

## Pub Brewing Company Micro Brewery

<b>Mfg: The Pub Brewing Company</b>	<b>Model:</b>
<b>Stock No. CAHR001.330</b>	<b>Serial No.</b>

Pub Brewing Company Micro-Brewery Skid. Fragmentation tank dimensions: 48 in. dia. x 72 in. H. Capacity: 600 gal. Boil kettle dimensions: 48 in. dia. x 50 in. H. Capacity: 430 gal. 1997 Thermaline Plate Heat Exchanger. Model: T4CH, S/N: 4211. Test pressure: 200 psig. MAWP: 150 psig. MDMT: 300 °F. 316 stainless steel plates: Qty. 11. Heat transfer surface area: Approx. 5.65 sq. ft. Waukesha Cherry Burrell Purity Centrifugal Pump. Model: C216, S/N: 211469 97. A-3 sanitary rated. Baldor Industrial Motor, 1-1/2 hp, 1725 rpm, 208-230/460 V, 4.6-4.2/2.1 amps, 60 Hz, 3 phase. Inlets: (2) 1 in. dia. FPT (tank and kettle jackets), (1) (1) 5-3/4 in. dia. (tank), (1) 7-3/4 in. dia. (kettle). Outlets: (3) 1 in. dia. FPT (tank and kettle jackets), (1) 1-1/2 in. dia. Q-line fitting. Overall dimensions: 10 ft. 7 in. L x 78 in. W x 8 ft. 6 in. H.

(4) Stainless Steel Jacketed Fermentation Tanks with Cone Bottom- 240 Gallon. Manway dimensions: 20 in. L x 16 in. W. Inlets: (1) 1/2 in. dia. FPT thermowell, (1) 3/4 in. dia. MPT (jacket), (1) 1 in. dia. S-line fitting, (1) 1-1/2 in. dia. Q-line fitting. Outlets: (1) 3/4 in. dia. MPT (jacket), (2) 1-1/2 in. dia. (tank). Overall dimensions: 46 in. L x 38 in. W x 90 in. H.

(7) Stainless Steel Single Shell Finished Beer Tanks- 230 Gallon. Manway dimensions: 20 in. L x 16 in. W. Inlets: (1) 1 in. dia. S-line fitting, (1) 1-1/2 in. dia. Q-line fitting. Outlets: (1) 1-1/2 in. dia. Q-line fitting. Overall dimensions: 46 in. L x 38 in. W x 76 in. H.

1997 Thermaline Plate Heat Exchanger. Model: T4CH, S/N: 4238. Test pressure: 200 psig. MAWP: 150 psig. MDMT: 300 °F. 316 stainless steel plates: Qty. 11. Heat transfer surface area: Approx. 5.65 sq. ft. Inlets:(2) 1-1/2 in. dia. Q-line fittings (process), (1) 1 in. dia. NPT (service). Outlets: (2) 1-1/2 in. dia. Q-line fittings (process), (1) 1 in. dia. NPT (service). Overall dimensions: 16-1/2 in. L x 7-1/2 in. W x 25-1/2 in. H.

1997 Spadoni Filter Press. Model: KAPPA, S/N: 7035. (20) Filter plates. Filter surface area: Approx. 26.18 sq. ft. Moves on (3) casters for easy positioning. Inlets/outlets: (4) 1-1/4 in. dia. threaded fittings. Overall dimensions: 42 in. L x 26 in. W x 31-1/2 in. H.

Heatcraft Inc. Condensing Unit. Model: PARC4A2CP, S/N: A97300068. Outdoor use. Refrigerant: R-22. Design pressure hi/low: 400/173 psi. Evap. Temp. min/max: 12/20. Electrical requirements: 230 V, 60 Hz, 3 phase. Copeland Compliant Scroll Compressor, Model: ZF13K4E-TF5-230, S/N: 97F00749G, 200-230/200-220 V, 99.0 LRA, 60/50 Hz, 3 phase. Inlets/outlets: (2) 1-1/2 in. dia. copper tubing. Overall dimensions: 77 in. L x 47-1/2 in. W x 52 in. H.

Condenser Return Tank- 15 Gallon. Burks Pump, Cat. No: 3G5-1-1/4, S/N: 945587. Magnetek Century AC Motor, 1/3 hp, 3450 rpm, 115/208-230 V, 7.2/2.9-3.6 amps, 60 Hz, 3 phase. Inlets: (1) 1/2 in. dia. pipe (cold water), (1) 1 in. dia. pipe (condensate return). Outlets: (2) 3/4 in. dia. pipes (supply & overflow), (1) 1/2 in. dia. valve (tank), (1) 1-1/4 in. dia. pipe (vent). Overall dimensions: 25 in. L x 19 in. W x 48 in. H.

