducting to coolers and cold air boxes.

Selecting Blower Size

When using forced air systems you will need a blower to move the air through the ducting. Applications where the beer is essentially being poured directly from the cooler are called direct draw. These include portable cooler boxes where air must simply be forced up into the draft tower to keep the faucet cold, and barrel heads placed on the external wall of a walk-in cooler. For these direct draw applications where there is no ducting to speak of a 15 CFM (cubic feet per minute) fan is perfect. Direct draw systems are fairly common and trouble free.

For remote systems where the beer is drawn from a location away from the cooler, ducting must be used. The size of blower required depends on many variables. The length of the run, the diameter of the ducting, the desired air velocity, how many corners in the ducting, how many beer lines are in the ducting, the material used for ducting etc. It is not unlike balancing the beer lines themselves. When designing the system, try to keep the ducting route straight and simple. On Tap will attempt to balance the ducting to allow an air velocity of 1000 FPM. (feet per minute)

Given all of the variables above, On Tap will calculate the correct blower size for you. Realize however that it is not likely that you can put a blower on the system that is too big to work. With modern blowers, if you put one on that is too big, it will simply be inefficient in terms of power usage and space, and some oversized fans may cavitate slightly.

Very Long Draw Systems

In very long draw systems, or systems with excessive lift, the line resistance may exceed the proper applied pressure even when using 3/8 inch line only. By default we will select all the available line sizes except for the 1/2 inch line. Half inch line is not commonly used in the industry. It is useful to be aware of because it does have application in very long run situations that do not have much lift Because 3/8" line is typically the largest diameter used in beer systems, it is impossible to use normal procedures to balance your system. In these situations simply run the entire length with 3/8" line. To compensate for the excessive line resistance the applied pressure must be raised. Because CO_2 will tend to over carbonate the beer at higher pressures, another gas should be used such as a N_2 / CO_2 blend. On Tap will automatically tell you when this circumstance occurs, and will recommend using a gas blend. On Tap will also calculate the required pressure for the blend. Please read the notes on CO_2 vs. N_2. For additional information.

Another alternative may be to use ½ line. On Tap! will balance using this size, but some breweries do not recommend it because of the amount of beer that is contained in the lines. This can result in a loss of too much beer every time a keg is emptied.

Also worth mentioning is the fact that if the system has considerably more drop than lift, overall resistance to flow will be reduced because gravity will be assisting the beer. Therefore the more the drop, the longer the run can be without over-carbonation from CO_2.

Liquid cooled systems

These systems typically use refrigerated glycol or freon to cool the beer lines instead of forced air. The cooled liquid flows in separate lines held next to the beer lines inside of an insulated trunk. These systems are very desirable because they use an independent refrigeration system from the cooler, they are very effective at keeping the beer temperature consistent through the entire run (even with very long runs) and the flexible trunk is easy to install compared to rigid ducting. Glycol systems use a cold pack to cool a reservoir of glycol and to pump the coolant through the system. Food grade glycol is used as a coolant because it does not freeze. If the temperature is too low however, it obviously can freeze the beer.

Glycol systems work best in lengths from 20 to 200 feet. Systems have successfully installed systems much longer than this but it is usually not recommended.

Advantages:

- Insulated lines come pre-assembled.
- Easy installation, requires little space.

Disadvantages:

- More difficult modify or add lines.
- Require as "power pack".

Coils

Coils are used in situations were there are no coolers available to store the kegs, and or there is no adequate line cooling system if it is a long draw. The coil is usually put into a container and covered with ice. As the warm beer goes through the coil it is cooled by the ice. Because of the coils length and surface area they can be effective at cooling the beer substantially, but can often be temperamental, and are not recommended for permanent installations.

Turbulence

Turbulence is caused by any irregular restriction in the beer line that serves to agitate or restrict flow. This can cause excessive foam, or incorrect pour rate. This can be caused by the following conditions:

- Beer line squeezed underneath keg, or between two kegs.
- Build up sediment or rust inside the tap, faucet, or beer line.
- A burr or other bad machining on taps, faucets, fittings, shanks, bent tube assemblies, etc.
- A kink in the beer line that may have developed while pulling beer lines through a conduit or standard.
- A kink in the bent tube assembly.
- Beer line brackets or hangers too tight.
- Shank diameter is too small. This increases the speed of the beer as it hits the faucet plunger. A larger diameter shank will allow the beer to exit at a slower rate, and with greater surface area. This will cause less turbulence as the beer expands into the faucet. Using a shank that is much larger than the beer line attaching to it may cause beer to pour with false head.

Draft System Maintenance

Draft system maintenance is necessary aspect of servicing draft accounts. The most important service is the routine cleaning of draft systems. This is necessary to prevent the build up of bacteria, yeast, mold and calcium (beer stone). Yeast can sometimes spoil the taste of the beer, or simply accumulate in the system. It is identifiable when you see a white substance on the faucet. Bacteria can effect the flavor and appearance of the beer. As it grows, it can cause the beer to become cloudy, and its byproducts can make the beer taste foul. Bacteria may leave a green or yellow residue on the faucet. Mold can also grow throughout the system. It is usually evidenced by a brown or black growth. Beer-stone Is caused by the naturally occurring calcium in the beer accumulating in the system. It is evidenced by a flaky grayish-brown residue on the beer lines, faucet and tap. All of these can cause off taste, particles floating in beer, and poor system performance.

Cleaning should be performed at a minimum of once every two weeks, but preferably weekly. The usual method involves forcing warm cleaning fluid through the tap, beer lines, and faucet. The faucet is usually disassembled and cleaned every time. Use a faucet brush and cleaning solution to scrub out the faucet, and make sure to clean the vent hole. Check for worn parts and replace as required. When reassembling the faucet, tighten the compression bonnet finger tight. The tap should also be disassembled, cleaned and lubricated every two or three months. Use only food grade lubricants.

There are a variety of cleaning systems, and detergents available. A hand pump is the cheapest system but they tend to be slow and awkward. We prefer cleaning pots which utilize the CO2 pressure to force the cleaning solution through the beer lines. They are essentially small kegs filled with a cleaning solution that temporarily replace beer kegs, and work well up to 25 feet. Electric pumps are desirable for very long systems, and systems that have been neglected. Their high pressure and pulsating action work very well.

Cleaning compounds come in liquids and powders. There are regular and high alkaline cleaners, as well as cleaners that require no rinsing. For regular maintenance we like the no rinse powders because they are inexpensive and quick. Please consult vendors for specific information on the use of the various equipment.

On Tap will schedule and track the cleaning of all your accounts.

Types of Beer

Ale Ales tend to have more bite and tartness than other beers, and have strong hop taste. England classically produces many Ales, and now they are becoming more prevalent in the micro-brew market. Brewed with top fermenting yeast.

Bock Bock beers originated in Germany but are now seasonally brewed by many small breweries. Bock beers are dark and heavy, and typically have sweet malt flavor and a very noticeable hop presence. Very slight coffee flavors are also sometimes present.

Ice Breing ice beer, involves lowering the temperature until the water in it begins to freeze, and then filtering out the ice crystals that form. As water freezes before alcohol, the result is a higher alcohol content. The ice forms around and removes small particles helping to clarify the beer. This process is not new to brewing, having been developed in Germany to produce "eisbocks".

Lager Lager beers also originated in Germany. They are brewed in low temperatures using a bottom fermenting yeast. Lagers are lighter colored beers ranging from yellow to amber. They are characterized by more subtle flavors and aromas, and are often more effervescent than other styles. Lagers and pilsners are the most popular style of beer in the U.S. Pale lagers are very similar to pilsners. Amber Lagers are darker and more full bodied as they are brewed with darker malts or added carmel.

Malt The name malt is a government required designation for any beer having 5% or greater alcohol by volume. Malt beers are typically lighter in body and color. Malt beers are very popular in the U.S. Malt (usually barley malt)is obviously also a major ingredient in the brewing process responsible for producing sugars and flavors.

Pilsner Pilsner beers are usually lighter and more effervescent than other beers. Produced in 1842 in Bohemia, it was the first beer style to be clear in color. Pilsner beers are easy to drink, and often have a subtle malt aroma and flavor. Pilsners are noted for being very crisp and refreshing. A connoisseur will also note a delicate hint of vanilla flavor. Pilsner beers are very popular in the U.S.

Porter Porters are dark brown and heavy in consistency. Similar to Bock beers they are made with roasted malt and have a slightly sweet malty flavor, and more pronounced bitterness from the hops.

Stout Similar to Porter, but often even darker, toastier and heavier. Almost black color comes from the roasted and burnt malt used in its brewing. Stouts typically have a very thick and creamy head. Stouts usually have fairly low carbonation and are very filling. Although a relatively small percent of the market, Stouts are growing fast. Most common types are Dry Stout, Sweet Stout, Oatmeal Stout and Imperial Stout.

