Updated 9-2-20

Smoky Lake Maple Products™
SmokyLakeMaple.com

Raised Flue Pan Set

STANDARD CONFIGURATION

Check Out Our Instructional Videos On YouTube.

INCLUDES

A | **Sanitary Draw-Off Valve** (1½") **w/Food-Grade Gaskets**

B | **Positive Draw-Off Boxes** *(With rear syrup draw-off where the heat is most concentrated)*

C | **Eleven 7" Flues** (On 2' wide pans)

D | **Angled Thermometer Port w/Maple Thermometer**

E | **Three Stainless Steel Plugs** (¼")

F | **Built-in 360º Handles**

G | **Inlet Float Box w/Fittings + Drain**

H | **Transfer Float Box w/Fittings + Drain** *(Not visible in this photo)*

J | **Ports for Optional Deluxe Sight Glasses**

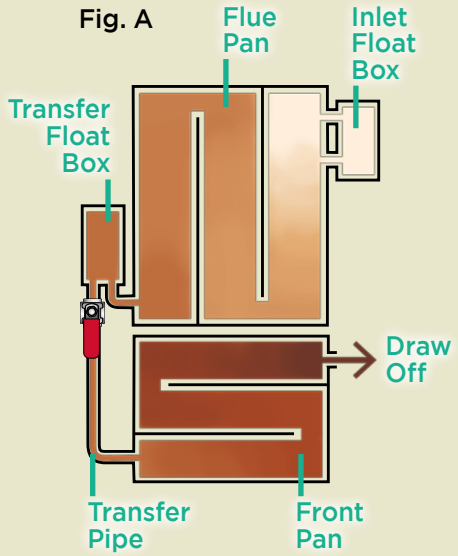
K | **Two Stiffened Gaskets** *(See page 2)*

- **Structurally Formed-in Syrup Pan Dividers**
- **Reversible Front Pan** *(See page 4)*
- **22 ga. Mirror Finish Stainless Steel**
- **Lifetime Limited Warranty on TIG Welds**
- **Smooth, Hemmed Edges**
- **Compatible with optional Auto Draw-Off System**

WARNINGS

- **Maintain 2" sap depth throughout the system; especially until you have gained experience.** *(In the flue pan, you need to maintain 2" ABOVE the flues.)*
- Use plumber's tape on all threaded connections to enhance the seal and prevent thread binding.
- BEFORE lighting the evaporator, review the Start Up Checklist. SmokyLakeMaple.com/start-up
- Wear protective clothing such as leather gloves and a face shield.
- Keep a spare bucket of sap or water on hand.
- Keep a fire extinguisher handy. Make sure all of your helpers know where it is and how to operate it.

Fig. A



CONTINUOUS FLOW

- A "Density Gradient" will develop in the pans. *(See Fig A to the left.)* As the sap works its way through the channels, it becomes darker and darker *(more condensed)*. The sap near the draw off valve has been in the system for the longest period of time and is closest to completion.
- Your end product should be between 66º – 66.9º BRIX. See Maple Thermometer OR Auto Draw-Off System instructions for details regarding using temperature to monitor progress. Before bottling, it is recommended to fine tune syrup density using a hydrometer and Murphy Compensation Cup.

PATH OF THE SAP

- The raw sap enters via the Inlet Float Box at the rear of the evaporator, and makes its way through three consecutive channels in the Flue Pan.
- Sap exits the Flue Pan via the Transfer Float Box and then enters the Front Pan via the Transfer Pipe.
- The sap travels front to back through the three channels of the Front Pan.
- Syrup draws off at the back of the front pan where there is the highest concentration of heat.
- See "Reversing Direction" on page 4 for more details on sap flow.

STIFFENED GASKETS

- One should be placed between the front pan and the flue pan. The second should be placed behind the flue pan.
- For more information, see our video: SmokyLakeMaple.com/stiffened-gasket

TRANSFER PIPE

The Transfer Pipe connects the Transfer Float Box to the Front Pan. Connect this pipe using the Sanitary Clamps and Food Grade Gaskets provided.
The Transfer Valve MUST be in the open position while boiling/steaming.