1998 Sussman Electric 68 KW Boiler. Model: ES72. S/N: N4-16107-098. Nat'l Bd: 36721. Max. capacity: 240 lb/hr. MAWP: 15 psi. Electric requirements: 208 VAC, 18 amps, 50/60 Hz, 3 phase. Electric control requirements: 120 VAC, 15 amps. Inlets: (1) 3/4 in. dia. pipe, (1) 1 in. dia. pipe. Outlets: (2) 3/4 in. dia. pipe, (1) 1 in. dia. pipe. Overall dimensions: 33-1/2 in. L x 23 in. W x 46 in. H.

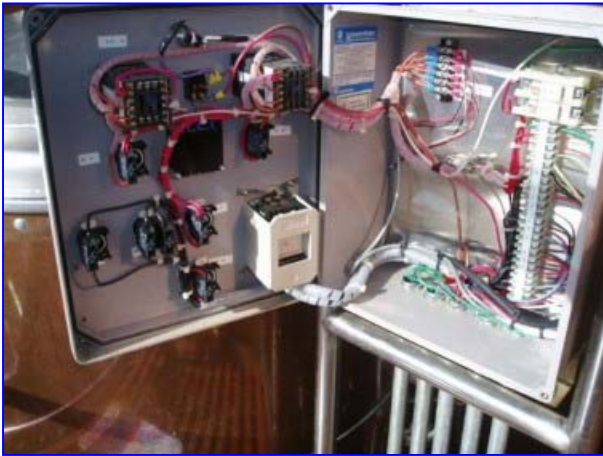
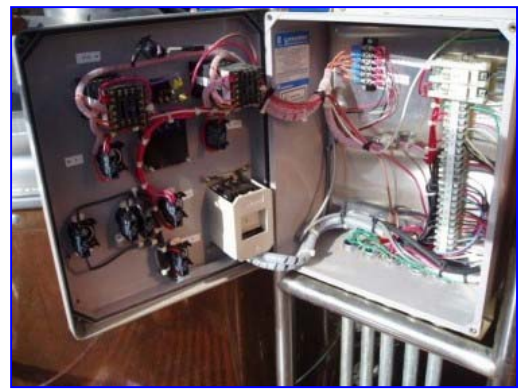
Waukesha Cherry Burrell Purity Pump. Model: C100, S/N: 211290 97. Impeller diameter: 3-3/4 in. Baldor Industrial Motor, 1-1/2 hp, 3450 rpm, 208-230/460 V, 5-4.6/2.3 amps, 60 Hz, 3 phase. Inlets: (1) 1-1/2 in. dia. Q-line fitting. Outlets: (1) 1 in. dia. S-line fitting. Overall dimensions: 20 in. L x 16 in. W x 42 in. H.











Condensate Return Tank.



Heatcraft Condenser.