Beer Pumps

Another technology used to dispense beer when standard methods do not work is beer pumps. These are pneumatic pumps that drive the beer without over-carbonating it. These are used with low pressure cask systems when longer runs would otherwise dictate higher pressure.

General program notes

This location is reserved for miscellaneous program notes.

Trouble Shooting Systems

Note: when replacing kegs or installing and maintaining draft systems be sure to comply with any applicable state or federal laws.

Troubleshooting Interview This interview will ask you a series of questions to help determine the problem. It will make suggestions accordingly. We recommend that you try this first.

Wild beer? Identifiable when beer pours out too fast and almost completely foam, and very little liquid beer.

Flat beer? Identifiable when beer lacks carbonation, adequate head, and zesty taste.

Cloudy beer? Identifiable when Beer appears hazy and unclear.

False head? Identifiable when head consists of large soap-like bubbles that disappear quickly. Often corresponds to flat beer.

Off taste? Beer often tastes very bitter or sometimes beer completely lacks flavor. Beer may also have foul taste or odor and may also taste yeasty or moldy.

Beer too slow? Beer pours clear but unacceptably slow. System may be over restricted.

Excessive foam? Beer pours with excessive foam even with slow pour rates.

Beer too fast? Beer pours clear but unacceptably fast. System may be under restricted.

Streaking beer? Beer pours clear when faucet is first opened, but then begins to pour partially with foam.

Faucet leaks or does not operate properly?

Tap leaks or does not operate properly?

Wild Beer

Causes include:

- Improperly drawn beer. Faucet should be opened quickly and completely.
- Non insulated beer line, or warm spots in line. Faucet may be too warm if not properly refrigerated. Temperature of faucet should not be warmer then keg. Cooling systems should always be designed to refrigerate the faucets. On a system that is operating well the faucets will typically have condensation on them.
- CO_2 pressure set too high.
- Warm Keg
- Dirty, contaminated, or damaged lines
- Kinks, twists or other obstruction that could cause turbulence.
- Faucet or tap in dirty, bad or worn condition. Unrefrigerated faucets may have yeast growth causing turbulence. Worn faucet parts may need to be replaced.
- Improperly designed system. If the system has been designed with too much restriction, attempts to compensate with higher CO_2 pressure will result in over carbonated beer. Additionally the colder the beer, the more readily it absorbs CO_2. If the beer is too cold and CO_2 pressure is too high it may become wild.   A properly designed system should fill a 12 oz glass in five to six seconds.

Flat Beer

Causes include:

This is usually caused when applied pressure has been too low and has allowed carbonation to escape from beer, or beer has encountered problems in manufacturing, shipping, or storage. If air is used as a source of pressure, it can gradually replace the CO2 causing the beer to become flat. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.

- Check that CO2 is hooked up properly and that pressure is correct. If you are unsure as to the proper pressure, use the Line Balancer to determine.
- Check that glasses are being properly cleaned. Beer can appear flat if it is poured into glasses that have not been properly cleaned. Glass may be contaminated with oil or soap.
- Replace the Thomas valve and the pressure line. A defective Thomas valve can allow moisture into the CO2 lines eventually contaminating air source.
- Ensure cooler temperature is correct. The system temperature may be too cold or too warm. See Cooler Temperature. See temperature troubleshooting.
- If system uses an air compressor, ensure that filter and moisture trap are clean. Moisture or grease fumes in the air system can cause flat beer. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.
- Check that beer is being poured properly. See Pouring Beer in the Notes section. Instruct servers on proper technique if necessary.
- Make sure that bartender does not shut off CO2 at night. This allows beer to go flat.
- Oil or lubricant may be contacting the beer in the tap or kegs tap well.
- Experiment with adjusting the pressure down incrementally.
- Ensure that there are no leaks in the CO2 system and the pressure is correct. See pressure troubleshooting.
- Ensure that lines are free of any oil or lubricant.
- Beer has encountered problems in manufacturing, shipping, or storage.
- Thoroughly soak and clean entire system.

Cloudy Beer

Causes include:

- Beer partially frozen See Cooler Temperature.
- Dirty system or glass. See Beer Clean.
- Beer is old or has been stored warm for too long.
- Contaminated air source or defective Thomas Valve. CO2 vs. N2 BLEND vs. COMPRESSED AIR.
- Warm foods placed on cold keg.

False Head

Causes include:

- Warm Beer lines. See System Cooling
- Dry glass
- Bad pouring technique. See Pouring Beer.
- Small beer line into large faucet shank.
- Applied pressure does not correspond to cooler temperature. Use the Line Balancing screen to find correct pressure.
- False head is often the result of flat beer and may share many of the same causes and symptoms.

Off Taste

Causes include:

- Dirty system or glasses. Lines that previously carried flavored beers or root beers may retain those flavors and affect subsequent beers. Lines may need to be soaked with cleaning solution for extended periods. See Beer Clean and Draft System Maintenance.
- Contaminated air source or defective Thomas Valve. Systems using air are susceptible to picking up contamination from greasy vapor, gasses, smoke, disinfectants, moisture, etc. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.
- Bad keg. Keg may have been overexposed to cold, heat or a variety of other storage and transportation problems such as improper rotation. Heat can cause a second fermentation cycle to occur. Kegs can on occasion simply be bad from brewery.
- Use of improper beer or air line. Materials such as rubber can absorb flavors and contaminants. These may include moisture, oils, bacteria, flavoring, etc.
- Flavorings from previous beers on line. Products such as fruit flavored beers and root beer can often leave flavors on the line that will transfer to subsequent beers. This may require extensive cleaning to remove flavors. It may be required to fill lines with cleaning solution for a longer than normal time, in some cases overnight soaking is required. In extreme cases the lines may need to be replaced.
- Use of clear beer line in outdoor events. Beer exposed to sunlight can taste skunky. This is because the suns ultraviolet rays cause the beer to release sulfur.
- Buried lines. If air system or glycol system is installed beneath floor it may become damp or wet. Odors from this moisture may permeate beer lines.

Beer To Fast

Causes include:

- System may be under restricted.
- Beer may be over carbonated.

Excessive Foam

Causes include:

It is interesting to note that excessive foam can be caused by pressure being too low or too high. When the CO2 pressure is too high it impregnates the beer and causes it to be over-carbonated. When the pressure is too low, it can allow the carbonation to escape from the beer. This CO2 escapes into the top of the keg, and comes out as foam. When this is depleted, the remainder of the beer will be flat. Because pressure is directly related to temperature, both of these circumstances can be caused by incorrect temperature also. Increased temperatures will cause the internal CO2 pressure in the beer to increase, allowing it to escape. Decreased temperature will reduce the internal CO2 pressure of the keg, allowing it to absorb more CO2. To correct these problems, Use the Line Balancer to determine proper specifications. Make sure that the elevation shown in the account screen for the active account is correct for the account location. A deteriorating, or improperly working cooling system can cause these problems.

- System may be under restricted. When
- Beer flow may have turbulence.
- Beer line may have warm spots.
- Cooler temperature may be too cold or too warm.
- Faucet may be in poor condition.
- Bottom tap seal may be worn.

Under Restricted Beer

Under restricted beer flows out of the keg to fast. This can cause a vacuum to occur allowing CO_2 to enter the beer line. This can be identified by the following:

- When pouring, beer flow alternates from clear to foam.
- Beer appears to pour clean, but foams inside of glass.
- Beer flows much too fast from faucet.
- Takes substantial less than 6 seconds to pour 12 ounces of beer.

You should be able to solve this problem by:

- Checking that the CO_2 pressure is not too high. In the line balancing screen we calculate the necessary applied pressure according to the cooler temperature you indicated.
- If pressure is OK, then the try a keg on the line that you know to be in good condition.

If pressure and keg both seem to be OK it is likely that the system is indeed under restrictive and requires more restriction. This can be accomplished by adding additional beer line or replacing existing line with properly balanced line. If you decide to add additional beer line, we recommend that you add a length of 3/16" line to the faucet end of the line. It may require recalculation of the line using the line balancer, or simple experimentation. If this is not possible, you can try adding line to the keg end. This will be the best solution when dealing with factory installations that utilize enclosed glycol lines. In this case add beer line of the same diameter and of sufficient length to the existing line. This may require coiling some of the line in the cooler.

Over Restricted Beer

Over restricted beer flows out of the faucet too slow. This can cause unacceptably slow pour rate, and excess foam. This can be identified by the following:

- Beer does not fill faucet opening completely when pouring, and pours unevenly.
- Beer swirls as it comes out of the faucet causing some foam.
- Takes substantially longer than 6 seconds to pour 12 ounces of beer.