CONNECTIONS ON THE DRAW-OFF BOX

- The Draw-Off Box is located toward the back of the Front Pan because it is best to draw off syrup at the hottest point in the pan.
- The upper 1/4″ port can hold the Syrup Probe of an optional Auto Draw-Off System. If not in use, this port can be plugged.
- The lower 1/4″ port will hold your Maple Thermometer. The Thermometer allows you to monitor the progress of your syrup.
- Attach the Draw Off Valve using the provided Sanitary Clamp and Food Grade Gasket. (See Fig B)
- If you are using the optional Valve Assembly from a Smoky Lake Auto Draw Off System, your draw off configuration may look like Fig C.

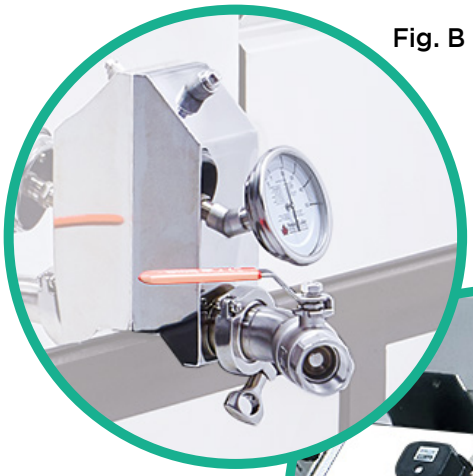
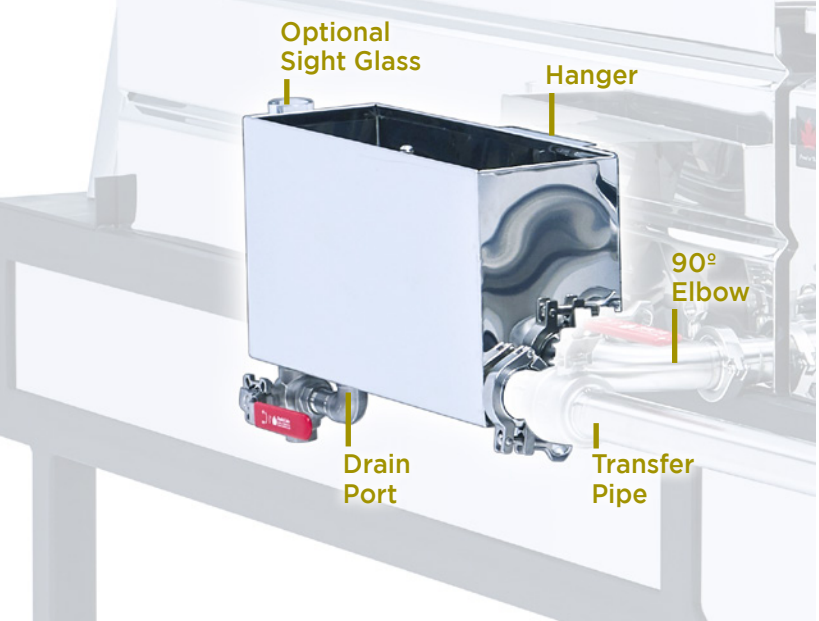


Fig. B

Fig. C

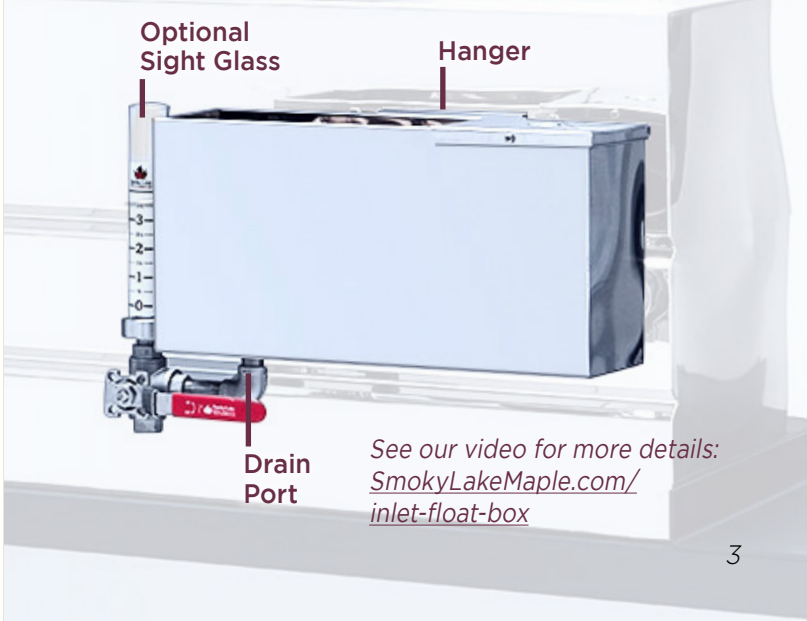
TRANSFER FLOAT BOX

- This Float Box regulates the sap depth of the Front Pan.
- Hang the Transfer Float Box on the bracket near the front of the Flue Pan.
- Use the 90º pipe to connect this Float Box to the Flue Pan. Connect the second 1-1/2″ port to the Transfer Pipe (See page 2). Use the Sanitary Clamps and Food Grade Gaskets provided.
- Connect a Ball Valve or optional Deluxe Sight Glass to the 1/2″ drain port located on the bottom of the Float Box.