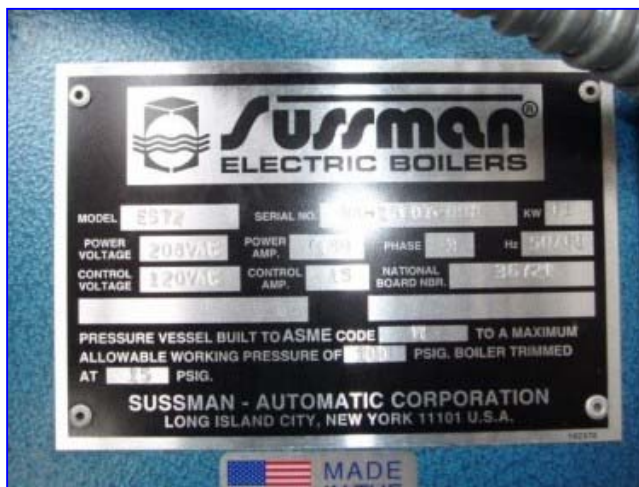






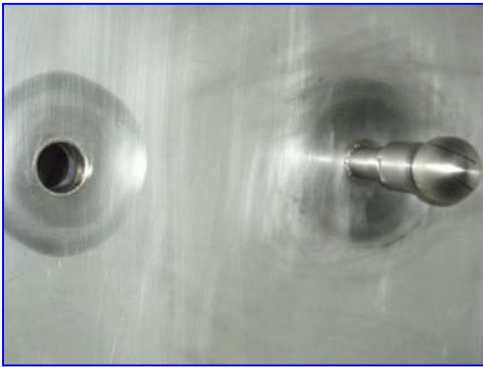


# Sussman Electric Boiler

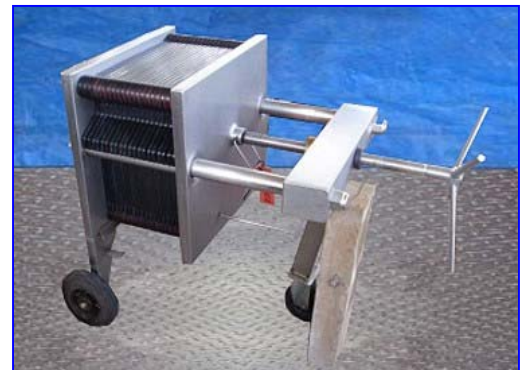




## Single Shell Finished Beer Tank



## Spadoni Filter Press



Thermaline Heat Exchanger



Waukesha Cherry Burrell Purity Pump







The following information is from Pub Brewing Companies website

<http://www.pubbrewing.com>

The Pub Brewing Company is one of the leading American manufacturers of the equipment for brewing and restaurant business, aimed at the quality of its production.

Combining advanced American techniques with wide European brewing experience; the company puts out economical and easy in operation breweries, which produce beer of the highest world quality.

The Pub Brewing Company is founded in 1987. During 18 years of its market activities, the company, which originated as a small private enterprise, has united at the moment four big objects for production of modern mini-breweries.

In our company, all brewing systems are assembled manually; the list of components is fitted to the client's demands.

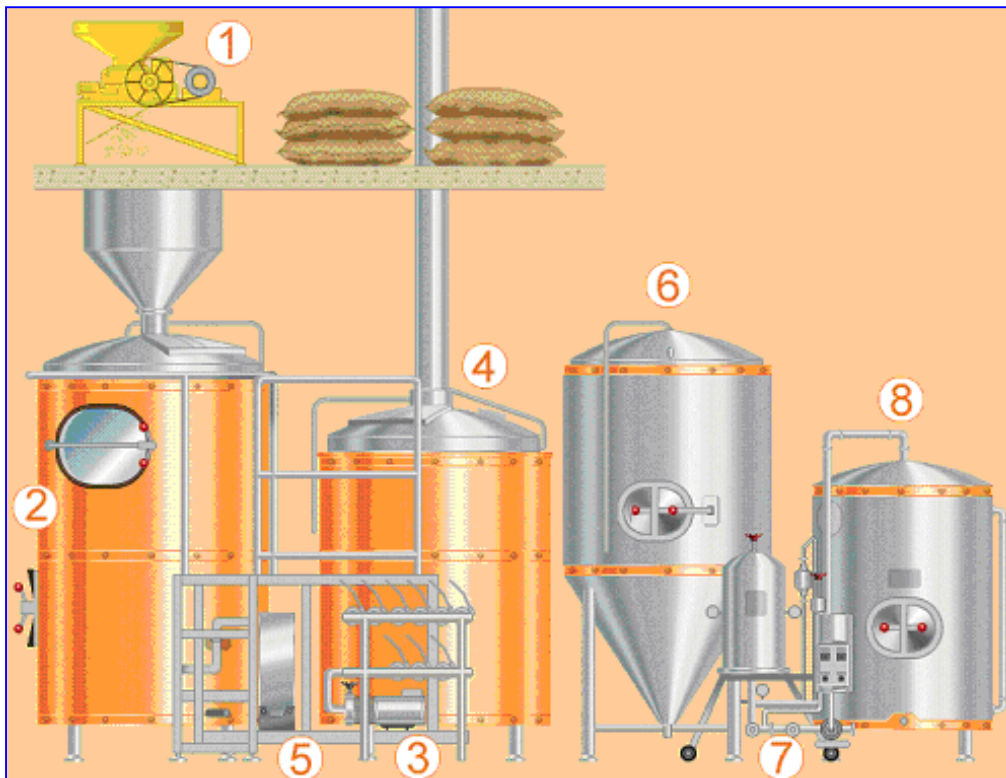
The Pub Brewing Company pursues international interests. It is the first American company that has an experience in development, assembling and installation of brewing systems in China, Russia and Brazil. Another field of our activities is the network restaurant business.