You should be able to solve this problem by:

- Check that the CO2 pressure is not too low. In the line balancing screen we calculate the necessary applied pressure according to the cooler temperature you indicated.
- Check that the keg tap is properly seated, and that all valves are open.
- Check that the faucet is in good, clean condition. Any burrs or sediment build up can restrict flow and cause turbulence.
- Remove any choker line that may be at end of line. Properly balance line, and replace with correct size.
- Ensure that beer flow is not restricted by kinks or other restriction in line.

Warm Spots

Warm spots can be caused by a variety of things. Some of the more common are as follows:

- Warm foods set on top of keg.
- Lines coming in contact with an uninsulated section of conduit.
- Lines held up by wall brackets may conduct heat.
- Inadequate line cooling, or insulation. Compare temperature of keg with temperature of beer drawn through system. More than a 3 degree difference is enough to cause excessive foam.

Over-carbonation

Over carbonation occurs when beer is allowed to absorb too much CO_2.

- Over carbonation can be caused by:
- Too much applied pressure
- Too cold of a cooler
- Keg tapped for too long of a duration

Beer Clean

A beer clean glass has been cleaned properly, so as to not effect the quality of beer. A glass that is not "beer clean" can not only effect the taste and aroma of the beer, but cause the beer to appear flat and loose its head quickly. The major offender is the grease film caused by greasy dishes being cleaned with glasses, or by using petroleum based detergents.

A glass that has a film on if can be identified when water is poured out of it. In a clean glass the water will sheet out and leave the glass evenly wet. If the glass has a film, the water will break up and form droplets on the glass surface.

Streaking Beer

Streaking is caused when the applied pressure is too low to keep the beer properly pressurized in the beer line. This occurs in systems that are under restricted or in long draw systems that require very high pressures to pour at adequate speeds. You may wish to experiment with increasing pressure slightly.

When raising the pressure to solve the problem causes over-carbonated beer in long draw systems, you will need to use a blend. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.

When raising the pressure to solve the problem causes the pour rate to be unacceptably high, this may indicate that the line restriction is too low. You may wish to re-balance the line or add a length of 3/16 line as a choker. You may have to experiment with the length of the choker if you do not have access to the current line specifications. A two foot section is a good start.

Another condition that may cause the beer to pour inconsistently at first is back-flow. This may occur when the system has significant rise, and the taps check ball does not properly stop the beer from seeping back into the keg. As this occurs CO2 is allowed to feed back into the beer line. When the faucet is opened, the beer may flow out clear at first but then streaky. This can be fixed by fixing or replacing the tap.

Streaking symptoms can also occur if the faucet vent hole is clogged. This can be fixed by cleaning out hole with a pipe cleaner.

Faucet leaks or does not operate properly

If the faucet leaks where it is attached to the shank or bent tube assembly, tighten the coupling . If this does not work, replace the coupling washer.

If the faucet plunger leaks, remove and clean the faucet thoroughly. If this does not work, replace the plunger. If it still leaks faucet may need to be replaced.

If beer leaks or drips from faucet, remove and clean faucet thoroughly. If this does not work, replace the plunger washer. If it still leaks faucet may need to be replaced.

If the faucet is hard to open, loosen the compression bonnet. This will reduce the friction on the valve lever. If this does not work, remove and clean faucet thoroughly. If it is still difficult to operate, it may have rust or other build-up prohibiting it from operating freely. The faucet may need to be replaced.

If the faucet is difficult to remove or disassemble, it has probably not been cleaned recently. Pour hot water on it to soften or dissolve sticky build-up

If the beer leaves the faucet in an uneven flow, or streaky, thoroughly clean the faucet including the vent hole. If the faucet is in poor condition replace it. If the beer still comes out unevenly it is likely that the CO_2 pressure is too low, or the line restriction is too high.

See also Mechanical problems troubleshooting.

Tap leaks or does not operate properly

Tap leaks at bottom washer. Replace bottom seal washer. If tap still leaks it is likely that keg lugs are bent up. Repair keg with lug straightening tool or send back to brewery.

Tap leaks at CO2 inlet. Tighten fitting or replace gasket.

Tap leaks around probe washer. Replace washers.

Tap leaks beer at outlet. Tighten fitting or replace gasket.

Tap is hard to lock into position. Clean and lubricate tap and probe o-rings. If tap is still difficult to engage it is likely that keg lugs are bent down. Repair keg with lug straightening tool or send back to brewery.

Beer will not flow through tap. Ensure that tap is malfunctioning by trying another keg. If tap is not allowing beer to flow, clean thoroughly and ensure that check-ball moves freely.

See also Mechanical problems troubleshooting.

Diagnosing draft beer problems

Beer should exit the faucet clear and evenly with a good pour rate. It should have correct taste and effervescence. Does the beer appear to pour and taste normal?

Yes
No

You may go directly to a specific problem by selecting from the list below:

Review foam problem symptoms list.
Go to pressure problems troubleshooting.
Go to temperature problems troubleshooting.
Go to mechanical problems troubleshooting.
Go to beer quality troubleshooting.

Diagnosing draft beer problems

Beer appears to pour and taste normal.

If the beer temperature is the problem, determine if the cooler temperature is incorrect or if the line cooling system is malfunctioning. If the cooler is too warm or too cold, adjust the temperature or suggest that it be serviced. If the line cooling system might not working properly go to Diagnosing temperature problems.

If it is likely that problems are being caused because the beer is not being drawn correctly, you may wish to show the servers the correct way to pour a beer

If you are unable to identify any problem, ask the retailer to explain specifically what happens and when it happens. Try to diagnose the problem at these times. Sometimes draft systems will have problems when the bar first opens because the beer in the lines has warmed up. When the system is used several times, the cold beer from the kegs cools the lines and faucet. If the enough volume is used, the lines will continue to work correctly until the next day. Other intermittent problems often relate to usage of the cooler by other people. The cooler may for instance have heavy traffic while the kitchen prepares dinner. This may cause it to warm up at that time and not others. If the account has very high volume it may be that when usage is high the regulator is freezing up. Many of these issues are discussed in the On Tap! Notes.

Go back to the trouble shooting main screen.
Review symptoms list.
Go to pressure problems troubleshooting.
Go to temperature problems troubleshooting.
Go to mechanical problems troubleshooting.
Go to beer quality troubleshooting.

Diagnosing draft beer problems

Does the beer pour at all when you open the faucet?

Yes
No

Diagnosing draft beer problems

Beer does not pour when you open the faucet.

- Check that CO2 tank is not empty.
- If applicable, check that compressor is generating adequate pressure.
- Check that main valve is open on CO2 tank.
- Check that regulator and air distributor valves are open.
- Check regulator pressure gauge to ensure that pressure is correct. If the air system is working properly, air should be released when you pull the pressure release valve on the tap.
- Check that air lines are not kinked or pinched.
- Check that beer line is not frozen. This occurs most often in keg cooler. It is more likely to happen with light beer, lines that have foam in them, or lines that run in front of cooler fan. If cooler temperature is too low adjust it or suggest that it be fixed. Temperature should be at least 30 degrees. Leave door open to thaw lines, or use hot damp towel.
- Check that keg is not frozen. If it has been frozen, replace keg after cooler has been adjusted or fixed.
- Ensure that check-ball is working properly in the tap.
- Check that the beer line is not pinched or kinked.
- Make sure that tap is properly inserted in keg and that the tap handle is properly locked down allowing CO2 to flow.
- Check that there is no obstruction such as beer stone by attempting to clean lines with hot water.
- Check that there is no frozen water in the beer lines. This can be the case if the system was cleaned and rinsed without pouring beer through. If it sat overnight it could freeze.

Is the problem solved?

Yes
No

Diagnosing draft beer problems

Are the kegs hooked up in a series?

A series of kegs exists when two or more kegs are hooked into the same beer line in series. Beer exiting the fist keg flows into the next through the pressure inlet. The beer continues through any subsequent kegs, then travels to faucet.

Yes
No

Diagnosing draft beer problems

Kegs are hooked up in a series.

A series of kegs may be desirable in accounts where usage is high. Two or three kegs will double or triple the time span needed between keg changes. This might allow a busy beer line to work all night without repeatedly running out of beer. In cases where usage does not really justify a series system it is preferable to use single keg systems. This will reduce chances of getting old beer, having technical problems or allowing one bad keg to ruin the others.

The first keg in a series is hooked up in the normal fashion using 5/16" clear air line from the CO_2 regulator to the tap. The beer exiting the first keg is then routed through 3/8" or ½" clear line into the CO_2 inlet of the second keg tap. Repeat this procedure for every additional keg in the series. On the last keg in the series, hook up the correct size beer line from the line balancing calculation.

