



Steam Away



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DIRECTIONS FOR A STEAMAWAY

Possible Adjustments Within The Sugar House

There may be some changes that need to be made to a sugar house in order for a Steamaway to be an effective evaporator enhancement. The first thing which must be done to accommodate a Steamaway is to raise the feed tank approximately 22 inches, or 6-8 inches above the top of the regulator box on the side of the Steamaway.

Because of the weight of the Steamaway, especially when it is full of liquid, the flue pan alone can not support it. Therefore we have developed a support kit for installation. In order to install the support kit there must be a strong enough structure to support the weight. If the rafters within the sugar house are strong enough they will work. For questions or recommendations simply call your local Dealer, Distributor or us here at Leader Evaporator.

How Does a Steamaway Work

The Steamaway is a network of “V” trays, steam pipes, and air pipes that is designed to preheat the sap and increase the sugar level, which in turn increases efficiency up to 75%. By running the sap through the “V” trays the steam from the flue pan heats the sap from the bottom side, all of the steam from the flue pan is then channeled into the 2 inch copper pipes at one end of the Steamaway and the only way it can escape is to travel to the other end through the 2 inch copper pipes. Now by inducing air with a blower we create turbulence which increases the surface area of the liquid, causes it to bubble onto and around the 2 inch copper steam pipes and more importantly breaks the surface of the liquid allowing more steam to be released. Unlike any pre-heater or other “on evaporator” enhancement the Steamaway will not only concentrate the sap and preheat the sap, it also supplies all of the necessary liquid for the rest of the evaporator, therefore no raw sap from a separate storage tank has to be plumbed in. Below is a diagram which will better illustrate the process.

Setting Up The Steamaway

The first thing to do after you unload the Steamaway is to check the parts list for the Steamaway and the recommended support kit. If anything is missing call us at Leader Evaporator, or contact your local Dealer or Distributor. Begin the process by placing the gasket material around the rails at the top of the flue pan. If you have ordered a water tight light as an option with your Steamaway install the light bulb before you set the Steamaway on the flue pan. Once the gasket is in place set the Steamaway in place on top of the flue pan. The Steamaway should be positioned with the regulating box to the front and the blower inlet to the back. Now that the Steamaway is in place it's time to set up the support kit. Start with the front of the Steamaway first and follow the steps below:

1. Secure the Boat Wench (D) to the wall directly below the rafter.
2. Secure one of the double pulleys (C1) to the wall directly above the wench, leaving enough room to slide the cables through below the rafter.
3. Secure the second double pulley (C2) to the rafter directly above the nearest corner of the Steamaway.
4. Secure the single pulley (B) to the rafter directly above the far corner of the Steamaway.

5. Estimate how long the two cables will have to be, add a couple of feet for safety and cut the cables.
6. Secure one end of each cable to the Boat Wench.
7. Thread both cables through the two double pulleys.
8. Take one of the cables and thread it through the single pulley.
9. At the end of each cable loop it through the closed end of the turn buckle, bring the two pieces of cable together and secure them with a cable clamp.
10. Adjust the turn buckle to mid-range by exposing approximately half the threads on either side of the closed threads.
11. Hook the open ends of the turn buckle into the brackets on each side of the Steamaway.
12. Crank the Boat Wench until the cables are good and tight, removing all of the slack. Use the adjustment on the turn buckle to make sure each cable is equally tight. Both cables must pull evenly in order for the wench to work properly.
13. Repeat these steps for the back as well. For any questions see the diagram.

Once the support kit is in place connect a hose to the 1 ½ inch condensation drain on the lower, rear corner of the Steamaway. This hose can be run into a drain or can be used as a great supply of hot water within the sugar house.

Setting Up The Regulating System

Now that the Steamaway is in place and properly supported it is time to set up the regulating system. First connect the feed line to the regulator box on the side of the Steamaway. Make sure there is a shut-off valve in this line between the tank and the regulator box. Next, connect the sap outlet on the rear corner of the Steamaway to the regulator box on the side of the flue pan.

Start by taking on of the two inch long rubber hose connections and placing two band clamps on it. Slide the hose on the outlet of the Steamaway and tighten a band clamp to hold the hose in place. Now slide one of the copper elbows into the hose connections so that the pipe goes around the outside of the float stem, and tighten the remaining band clamp to hold this piece in place. Take the nine inch long rubber hose connection and place two band clamps on either

end of the hose. Slide one end over the exposed copper nipple connected to the Steamaway outlet and tighten the band clamp. Slide the second copper elbow, nipple first into the nine inch long rubber hose connections and tighten the remaining band clamp to hold it in place. Now with the remaining two inch long rubber hose connection and band clamps the exposed copper elbow should line up with the nipple in the regulating bridge on the flue pan. Once again use the band clamps to tighten the hoses in place.