Due to our abundant experience and competence in industrial technique, as well as to our achievements in field of development of branched systems of network restaurants, we may offer to our clients competitive prices and quick turnover. To date, long-term contracts with many network restaurants, e.g. **Hops Grill and Bar (Florida)**, John Harvard's (Boston), Brew Moon (Boston) Two Rows (Texas), are concluded.

Only in the USA, the Pub Brewing Company has constructed more than 300 breweries. As for our achievements in field of business development, we should mention The Brew Brothers restaurant and pub in the Silver Legacy Casino in Reno (Nevada). The family tree of the Pub Brewing Company includes prosperous and very successful Monte Carlo casino and the brewery network Main Street Station in Las Vegas.

We may notice such examples of maintenance of the best traditions in brewing industry, where the Pub Brewing company is supplying brewing systems, as The American Brewers Guild and the well-known brewing school in Davis, California, where the students are taught the art of brewing by famous world specialists on the Pub Brewing company equipment that is like to the works of art.

## Brewing process





As soon as the equipment is installed to the brewing system, you may start to produce fresh (natural), skilful beer. There are the following steps of the brewing process, as a flux of components through the system:

### **1. Fragmentation**

High-quality, regulated, double-roll crusher grinds barley to the size, required for malt production.

### **2. Combined capacity**

In fact, there are two reservoirs in one. In main section, malt and hot water are blended to the condition of slurry. The transparent substance that is called wort, is separated from the slurry. Second section contains additional hot water (liquor), required for brewing and cleaning.

### **3. Conveyor**

During the brewing process, wort, hot and cold water must easily move through the brewing system. Conveyor is a control station with nine valves, that allows all liquid to move in a safe and hygienic way. It prevents leakage and contamination of liquid that could take place when connecting or disconnecting hoses and clamps, or in manual operation mode.

### **4. Brewing boiler**

Here wort is carried to boiling and mixed with hop that adds bitterness and aroma to the blend. Depending on client's preferences, brewing boiler can be gas-fired or steam. It may be covered with stainless steel and copper, or completed with classic dome.

### **5. Heat exchange bowl**

Using tap water, cooled water, glycol or their combination, this compact section efficiently cools wort before it is directed to the fermenter. Heat exchanger also returns surplus of hot water to the hot water (liquor) reservoir for utilization during the next brewing.

### **6. Fermenters**

Here, yeast is added to the wort to obtain special composition and aroma of the beer. If desired, our special project envisages fermentation, ripening, saturation with carbonic acid and ageing in one reservoir. The fermenters are equipped with individual heat control (approved by ASME).

### **7. Filtration**

At this stage, yeast is separated from the blend, so brilliant and clear beer is obtained. The plate or horizontal diatomic filter are used for not to lose any drop of beer and minimize potential expenses. Filtrating liner could also be used for sterilization and filtration of packing goods.

### **8. Capacities for finished beer**

To these capacities, filtered beer is supplied, and it is stored here for direct service in pub. They could also be used as an auxiliary reservoir prior to packing (approved by ASME).

## **Techniques**

The Pub Brewing Company has improved traditional brewing technique, so the process has become easier and more automated.

Grinded malt and prepared water are coming to wort blender of the brewery. Primary blender creates slight rotation for efficient heat transfer, excluding "beating" of the mass. After the end of the blending process, the blend is coming to the filtrating capacity with the help of high-volumetric/low-speed pump to the filtration capacity.

Noiseless, regular operation of the raking system with hydraulic drive, automatic granulation and built-in bottom cleaning system are the performance characteristics of this skillfully made capacity.

To minimize the extent of oxidation, wort is decanted to the "tun/vortex" capacity. The tun has three zones of high steam pressure, including uplifted ring in the center of the capacity. This ring, along with top and bottom steam jackets with dimples, ensure the temperature, required for stimulation of rapid boiling.

After boiling, wort is passing through the vortex system to enhance blending in the same capacity. Top exhaust valve allows to start cooling process practically immediately, thus reducing labour expenditures and wear of the equipment.

Finished wort is cooled in special apparatus to the fermentation temperature. Then, it is enriched with oxygen and pumped to the fermentation capacity (tank), where certain amount of strictly adjusted race of brewing yeast is injected to it. During certain period of time - from several days to several weeks - at certain temperature modes, this race of brewing yeast is activated in brewing wort. As a result of its vital activity, we receive beer, saturated with carbon dioxide, alkaloids, vitamins and other useful microelements.

Then, finished young beer is placed into storage capacities. From these capacities, beer could get either directly to the bar for taking directly in the restaurant, or for barreling to the kegs for sale.