- Ensure that the Thomas valve is removed from the second tap and all successive taps. (The Thomas valve is the small rubber valve that keeps beer from flowing into the CO_2 line. It is located in the CO_2 inlet of the tap.) Obviously if the Thomas valve was left in place, the beer could not flow!
- Ensure that the system is balanced properly. When balancing a system in which one line is hooked to a series of kegs, always balance from the keg closest to the faucet. The length of the lines between the kegs is not important. A slight increase in applied pressure may be desired in systems with more than three kegs hooked in series.
- Check that the tubing diameter is adequate. When using a series of kegs it is a good idea to always use at least 3/8 I.D. line and tail pieces.
- Check that all of the taps are functioning properly. If one of the kegs does not empty, replace the tap on that keg. If the probe washer on the tap is bad it must be replaced. If the rubber keg seal on the keg is bad, the keg is defective.
- Ensure that check-balls in each of the taps are working properly. If not replace or rebuild taps.
- Make sure that the kegs are properly hooked up in the series as described above.
- Check the beer usage on the system. If it takes more than several days for each keg to empty, a series system is probably not justified. Suggest converting to a single keg system for this line.

Is the problem solved?

Yes
No

Diagnosing draft beer problems

Is the beer pouring with excessive foam?

This is identifiable when the beer flows from the faucet with excessive carbonation. The beer typically does not pour clear, and fills glass with excessive head. It is interesting to note that excessive foam can be caused by pressure being too low or too high. When the CO_2 pressure is too high it impregnates the beer and causes it to be over-carbonated. When the pressure is too low, it can allow the carbonation to escape from the beer. This CO_2 escapes into the top of the keg, and comes out as foam. When this is depleted, the remainder of the beer will be flat. Because pressure is directly related to temperature, both of these circumstances can be caused by incorrect temperature also. Increased temperatures will cause the internal CO_2 pressure in the beer to increase, allowing it to escape. Decreased temperature will reduce the internal CO_2 pressure of the keg, allowing it to absorb more CO_2.

Yes
No

Diagnosing draft beer problems

Does the beer pour flat?

This is Identifiable when beer lacks carbonation, adequate head, and zesty taste.

Yes
No

Diagnosing draft beer problems

The beer is flat.

This is usually caused when applied pressure has been too low and has allowed carbonation to escape from beer, or beer has encountered problems in manufacturing, shipping, or storage. If air is used as a source of pressure, it can gradually replace the CO_2 causing the beer to become flat. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.

- Check that CO_2 is hooked up properly and that pressure is correct. If you are unsure as to the proper pressure, use the Line Balancer to determine.
- Check that glasses are being properly cleaned. Beer can appear flat if it is poured into glasses that have not been properly cleaned. Glass may be contaminated with oil or soap.
- Replace the Thomas valve and the pressure line. A defective Thomas valve can allow moisture into the CO_2 lines eventually contaminating air source.
- The system temperature may be too cold or too warm. See Cooler Temperature.
- If system uses an air compressor, ensure that filter and moisture trap are clean. Moisture or grease fumes in the air system can cause flat beer. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.
- Check that beer is being poured properly. See Pouring Beer in the Notes section. Instruct servers on proper technique if necessary.
- Make sure that bartender does not shut off CO_2 at night. This allows beer to go flat.
- Oil or lubricant may be contacting the beer in the tap or kegs tap well.
- Beer has encountered problems in manufacturing, shipping, or storage.

Is the problem solved?

Yes
No

Diagnosing pressure & restriction problems

Is there pressure at the keg?

You can usually determine this by pulling on the pressure relief valve built into the tap. After the pressure escapes shut the relief valve. The keg should quickly re-pressurize and be able to release pressure again.

Yes
No

Diagnosing pressure & restriction problems

There is no pressure at keg.

By this time you have probably checked for most of the typical problems. It is now time to verify that each component is working properly. Starting at the pressure source work your way towards the keg one component at a time verifying that it is functioning properly. If the problem occurs on only one line in a system that has two or more lines, It is likely that the problem is specific to that keg, line or faucet. If the problem is occurring to all of the lines in a multiple line system, the problem is likely to be in a component common to all lines such as the cooling system or regulator.

The first step is to verify that the CO_2 tank has adequate pressure. When working with CO_2 cylinders, always be sure that they are properly held upright with a safely chain, and that you know how to safely handle them. For an overview on CO_2, N_2 and compressed air click here.

Check again that CO_2 tank is not low or empty, and that the tank valve is on. If the regulator has a high pressure gauge, make sure that it is reading in the green range. This still does not guarantee that the tank has adequate pressure because the regulator or gauges may be malfunctioning. Verify that the tank you are using has adequate pressure by testing it with a new regulator or by replacing the tank with one that is freshly charged.

Is the problem solved?

Yes
No

Diagnosing pressure & restriction problems

The second step is to verify that the regulator is working properly. For a complete overview on regulators click here.

- Check that the regulator low pressure gauge shows the proper system pressure. This may be in the 10 to 15 psi range.
- Check that the regulator has no leaks. If you spray soap-water on the regulator bubbles will appear where there is leakage.
- Ensure that the regulator is not freezing. This can occur when too much beer is being pushed by one regulator. The excessive flow of CO_2 freezes the regulator. In high volume accounts you may not wish to run more than three faucets per regulator. Each regulator will need its own CO_2 tank. Leaks in the CO_2 lines can also cause enough flow to freeze the regulators. Other causes of leaks include tap pressure relief valves that sometimes leak when other kegs are stacked up against them in the cooler, and taps that are not hooked to kegs but are left partially open.
- Check that there is good flow coming out of the regulator by removing the air line and opening the valve
- If you are unsure if the regulator is working properly, replace it with a new one.

Is the problem solved?

Yes
No

Diagnosing pressure & restriction problems

The third step is to verify that the pressure lines are working properly.

Check that all valves on the pressure line are open. Often the main pressure line will connect to a valve body controlling pressure to each keg.

Check that the pressure line is not kinked or pinched. This commonly occurs in coolers where kegs are stacked. Pressure lines often are pinched between two kegs. Another problem area is where the pressure line enters and exits the cooler. Often they can become kinked following the corners.

Check that the pressure line does not contain frozen moisture. This moisture can come from a bad Thomas valve on any tap in the system. The Thomas valve is a small valve inserted in the tap where the CO2 enters. It is designed to allow CO2 in, but not to allow moisture to escape into the pressure line. If it appears that this may be the problem, Allow system to thaw out and replace the valves. If the system is pressurized using an air blend system, the compressor itself may be a source of moisture. Typically an air system will have an air filter. This filter should have a plastic bowl that has a valve to drain off water and oil. This must be drained regularly. Air blend systems are used in long draw systems to reduce over-carbonation problems that may occur with strait CO2. Because of the many problems inherent with air blend systems, we suggest using nitrogen-CO2 blends. See CO2 vs. N2 Blend vs. Compressed Air for a detailed overview.

Finally check that none of the air lines or air valves are obstructed. Remove the pressure line from a tap. With the CO2 tank, regulator, and air valves on you should feel the CO2 rushing out. If you do not, work your way back through the lines one segment at a time until you locate the one that is constricted.

Check that all CO2 valves are working correctly.

Is the problem solved?

Yes
No

Diagnosing pressure & restriction problems

Is the pressure correctly adjusted for the keg line? Use the Line Balancer to determine the correct applied pressure for this keg. If this is a pre-existing system and you are unsure as to the system specifications, try to estimate as closely as you can.

Yes
No

Diagnosing pressure & restriction problems

Is there a CO_2 leak? A quick way to determine if there is a CO_2 leak is to allow the system to pressurize normally for at least ten minutes. Next, shut off the main tank valve. If the system pressure gauge shows a gradual pressure drop over several minutes then there must a leak.

Yes, check for a leak

No there is no leak

Diagnosing pressure & restriction problems

Finding a CO_2 leak.

Turn off all valves in the system including the main tank valve, the regulator valve, air distributor valves, inline regulator valves, and taps. Starting at the pressure source check one segment at a time. Ensure that there is a new washer between the tank and regulator and that the regulator is firmly tightened. Note that this washer should be changed every time the CO_2 tank is changed. Generally refilled tanks come with new washers. Also check that the regulator screws on evenly and that the mating surfaces on the tank and regulator are smooth, and are not burred. If they are, you will need to replace the tank or regulator that is flawed.

Turn on the main tank valve. Using a spray bottle filled with soap water, spray the regulator and look for leaks. You will be able to identify them if bubbles are forming in the soap-water.