INLET FLOAT BOX

- This Float Box helps to maintain a consistent depth in your Flue Pan.
- Hang the Float Box on the bracket near the rear of the Flue Pan.
- Connect the two 1-1/2″ ports to the Flue Pan using the Sanitary Clamps and Food Grade Gaskets provided.
- Connect the top 3/4″ port to your Head Tank of sap. Never exceed 10 feet of head pressure.
- Connect a Ball Valve or optional Deluxe Sight Glass to the 1/2″ drain port located on the bottom of the Float Box.



See our video for more details: SmokyLakeMaple.com/inlet-float-box

CLEANING

Prior to First Use

Make sure all of the protective vinyl has been removed from the stainless steel (if applicable). Then, rinse the pan with clean water.

After Use

Natural Method: PRE-mix a 50/50 solution of white vinegar and hot water. Soak for up to 24 hours, drain and spray out with a hose.

Barkeeper's Friend:
Many folks have had good results with this common household product. The manufacturer's website confirms that it is safe to use on cookware.

More Tips

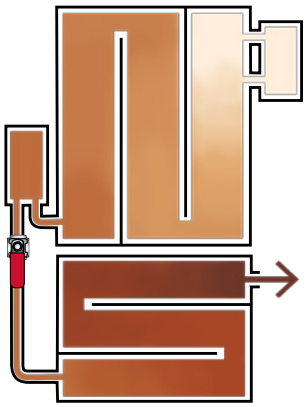
Visit SmokyLakeMaple.com/cleaning-pan

In addition to cleaning the pans, periodically clean all hardware and connections. Eliminate all nitre build-up.

NOTE: Excessive exposure to **any** cleaning agent/acid —including vinegar — could harm stainless steel.

REVERSING THE DIRECTION OF THE FLOW.

- **WHAT IS NITRE?**
  Nitre — also called sugar sand — is a build up of minerals that sticks to the floor of the front pan. These minerals precipitate during boiling as the sap becomes more condensed. The amount of nitre in the sap will vary geographically. Some regions encounter more than others. The amount will also vary from year to year.
- **WHY IS IT IMPORTANT TO REMOVE THE BUILD UP?**
  A large build-up of nitre can harm your front pan and create off flavors in your maple syrup.
- **WHY CHANGE THE DIRECTION OF THE SAP FLOW?**
  When less dense sap travels in the opposite direction, it will pick up and remove nitre from the pan floor.
- **HOW DO I CHANGE THE DIRECTION OF FLOW?**



1. Make sure the fire in your arch is completely extinguished. There should **not** be any intense heat during this procedure.
2. Close the valve on the Transfer Pipe (the pipe which connects the Flue Pan to the Front Pan).
3. Collect several clean, food grade buckets and label them 1, 2, 3, and so on. Draw off the sap from the front pan into bucket 1 (Highest sugar density). Continue drawing off sap into the consecutive buckets, so the higher the number on the bucket, the lower the sugar density of the sap. Drain enough sap to be able to disconnect the Front Pan from the Transfer Pipe. The Transfer Pipe should remain connected to the Transfer Float Box.
4. After disconnecting the Front Pan, turn it 180º. The port which had previously been used for draw off will now be used to connect to the Transfer Pipe and vice versa.
5. After reconnecting your pans, and moving your Draw-off Valve and other accessories to the new draw-off location, you will be ready to reintroduce the sap to the Front Pan. Starting with the highest numbered bucket (the least dense sap), gently pour the sap into the Front Pan at the draw-off location. Continue slowly pouring each consecutive bucket into this location. With each new bucket you pour in, the less dense sap is being pushed back further into the channels. By pouring the sap back into the pan in this fashion, you are reestablishing a gradient.
6. **IMPORTANT! REOPEN the valve on the Transfer Pipe before lighting your evaporator! This is critical!**