Exclusiveness of the Pub Brewing microbreweries consists in use of the Hydro-mix system. This system includes hydraulic engines that actuate tun for brewing wort and wort blender. At the same time, in traditional configuration each apparatus requires its own engine. In such a way, Hydro-mix saves energy and reduces expenses.

The set includes one-level working platform, C.I.P. system for all capacities, pumps and pipes. Water blender and automated valve system are operated from one platform.

## **Sorts of beer**

By production technique and sorts of yeast used, the beer is divided into the beer of bottom fermentation and the beer of top fermentation.

Beer of top fermentation ferments for 7 - 8 days at comparatively high temperature (+ 14 - 17 °F with addition of top yeast that floats to the surface towards the end of the process, and deposits to the bottom after the end of the process.

The beer of bottom fermentation ferments slowly at low (0 - 10 °F temperature with addition of bottom yeast that deposits to the bottom after the end of the process. The class of beer, that is prepared by infusion and top fermentation at room temperature, is called ale (take note that this name is consonant to the word "elite"). The variety of ales, caused by difference in colour, taste, aroma and alcohol content, is overwhelming. The highest percent of ale consumption is in Bavaria, though the ales have their origin in the British Isles.

Light filtered beer, the most widespread beer in glass in our country, belongs to the type of lager beer - bottom fermentation beer from barley malt, preliminary processed cereals or rice, hop and water. Such beer differs from ale not only by the type of fermentation, but also by less amount of hop and alcohol. There are three kinds of lagers - Pilsner, Bock, Munchner. The name "lager" proceeds from the German word "lagern" - to store. It is such a pleasure to look through the glass of such beer: it is transparent, the head is low, and the light is sparking in the glass?

Both among lager beers of bottom fermentation and among ales, there are light and dark sorts of beer. The dark sorts are usually stronger and their taste is richer. For example, porter is a dark strong beer (5 - 6 %) of top fermentation with high content of extract and abundant head. It has a reddish tone and sweetish flavor. They are imparted by caramel and burnt malt. It is not a surprise that ladies prefer some kinds of porter to other sorts of beer.

Stout is similar to porter, but is stronger, darker and sweeter. And, of course, its heady properties are stronger.

If you are a great original, white wheat beer (Weizenbier) would be for sure to your taste. This is a beer of top fermentation with distinct flavour of cloves, vanilla, green apples and prunes aroma. It is muddy by sight, with high head, wheat beer has light hop bitterness and pleasant sour taste. It is served in high glasses widened to the top. These glasses are fabricated specially for this sort of beer. It has unusual taste, but if you would like it, you would become a real fan of white wheat beer forever.

We could tell you much more about different sorts of beer - they depend on the technique of its fabrication. You should remember the main thing: using Pub Brewing company equipment, you can brew any sort of beer you like, you can bottle or barrel it, or serve it fresh in the restaurant - the choice is up to you.



## Delivery and assembling of the equipment



Beforehand, our specialist will help you to define the dimensions of brewery and arrangement layout that conform to your goals.

The list of components of the brewing systems is selected in accordance with your demands, taking into account already available working area. That is why all brewing systems of our company are assembled manually. Any serial equipment will not be so easy in operation as our brewing systems, assembled individually for you.

If the walls or partition walls are erected and painted or covered with ceramic tile, for installation of Pub Brewing equipment you don't need any global and burdensome reconstruction of premises. It will be enough to prepare surfaces where the equipment will be installed.

Our specialist performs the quality control of the system assembled during all the period of its assembling and checkout. Long experience of our specialists in putting brewing systems into operation, close control at all stages of assembling, quality of parts and components - this is a guarantee of undisturbed operation of your brewing systems.

The capacities, basic and auxiliary equipment, as well as solenoid-operating valves for fermentation capacities and boiler, will be mounted onto preliminary prepared surface. After equipping brewery and cellar with pipes, the brewing system, frame and pipeline are installed.

If the process control is required, we insist on presence of allied contractors during assembling. Connection of water, gas, electricity supply and cooling system to the brewing system should be performed by the technicians, qualified in this field, and in accordance with existing standard specifications.

After completion of assembling and checkout, the system will be put into operation. During 10 days our specialist will supervise the brewing process. During this period, our specialist will also perform instruction and training of your staff for further independent operation of the brewing system.

We will help you to select the receipt for brewing process. Formulation of the receipt is made taking into account description and demands of the client. It should also comply, as much as possible, with the type of equipment installed. To the equipment supplied comes with four receipts for brewing process.

If brewing is a new business for you, our specialists will render you in addition the information where to purchase raw products for brewing.