Next, open the valve on the regulator and check the CO_2 line, connections and CO_2 splitters. If you find no leaks, open any successive valves and check the next segments. You can also submerse parts, tubing and taps into a bucket of water to see if bubbles form.

If there is a long segment of CO_2 line between the regulator and the cooler that is difficult to access, Isolate this segment by pressurizing the system and plugging the end in the cooler. Turn off the main tank valve and look for a pressure drop on the regulator low pressure gauge. If so it may be best to run a new line.

Is the problem solved?

Yes
No

Diagnosing pressure & restriction problems

Is the regulator creeping or sluggish?

A "creeping regulator" allows the pressure to gradually increase during periods of non use such as night time. This increased pressure can over carbonate the beer causing excess foam, or wild beer. To detect, write down the pressure at the end of the evening and compare it to the pressure reading the next morning. If it has risen replace regulator.

A "sluggish regulator" does not keep up with the demands of the system and allows the pressure to decrease as the beer is drawn. This can cause the beer to loose its carbonation and taste flat. To detect, simply watch the keg pressure gauge as beer is drawn. If it doesnt immediately return to correct pressure, replace regulator.

Does the regulator appear to be creeping or sluggish?

Yes
No

Diagnosing pressure & restriction problems

Creeping or sluggish regulator.

If either of these problems are present, either repair or replace the regulator. Note that either of these problems can be caused because the regulator is freezing. This can occur when too much beer is being pushed by one regulator. The excessive flow of CO2 freezes the regulator. In high volume accounts you may not wish to run more than three faucets per regulator. Each regulator will need its own CO2 tank. Leaks in the CO2 lines can also cause enough flow to freeze the regulators. Other causes of leaks include tap pressure relief valves that sometimes leak when other kegs are stacked up against them in the cooler, and taps that are not hooked to kegs but are left partially open.

Note that regulators can often be repaired inexpensively. Rebuild kits are usually available from the manufacturer that include a new valve, diaphragm and spring. Many times regulators can be fixed by simply cleaning the parts, realigning them and reassembling.

Is the problem solved?

Yes
No

Diagnosing draft beer problems

Is the beer pouring flat? This is identifiable when beer lack carbonation or zesty taste. Often beer will generate little or no foam, or loose foam that quickly disappears.

Yes
No

Diagnosing draft beer problems

If the beer is over-carbonating it may be that the pressure is too high. The kegs will be especially susceptible to this if the cooler temperature is relatively cold. Make sure that cooler is no colder than 34 degrees. Experiment with reducing the applied pressure by one pound increments at the regulator. Allow the excess pressure to leave the keg by momentarily opening the pressure relief valve on the tap. Although it will take a while for the CO_2 level in the keg to reach equilibrium, results should definitely be noticeable on new keg.

Problem is solved.

If the beer is not over carbonated, is it…

pouring too fast.
pouring too slow.

Diagnosing draft beer problems

The beer is pouring flat.

This is usually caused when applied pressure has been too low and has allowed carbonation to escape from beer, or beer has encountered problems in manufacturing, shipping, or storage. If air is used as a source of pressure, it can gradually replace the CO_2 causing the beer to become flat. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.

- Check that CO_2 is hooked up properly and that pressure is correct. If you are unsure as to the proper pressure, use the Line Balancer to determine.
- Check that glasses are being properly cleaned. Beer can appear flat if it is poured into glasses that have not been properly cleaned. Glass may be contaminated with oil or soap.
- Replace the Thomas valve and the pressure line. A defective Thomas valve can allow moisture into the CO_2 lines eventually contaminating air source.
- Ensure cooler temperature is correct. The system temperature may be too cold or too warm. See Cooler Temperature. See temperature troubleshooting.
- If system uses an air compressor, ensure that filter and moisture trap are clean. Moisture or grease fumes in the air system can cause flat beer. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.
- Check that beer is being poured properly. See Pouring Beer in the Notes section. Instruct servers on proper technique if necessary.
- Make sure that bartender does not shut off CO_2 at night. This allows beer to go flat.
- Oil or lubricant may be contacting the beer in the tap or kegs tap well.
- Experiment with adjusting the pressure down incrementally.
- Ensure that there are no leaks in the CO_2 system and the pressure is correct. See pressure troubleshooting.
- Ensure that lines are free of any oil or lubricant.
- Thoroughly soak and clean entire system.
- Beer has encountered problems in manufacturing, shipping, or storage.

Is problem solved

Yes
No

Unable to Solve Problem

If you have been unable to resolve the problem using the troubleshooting Interview, we suggest that you attempt it again. If you are still unsuccessful please call the Draft beer department of the brewery supplying the beer. Select from the list below to troubleshoot a specific problem again.

Go back to the beginning.
Review symptoms list.
Go to pressure problems troubleshooting.
Go to temperature problems troubleshooting.
Go to mechanical problems troubleshooting.
Go to beer quality troubleshooting.

Diagnosing pressure & restriction problems

Is the pressure too high or too low?

Too high
Too low

Diagnosing pressure & restriction problems

If the pressure is too high…

- Close main tank valve.
- Release pressure from keg using the pressure relief valve on the tap.
- Back off pressure adjustment screw on regulator one or two turns counter-clockwise.
- Open main tank valve and let system pressurize for a minute.
- Slowly adjust pressure up until correct by turning adjustment screw on regulator slowly clockwise.
- If there are other keg brands in this system, recommend raising the system pressure and using in line regulators for each keg. Adjust each of these to the proper pressure for its keg.

Is the problem solved?

Yes
No

Diagnosing pressure & restriction problems

If the pressure is too low…

- Slowly adjust pressure up until correct by turning adjustment screw on regulator slowly clockwise.
- If there are other keg brands in this system, recommend raising the system pressure and using in line regulators for each keg. Adjust each of these to the proper pressure for its keg.

Is the problem solved?

Yes
No

Problem Solved

If you have made it here, hopefully you have successfully diagnosed the problem. Otherwise, select one of the following options.

Go back to trouble shooting main screen.
Review symptoms list.
Go to pressure problems troubleshooting.
Go to temperature problems troubleshooting.
Go to mechanical problems troubleshooting.
Go to beer quality troubleshooting.

Identifying draft beer symptoms

Is the beer foaming excessively?

Note that during many of the recommended procedures where pressure or temperature modifications are made, it will often take time before full effect can be seen. This is because the beer will not immediately absorb or release CO_2 as it seeks a new equilibrium.

Yes
No

Identifying draft beer symptoms

The beer pours clear but…

Pours too fast
Pours too slow
Pour rate is correct

Pressure & restriction problems

Check system for proper restriction and pressure.

- If the beer is pouring too slow the CO2 pressure is too low or the system is over restricted. Use the Line Balancer to determine the proper applied pressure and line balancing. Correct the pressure. If the beer is still pouring too slow the system is over restricted.
- Ensure that there are no obstructions in the beer line such as kinked or pinched lines or poorly seated washers.
- Ensure that the lines are clean and clear of beer-stone or other contaminates.
- Ensure that the beer lines are properly balanced. If they are over restricted cut out some of the line at its smallest diameter at the faucet end and replace the length with larger tubing at the keg end. If this is not practical, you will need to run a new line.
- Be careful not to compensate for over restricted lines by increasing the CO2 pressure. This will result in over-carbonated beer. If it is not possible to run properly balanced lines in this situation possibly because it is a long draw system, you will net to use blended gas.

Is the problem solved?

Yes
No

Pressure & restriction problems

Check system for proper restriction and pressure.

If the beer is pouring too fast the pressure is too high or the system is under restricted. Use the Line Balancer to determine the proper applied pressure and line balancing. Correct the pressure. If the beer is still pouring too fast the system is under restricted. Add the proper length of 3/16th tubing on the faucet end of the line. If you are unable to determine the proper amount, begin by adding a two foot section and trim it down until you achieve the proper pour rate.

Go back to trouble shooting main screen.
Review symptoms list.
Go to pressure problems troubleshooting.
Go to temperature problems troubleshooting.
Go to mechanical problems troubleshooting.
Go to beer quality troubleshooting.

Beer pours with excessive foam

It is interesting to note that excessive foam can be caused by pressure being too low or too high. When the CO_2 pressure is too high it impregnates the beer and causes it to be over-carbonated. When the pressure is too low, it can allow the carbonation to escape from the beer. This CO_2 escapes into the top of the keg, and comes out as foam. When this is depleted, the remainder of the beer can be flat. Because pressure is directly related to temperature, both of these circumstances can be caused by incorrect temperature also. Increased temperatures will cause the internal CO_2 pressure in the beer to increase, allowing it to escape. Decreased temperature will reduce the internal CO_2 pressure of the keg, allowing it to absorb more CO_2.   To correct these problems, the system must be kept at equilibrium. Use the Line Balancer to determine proper specifications. Make sure that the elevation shown in the account screen for the active account is correct for the account location.