Setting Up The Blower

When it is time to set up the blower the first thing to do is to install the square to round adapters, which come as an option with the Steamaway, onto the air inlet at the back of the Steamaway using duct tape to hold it in place. Then there are a couple of options which you can choose from when connecting the blower. The first is to locate your blower in an outside

location, perhaps at the end of the wood shed, or in the storage room, and use flexible aluminum duct work in order to connect the blower to the inlet on the rear corner of the Steamaway. The second option is to use a more permanent means of duct work like PVC pipe, however, you must leave on loose connection or have some other method of raising the Steamaway. Both methods will work and have their individual advantages and disadvantages, speak with your local Dealer/Distributor or us here at Leader Evaporator for questions or suggestions.

Now that you have set everything up check the Steamaway and evaporator to make sure all of your clamps and connections are secure. Mix one pound of baking soda for every 200-300 gallons of water in the Steamaway. Fill the evaporator until the pans have 2-3 inches of water in them and the steam pipes are covered at the front of the Steamaway (make sure the blower is off while you fill the pans). Use the floats to maintain the levels of liquid for the rinse and test cycle. Start a small fire in the evaporator to get some steam off of the flue pan for heating purposes and start the blower to begin the process. Once you have some steam from the flue pan heating the bottom of the Steamaway continue for approximately 30 minutes, drain the Steamaway and pans, refill with pure water and repeat the boiling process. When the rinse is finished drain the Steamaway and pans completely. **NEVER, UNDER ANY CIRCUMSTANCE, PICK UP THE STEAMAWAY WITH LIQUID IN IT.**

Running The Evaporator With A Steamaway

A Steamaway is a very simple enhancement to operate in coordination with the evaporator. Simply set the float on the Steamaway at a level where sap is just beginning to cover the pipes at the front of the Steamaway, without the blower running and approximately $\frac{3}{4}$ of the way up on the steam pipes at the back of the Steamaway.

During the adjustment period that follows the addition of a Steamaway to an operation, it is a good idea to run the evaporator slightly deeper than you would normally. The sweeter concentrate coming from the Steamaway into the flue pan will increase the production rates which means you will be drawing more syrup, a little extra liquid in the pans will help to ensure that there are no problems to start with. As you adjust to the Steamaway, simply lower your level back to where you have always run it in the past. Remember the more heat you can create with the fire, the harder the flue pan will boil and the more effective the Steamaway becomes.

Defoamer

Continue to use Atmos 300 Defoamer with your evaporator to keep the foam down. However, instead of adding it to the flue pan, simply add Defoamer every 5-10 minutes (or as needed) into the Steamaway (every time you fire is a good rule). The amount of Defoamer to add will depend upon the size of the evaporator, the larger the evaporator, the more Defoamer it will use. By adding the defoamer to the Steamaway, the foam throughout the entire evaporator should remain at a reasonable level, from time to time it may be necessary to add Defoamer to the flue pan, and a drop to the syrup pan but avoid this if at all possible.