Continue

Identifying draft beer symptoms

Select from the following list:

Beer pours with initial shot of foam, then pours clear or streaks, then a second shot of foam

Beer pours with initial shot of foam, then pours clear or streaks.

Beer is wild, pours as straight foam or pours like keg is empty but keg still has beer.

Beer pours clear initially, but begins to streak and turns to foam.

Beer pours with streaks. (sometimes intermittent)

Beer pours reasonably clear but fills glass with excessive thick foam, usually towards the end of each keg.

Beer leaves faucet unevenly, or swirls off of faucet.

Diagnosing foam problems

- Check that faucet is clean, and parts are moving freely.
- Check that faucet plunger gasket is in good condition.
- Check faucet for burrs, rust or build up.
- Check that faucet coupling gasket is in good repair. Repair or replace faucet as needed.
- Check that faucet vent hole is clear.
- Ensure that the tap check ball is working properly. Repair or replace faucet as needed.

Does the problem still persist?

Yes
No

Diagnosing foam problems

Ensure that check-ball in the tap is operating properly. Replace the check-ball retainer if necessary.

If the system uses shanks ensure that they are at least ¼ Inside diameter. If they are not, either replace them or drill them out with a shank drill. A larger shank diameter allows the beer to slow down before entering the faucet. This reduces the turbulence created when the beer hits the faucet plunger and body.

Is the problem solved?

Yes
No

Diagnosing foam problems

- Ensure that keg is not empty.
- Ensure that beer line is not kinked or pinched.
- Check that bent tube assembly is not bent.
- Ensure that the tap probe washer is in good condition. Replace if necessary.
- Ensure that tap check-ball is moving freely. Repair or replace as necessary.
- Ensure that keg outlet washer is in good condition. If not, return keg.
- If keg has been recently moved, allow it to stand for 15 minutes. Try tapping the keg again.
- If keg has been over-pressurized, bleed out excess pressure with relief valve and allow to stand for 15 minutes. Try pouring again.
- It is possible that keg may have been destroyed by over carbonation, freezing, exposure to heat etc. Try tapping a fresh keg to ensure that problem isnt simply a bad keg.
- Check for improperly drawn beer. Faucet should be opened quickly and completely.
- Check for poorly insulated beer line, or warm spots in line. Faucet may be too warm if not properly refrigerated. Temperature of faucet should not be warmer then keg. Cooling systems should always be designed to refrigerate the faucets. On a system that is operating well the faucets will typically have condensation on them.
- Ensure that CO2 pressure is not set too high.
- Ensure that the keg is not warm, possibly recently put in cooler.
- Kinks, twists, dirty, contaminated, or damaged lines or other obstruction that could cause turbulence.
- Ensure that faucet or tap is not dirty, bad or in worn condition. Unrefrigerated faucets may have yeast growth causing turbulence. Worn faucet parts may need to be replaced.
- Check for improperly designed system. If the system has been designed with too much restriction, attempts to compensate with higher CO2 pressure will result in over carbonated beer. Additionally the colder the beer, the more readily it absorbs CO2. If the beer is too cold and CO2 pressure is too high it may become wild. A properly designed system should fill a 12 oz glass in five to six seconds.

Is the problem solved?

Yes

No

Diagnosing foam problems

Check that system restriction is proper. Use the Line Balancing utility to check specifications. Another way to check the restriction is by checking the flow rate. When the beer is pouring clear, using the proper applied pressure, and a settled keg, (one that is proper temp, and has not been shaken or over-carbonated) beer should pour approximately 120oz per minute. This equates to 10oz in five seconds. Add restriction if necessary using a 3/16 choker.

If Account is pouring beer into frosted mugs, or waxed cups it is important that beer flow is not too fast as these are susceptible to foaming. Train account to properly pour a beer. If it is not possible, experiment with adding a couple feet of 3/16 line as a choker.

Is the problem solved?

Yes
No

Diagnosing foam problems

- Ensure that beer line is not kinked or pinched.
- Ensure that faucet is clean and in good condition.
- Ensure that faucet vent hole is clean and clear.
- It is likely that beer flow rate is inadequate. Ensure that pressure is correct. If it is, it is likely that system is over-restricted. Calculate the proper balance and fix line. If there are two sizes of line on this beer line, you may correct without replacing line by adding a length of beer line at the large end in the cooler, and cutting off an equivalent length of smaller line at the faucet end after pulling it through. If the line has a choker at the end, some of this may need to be removed. If the problem persists, and it is impossible to determine the sizes of the existing line, make up a new line, and pull it through using the old line.

Is the problem solved?

Yes
No

Diagnosing foam problems

It is likely that beer is over-carbonating towards the end of the keg. The kegs will be especially susceptible to this if the cooler temperature is relatively cold. Make sure that cooler is no colder than 34 degrees. Experiment with reducing the applied pressure by one pound increments at the regulator. Allow the excess pressure to leave the keg by momentarily opening the pressure relief valve on the tap. Although it will take a while for the CO_2 level in the keg to reach equilibrium, results should definitely be noticeable on new keg.

Is the problem solved?

Yes
No

Diagnosing foam problems

Thoroughly clean system.

Ensure that faucet plunger, plunger washer, faucet body, and vent hole are clean and in excellent condition. Repair or replace faucet as required.

If beer is streaking this may be caused when the applied pressure is too low to keep the beer properly pressurized in the beer line. This occurs in systems that are under restricted or in long draw systems that require very high pressures to pour at adequate speeds. You may wish to experiment with increasing pressure slightly.

Another condition that may cause the beer to pour inconsistently at first is back-flow. This may occur when the system has significant rise, and the taps check ball does not properly stop the beer from seeping back into the keg. As this occurs CO2 is allowed to feed back into the beer line. When the faucet is opened, the beer may flow out clear at first but then streaky. This can be fixed by fixing or replacing the tap.

When raising the pressure to solve the problem causes over-carbonated beer in long draw systems, you will need to use a blend. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.

When raising the pressure to solve the problem causes the pour rate to be unacceptably high, this may indicate that the line restriction is too low. You may wish to re-balance the line or add a length of 3/16 line as a choker. You may have to experiment with the length of the choker if you do not have access to the current line specifications. A two foot section is a good start.

Streaking symptoms can occur if the faucet vent hole is clogged. This can be fixed by cleaning out hole with a pipe cleaner.

Is the problem solved?

Yes
No

Diagnosing Temperature problems

Note that during many of the recommended procedures where pressure or temperature modifications are made, it will often take time before full effect can be seen. This is because the beer will not immediately absorb or release CO2 as it seeks a new equilibrium.

For a draft system to work properly, not only must the keg be stored at the correct temperature, but the cooling system must evenly maintain the beer temperature all the way to the faucet. For general information on cooling systems see Forced Air Systems, Glycol Systems and Cooler Temperature

Take a temperature reading of the beer pouring from the faucet. To do this, fill a clean glass with beer to bring the glass temperature to the beer temperature. Pour out the beer and refill again. Take a temperature reading of the beer in the glass, write it down, and select one of the following options:

Temperature is above 40 degrees fahrenheit.

Temperature is between 30 and 40 degrees fahrenheit.

Temperature is below 30 degrees fahrenheit.

Diagnosing temperature problems

Check the temperature of the keg in the cooler. This can be done with a picnic pump. Be sure to run several glasses through the pump to bring the pump to the beer temperature. Simply measuring the cooler temperature may not give accurate reading if the cooler is not maintaining consistent temperature, or keg may have recently been placed in cooler. Take a temperature reading of the beer in the glass, write it down, and select one of the following options:

Temperature is above 40 degrees.

Temperature is below 40 degrees.

Diagnosing temperature problems

Cooler above 40 degrees.

- Ensure that cooler and blowers are turned on and working correctly. If not suggest that cooler be serviced.
- Ensure that temperature is set correctly. Likely 34 to 36 degrees. If not adjust, and suggest that account employees not tamper with temperature.
- Ensure that cooler door is kept closed and that warm foods are not set on kegs. If cooler is being accessed too much kegs will not cool properly. You may wish to install a cooler curtain, or suggest that a separate cooler be used to store kegs.

Is the problem solved?

Yes
No

Diagnosing temperature problems

Check the temperature of the cooling system at the faucet end.

If this system uses a glycol cooling system, ensure that glycol temperature is correct, that the fluid is circulating properly. If it is then the problem is likely with the keg, cooler or possibly the glycol lines are not properly contacting the beer line. If you suspect that the temperature problem is caused by a malfunctioning glycol system please contact manufacture for repair information. For general information on glycol systems, see Glycol Systems

If this is an air system, check the temperature of the air entering the barrel head, draft tower, or circulating around the shanks in any shank box.

Is the temperature above 40 degrees?

Yes
No

Diagnosing temperature problems

- Raise temperature of cooler above 32 degrees. (Set 34 to 36 degrees.) If cooler is not working properly suggest that it be serviced.
- If beer has been frozen, replace keg.
- Cold beer is easily over-carbonated. After warming cooler, release excess pressure in keg using the pressure relief valve on the tap. Adjust pressure down at regulator if necessary. When beer temperature is raised however, it will be more resistant to over-carbonation.

Is problem solved?

Yes
No

Diagnosing temperature problems

Ensure that air is circulating well throughout the ducting. Place your hand over the end of the return ducting to see if there is good air flow. Check also the air flow around the bent tube assembly or shanks to ensure that it is good. If the system has worked well in the past it is likely that only a repair is needed. If the system has never worked properly, the design may be flawed, and it may require modification or replacement.

Select the scenario that best describes the problem.

There does not appear to be adequate air flow in the duct work, the bent tube assembly or shanks.

There does appear to be adequate air flow in the duct work, the bent tube assembly and shanks, but the beer temperature is warmer at the faucets then at the keg by at least 4 degrees.

Diagnosing air system problems

- Ensure that blower is turned on, and appears to function properly. Faucets should always be cold to the touch even before any beer has been poured.
- Ensure that system is not being turned off at night. This will allow components to warm up.
- Ensure that there are no leaks at blower junction, or in ducting.
- Ensure that there are no obstructions in the ducting, shank box or draft tower.
- Ensure that the blower is large enough. See Selecting Blower Size.
- Ensure that ducting diameter is adequate based on run length, number of lines in ducting, and number of corners in ducting run. Use the line cooling utility to determine correct diameter. If additional lines have been pulled into duct, there may not be enough air space.

If you need to modify a flawed system consider:

- Adding a suction blower to return duct.
- Installing a larger shank or draft tower air exchange box.
- Remove restrictive draft tower baffle, and add a separate 15 cfm fan to cool draft tower or barrel head.

If you need to replace a flawed system consider:

- Replacing ducting with larger diameter ducting.
- Re-route ducting to reduce number of corners.
- Re-build air exchange boxes to reduce restriction.
- Replace system with a glycol system, if the account is problematic for air systems.

Is the problem solved?

Yes
No

Diagnosing air system problems

- Ensure that ducting is well insulated. Where ducting travels through warm or very cold areas, extra insulation is required. We suggest two inches of urethane insulation for trouble free operation.
- Ensure that air exchange boxes, barrel heads and draft towers are all insulated well.
- Try to ensure that ducting does not come in contact with any hot spots such as hot water pipes. Note that most pipes that carry hot water are not always hot. It is a good idea to stay out of contact with any plumbing, heater ducting, exhaust ducting, furnace stacks, etc.
- Ensure that airflow is adequate.

Again, if you need to modify a flawed system consider:

- Add more insulation to ducting, and air exchange boxes.
- Remove sources of heat from near proximity to ducting.
- Adding a suction blower to return duct.
- Installing a larger shank or draft tower air exchange box.
- Remove restrictive draft tower baffle, and add a separate 15 cfm fan to cool draft tower or barrel head.

If you need to replace a flawed system consider:

- Replace insulation with 2 pre-formed urethane foam insulation.
- Replacing ducting with larger diameter ducting.
- Re-route ducting to reduce number of corners.
- Re-build air exchange boxes to reduce restriction.
- Replace system with a glycol system, if the account is problematic for air systems.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Is there a beer leak in the system?

Yes
No

Diagnosing mechanical problems

Which part is leaking?

The faucet

The shank

The bent tube assembly

The beer line and fittings

The tap assembly

The CO2 line

The keg

Diagnosing mechanical problems

Select the most accurate description of the problem.

Wild beer. The keg does have beer in it, but pours too fast and almost completely foam with very little liquid beer.

Foamy beer. The beer pours, but is foamy, streaky or flows inconsistently.

Flat beer. The beer lacks carbonation, adequate head, and zesty taste.

No Beer. Keg has beer and CO2 pressure, but no beer draws from keg.

If none of these options describe your problem, consider contacting the manufacturer of the specific part you are having trouble with, or contact the brewery for suggestions.

Diagnosing mechanical problems

The faucet is leaking.

- Disassemble and thoroughly clean the faucet parts. Be sure to the vent hole is clean and clear.
- Inspect all parts for wear, damage or corrosion. Replace gaskets and washers if worn or damaged. Carefully check valve stem and seat for wear or damage. If the faucet body or plunger are worn or corroded, replace faucet.
- Ensure that faucet bonnet is finger tight.
- Install faucet , and securely tighten coupling nut.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

The shank is leaking.

- Ensure that the shank has a good neoprene washer, and that the hex nut is tight.
- Ensure that both ends of the shank are not damaged or corroded. Ensure that the threads are in good condition at both ends. Ensure that shank itself does not leak.
- Check that the faucet coupling assembly is properly assembled. Ring keeper should be properly seated, and coupling nut should turn freely and align properly.
- Ensure that alignment teeth are clean and undamaged.
- Ensure that faucet is not damaged and that it has a coupling washer. Make sure coupling is tight, and in good condition.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

The bent tube assembly (BTA) is leaking.

- Ensure that the BTA has a good neoprene washer, and that the hex nut is tight.
- Ensure that both ends of the BTA are not damaged or corroded. Ensure that the threads are in good condition at both ends.
- Ensure that BTA tube is not kinked, and does not leak.
- Check that the faucet coupling assembly is properly assembled. Ring keeper should be properly seated, and coupling nut should turn freely and align properly.
- Ensure that alignment teeth are clean and undamaged.
- Ensure that faucet is not damaged and that it has a coupling washer. Make sure coupling is tight, and in good condition.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Beer line is leaking.

- Follow all accessible beer line to ensure that all unions, and tail pieces are tightly clamped in place. Ensure that all washers and tail pieces are tight and in good condition.
- Ensure that beer line is free of pinhole leaks, tears, cuts etc. Look for any area where there is evidence of a leak. The beer line may be wet or moldy in these areas.
- If there is evidence that a beer line is leaking inside of the ducting, it may be difficult to determine which line is leaking and where the leak is. It may be possible to determine which line is leaking by installing a hose union onto the CO_2 line in the cooler. Next attach each beer line to the CO_2 line one at a time. With the regulator set to no more than 15 psi, shut the tank valve off and watch for a pressure drop. If one line stands out as being unable to hold pressure, it is likely the bad line. This line will need to be spliced, replaced, or an additional line will need to be added. Please see pulling beer line for general information on pulling line through ducting. If the ducting comes apart, you may be able to find the leak, and splice in a new segment.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

CO_2 line is leaking.

Beer should get into the CO_2 line if the check valve (Thomas Valve) is in good condition. Make sure that a check valve is in place, and that it is in good condition. If you are unsure, install a new valve.

Ensure that all fittings are tight, and that washers are properly installed where needed.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Keg is leaking.

Ensure that tap lugs are not bent up. If they are, the tap will not seat properly. If lugs are bent either replace keg or fix lugs using a lug straightener.

Replace keg, and return to brewery. Properly mark keg as required by the brewery.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Tap assembly is leaking.

- Remove tap assembly. Disassemble and thoroughly clean all parts. Replace any worn or damaged gaskets, washers or seals. If the tap body or probe are worn, damaged or corroded, replace the tap.
- Ensure that tap lugs are not bent up. If they are, the tap will not seat properly. If lugs are bent either replace keg or fix lugs using a lug straightener.
- Ensure that pressure and beer lines have neoprene washers and that hex nuts are tight.
- Ensure pressure relief valve is tight and working properly.
- Ensure that bottom seal washer is in good condition. Replace if it is worn.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Beer pours wild.

- Remove tap assembly. Disassemble and thoroughly clean all parts. Replace any worn or damaged gaskets, washers or seals. If the tap body or probe are worn, damaged or corroded, replace the tap.
- Ensure that tap lugs are not bent up. If they are, the tap will not seat properly. If lugs are bent either replace keg or fix lugs using a lug straightener.
- Ensure that pressure and beer lines have neoprene washers and that hex nuts are tight.
- Ensure pressure relief valve is tight and working properly.
- Ensure that bottom seal washer is in good condition. Replace if it is worn.
- Ensure that the keg valve ball and surrounding rubber are in good condition. Ensure that the ball is not damaged and that it is centered properly in the kegs tap well. If not replace the keg, and return to brewery. Properly mark keg as required by the brewery.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Beer still pours wild.