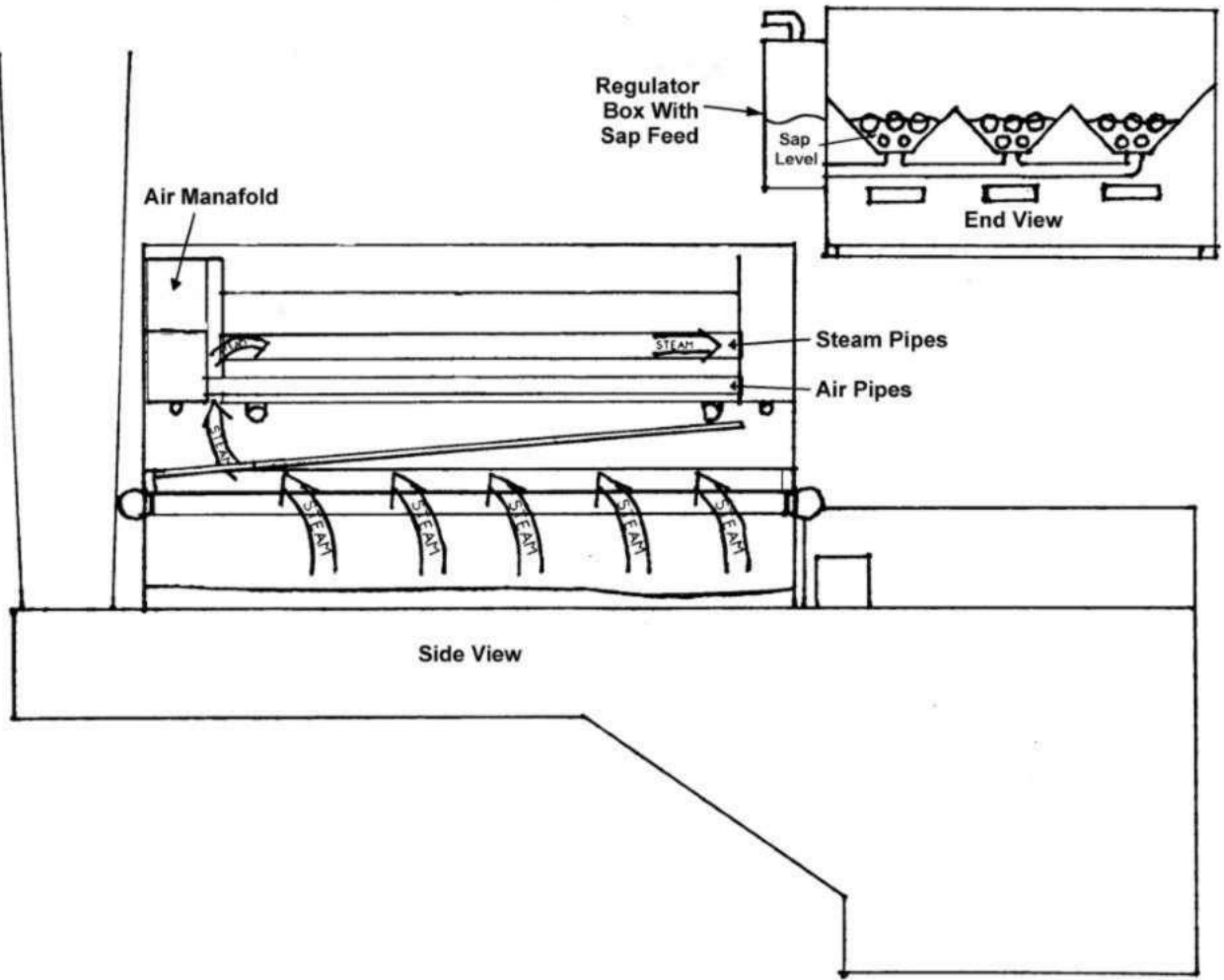
Cleaning and Storing

The Steamaway will require some maintenance throughout the year. In a normal operation the Steamaway may need to be cleaned 1-2 times throughout the season with acid, rinsed with water and baking soda and rinsed again with straight water. To do this simply mix an acid solution in the Steamaway, start a small fire in the arch to get steam from the flue pan for heating purposes and start the blower. Allow the Steamaway to bubble away for 20-30 minutes. Make sure there is plenty of liquid in the pans so that there is no chance of scorching or melting solder. Once the acid solution has been run through, mix a baking soda and water solution in the Steamaway and repeat the process. The final rinse should be pure water and may not need to be heated, just flush the system thoroughly.

In highly concentrated niter and sugar sand areas it may be necessary to wash more frequently. If the Steamaway goes un-washed then the result could mean large drops in efficiency. Be sure when the Steamaway is being cleaned that the outlet normally connected to the regulator box on the flue pan is plumbed into a drain.

In cases of cold weather or gaps in the season, it is important to drain the Steamaway. Also make sure that the air box at the rear of the Steamaway and the Regulator box at the front of the Steamaway get drained as well. Simply draining the liquid at the outlet is not good enough. The $\frac{3}{4}$ inch air box drain is at the back of the Steamaway, usually on the opposite side of the condensation drain and on the bottom of the regulator box is its drain.

At the end of the season again run the acid wash and rinse cycles at the same time you wash the rest of the evaporator. Storing the Steamaway is simple, there are two choices, first is to elevate your flue pan according to there instructions and then simply lower the Steamaway down onto the rails of the flue pan, again keeping tension on the cables to help support the weight. Once everything is in place it is a good idea to cover the top of the Steamaway with either plastic or canvas to ensure that no dirt or small animals can enter and create problems. The second option has some space restrictions in certain locations, simply remove the Steamaway completely and set on a pair of saw horses or better than that is a wooden frame the same inside dimensions as the inside dimensions of the flue pan. Again cover with canvas or plastic to keep anything from getting inside the Steamaway.



- Key
A - Turnbuckles
B - Single Pulley
C1-Double Pulley
C2-Double Pulley
D - Boat Winch
E - Cable Clamp

Pulley Capacity - 500lbs
Winch Capacity - 850lbs