- Constricted beer line.
- Check for pinched beer line.
- Check for lubricant or sealant material in beer line or tap assembly.
- Ensure that all washers and gaskets are in good condition and seated properly.
- Ensure that there are no manufacturing defects or metal burrs in the tap, shank, bent tube assembly, faucet, or fittings that would constrict beer flow.
- Ensure that beer line is not clogged. If it is clogged either replace line segment or push a wire through the line to clear it. Make sure that leading tip of wire is bent over so that it is not sharp enough to puncture tubing.
- Thoroughly soak and clean entire system.
- Check again for clogged vent hole in faucet.
- Ensure that beer temperature and pressure are correct.

Go to temperature troubleshooting.
Go to pressure troubleshooting.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Beer will not draw from keg.

It is likely that check ball in the tap assembly is stuck or clogged. Disassemble and thoroughly clean all parts. Replace damaged, worn or corroded check ball, probe, check ball retainer or probe tip. If you are unable to repair, then replace tap with a new one.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Ensure that the shank, shank elbow,   or bent tube assembly (BTA) at least ¼ inside diameter. If not either replace or drill out using a shank bit and alignment tool.

Is the problem solved?

Yes
No

Diagnosing mechanical problems

Beer is flat.

This is usually caused when applied pressure has been too low and has allowed carbonation to escape from beer, or beer has encountered problems in manufacturing, shipping, or storage. If air is used as a source of pressure, it can gradually replace the CO_2 causing the beer to become flat. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.

- Check that CO_2 is hooked up properly and that pressure is correct. If you are unsure as to the proper pressure, use the Line Balancer to determine.
- Check that glasses are being properly cleaned. Beer can appear flat if it is poured into glasses that have not been properly cleaned. Glass may be contaminated with oil or soap.
- Replace the Thomas valve and the pressure line. A defective Thomas valve can allow moisture into the CO_2 lines eventually contaminating air source.
- Ensure cooler temperature is correct. The system temperature may be too cold or too warm. See Cooler Temperature. See temperature troubleshooting.
- If system uses an air compressor, ensure that filter and moisture trap are clean. Moisture or grease fumes in the air system can cause flat beer. See CO2 vs. N2 BLEND vs. COMPRESSED AIR.
- Check that beer is being poured properly. See Pouring Beer in the Notes section. Instruct servers on proper technique if necessary.
- Make sure that bartender does not shut off CO_2 at night. This allows beer to go flat.
- Oil or lubricant may be contacting the beer in the tap or kegs tap well.
- Experiment with adjusting the pressure down incrementally.
- Ensure that there are no leaks in the CO_2 system and the pressure is correct. See pressure troubleshooting.
- Ensure that lines are free of any oil or lubricant.
- Thoroughly soak and clean entire system.

Is the problem solved?

Yes
No

Diagnosing quality problems

Do any of the following conditions exist?

- The beer tastes bad.
- The beer smells bad.
- The beer is cloudy.
- The beer has particles in it.

Yes

No

Diagnosing quality problems

Are the beer glasses beer clean?

Yes
No

Diagnosing quality problems

If the beer glasses are not clean, properly clean one to test system. Teach the retailer how to properly clean the glasses. For general information on how to properly clean glassware, see beer clean.

Try pouring another glass. Is the problem solved?

Yes
No, Continue

Diagnosing quality problems

To determine whether the keg is bad or if the beer is being contaminated by the draft system, draw a glass of beer directly from the keg using a clean picnic pump and a clean glass. Make sure that the keg has not been moved or warmed up to the point where excessive foam will come out, and ensure that the picnic pump is in good working condition.

Select one of the following:

The keg sample is clear and appears to taste and smell normal.
The beer is cloudy and/or has particles or sediment in it.
The beer tastes or smells sour, vinegary or other.

Diagnosing quality problems

If the beer is drawing from the keg in good condition but leaving the faucet in bad condition, it is likely that the draft system is contaminating the beer.

Ensure that all beer line and other components are approved by the brewery for dispensing their beer. Replace any beer line that is not brewery approved.

Replace any beer line or parts that are not clearly in good condition.

Ensure that system is thoroughly cleaned. Replace tap, faucet, shank and bent tube assembly with new parts, or parts that you are certain have been properly disassembled and cleaned.

If possible, clean system with an oscillating motor driven pump and line cleaning solution for 15 to 30 minutes using hot water. Rinse well.

Check CO2 lines for any indication of moisture. Replace CO2 check valve and pressure line. Clean or replace air distributors.

If system uses compressed air, and it appears that this may be a source of moisture or other contaminants, replace filters and clean moisture trap, and replace pressure lines. For the purpose of troubleshooting, you may wish to disconnect the compressed air system and use a CO2 tank and regulator. If this solves the problem, you should recommend that compressor be completely cleaned and serviced. We recommend that these systems not be used because of their problematic nature and need for systematic maintenance. See CO2 vs. N2 Blend vs. Compressed Air Note that if this is a long draw system you may have to use a nitrogen blend so that beer is not over-carbonated. See Very Long Draw or High Lift Systems.

Be aware of the possibility of tampering. Though uncommon, be aware that disgruntled employees, or competitive brand representatives have had poor enough judgment to tamper with keg products. Check for any foreign substance that could have been placed in the kegs tap well, in the tap probe, or in the faucet. Although this would usually be removed by a good cleaning, it is good to be aware of the possibility.

Is the problem solved?

Yes
No

Diagnosing quality problems

If the beer is cloudy or has particles in it, it is likely that the keg has been frozen, stored warm or that that the beer is old. Beer may have also encountered problems in the brewing or packaging process that the brewer will need to know about immediately. Replace the keg and return to brewery. Properly mark keg as required by the brewery. If the cooler is below 32 degrees, adjust temperature up and monitor account to ensure that problem does not reoccur. Conversely, beer allowed to become too warm can sometimes begin a second fermentation.

To ensure that the cooler is working properly, suggest that service company place a 24 hour recording thermometer in cooler to monitor temperature. Suggest that any problems be fixed.

Determine if retailer is turning off cooler for extended periods of time. If so, suggest that cooler needs to stay on continuously, and at a consistent temperature.

Beer may have been contaminated by the pressure system. Check CO2 lines for any indication of moisture. Replace CO2 check valve and pressure line. Clean or replace air distributors. If system uses compressed air, and it appears that this may be a source of moisture or other contaminants, replace filters and clean moisture trap, and replace pressure lines. For the purpose of troubleshooting, you may wish to disconnect the compressed air system and use a CO2 tank and regulator. If this solves the problem, you should recommend that compressor be completely cleaned and serviced. We recommend that these systems not be used because of their problematic nature and need for systematic maintenance. See CO2 vs. N2 Blend vs. Compressed Air Note that if this is a long draw system you may have to use a nitrogen blend so that beer is not over-carbonated. See Very Long Draw or High Lift Systems.

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Note: when replacing kegs or installing and maintaining draft systems be sure to comply with any applicable state or federal laws.

Is the problem solved?

Yes
No

Diagnosing quality problems

If the beer has a bad taste or odor it is likely that the beer has been contaminated, stored warm or that that the beer is old. Beer may have also encountered problems in the brewing or packaging process that the brewer will need to know about immediately. Replace the keg and return to brewery. Properly mark keg as required by the brewery.

Beer may have been contaminated by the pressure system. Check CO2 lines for any indication of moisture. Replace CO2 check valve and pressure line. Clean or replace air distributors. If system uses compressed air, and it appears that this may be a source of moisture or other contaminants, replace filters and clean moisture trap, and replace pressure lines. For the purpose of troubleshooting, you may wish to disconnect the compressed air system and use a CO2 tank and regulator. If this solves the problem, you should recommend that compressor be completely cleaned and serviced. We recommend that these systems not be used because of their problematic nature and need for systematic maintenance. See CO2 vs. N2 Blend vs. Compressed Air Note that if this is a long draw system you may have to use a nitrogen blend so that beer is not over-carbonated. See Very Long Draw or High Lift Systems.

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To ensure that the cooler is working properly, suggest that service company place a 24 hour recording thermometer in cooler to monitor temperature. Suggest that any problems be fixed.

Determine if retailer is turning off cooler for extended periods of time. If so, suggest that cooler needs to stay on continuously, and at a consistent temperature.

Be aware of the possibility of tampering. Though uncommon, be aware that disgruntled employees, or competitive brand representatives have had poor enough judgment to tamper with keg products. Check for any foreign substance that could have been placed in the kegs tap well, in the tap probe, or in the faucet. Although this would usually be removed by a good cleaning, it is good to be aware of the possibility.

Note: when replacing kegs or installing and maintaining draft systems be sure to comply with any applicable state or federal laws.

Is the problem solved?

Yes
No