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Smoky Lake Maple Products
SmokyLakeMaple.com

Concentric Exhaust System

BENEFITS

- **Minimal Clearance from Combustibles**
  (The Steam Pipe insulates the Smoke Pipe)
- **Dramatically Improved Natural Draw**
  (Heat from the Smoke Pipe increases the natural draw within the Steam Pipe)
- **Fire Safety**
  (Steam helps extinguish burning embers as they exit the Smoke Pipe)
- **Reduced Risk of Roof Leaks or Snow Jams**
  (This system requires only ONE roof penetration as opposed to traditional systems which require at least two.)
- **Easier Hood Removal**
  (The Concentric System includes a Strap Stack for easy disconnect.)
- **Drain for Condensation**
  (This will evacuate both condensation and rain. It also prevents rust from developing in/on your arch.)
- **Cost Effective**
  (Very comparable to traditional systems.)

MADE IN USA

The instructions in this guide summarize the steps as demonstrated in our video:

SmokyLakeMaple.com/ces

FUN FACT
Super Heated Steam is Invisible.

The steam that billows from the Concentric Exhaust System is difficult to see with the naked eye, but it is there! The Steam is actually super heated by the inner Smoke Stack. This makes it invisible, but also helps intensify the draw, pulling the Steam out of your building.

ANATOMY OF A CONCENTRIC EXHAUST SYSTEM

INCLUDED

A | Riser
(As shown above, this part is installed on the Base Stack when using a Raised Flue Pan Set. In contrast, this part would be installed on top of the Hood Hub when using a Drop Flue Pan Set, Hybrid Pan or Divided Pan. NOTE: Some legacy models of Smoky Lake Hoods do not require a Riser.)

B | Tee with Drain Port

C | Elbow

D | Gaskets

E | Strap Stack w/Hardware

F | Concentric Fins, Qty 4 *(See pg 4)*

ADD-ONS

G | Smoke Pipe

H | Steam Pipe
(We recommend a starter piece which includes extra knurling. Not shown here.)

J | Smoky Lake Fitted Hood

K | Stainless Steel Roof Jack w/Collar
(Not shown here.)

SIZES OF CONCENTRIC PIPE SETS

Steam Pipe (Outside) Diameter	*Smoke Pipe (Inside) Diameter*
12″	8″
14″	10″
17″	12″
20″	14″

(Required quantities will vary from sugar house to sugar house. See pg 4 for more information.)

ASSEMBLY

Fig A *(Example Installing Concentric Exhaust with a Drop Flue Pan Set)*

BEFORE YOU START

Be mindful of trusses/structural beams when positioning your evaporator. Exhaust pipes should travel STRAIGHT upward. For more information about penetrating your roof and/or using Roof Jacks, please reference our video: SmokyLakeMaple.com/ces

RECOMMENDED TOOLS

- *5/32 Allen Wrench*
- *7/16 Socket Wrench*
- *High Temperature Anti-Seize*
- *Drill and Self Tapping Screws*
  (Use to secure stack pipe joints)

CONCENTRIC EXHAUST ASSEMBLY

1. **HOODS**
   Install your hoods on top of your evaporator pan(s).

2. **BASE STACK**
   To avoid standing on a ladder, you may choose to remove the Base Stack from your Arch and set it at ground level while you complete the next step.

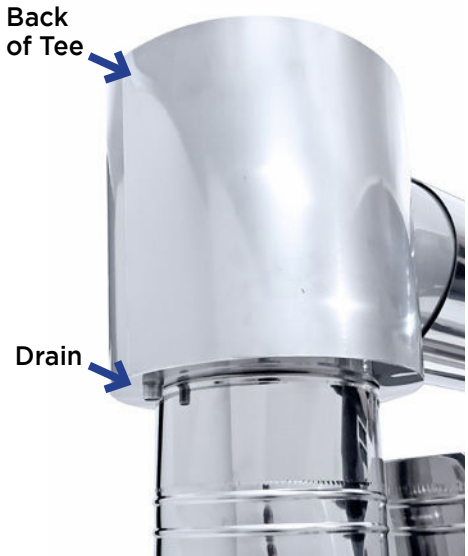
3. **RISER, TEE, SMOKE PIPE, ELBOW**

   IF YOU HAVE A RAISED FLUE PAN SET:
   (See image on page 2)

   - Install the Riser on the Base Stack.
   - Slide your first section of smaller diameter pipe — knurled side up — through the Tee so that the bottom of the pipe is nearly even with the bottom of the Tee. Then, place the Tee/Stack Pipe onto the Riser.
   - Install the Base Stack on the arch.
   - Install the Elbow directly on the Hood hub.

   IF YOU HAVE A DROP FLUE PAN SET, HYBRID PAN OR DIVIDED PAN:

   - Install the Riser on the Hood hub and then the Elbow on top of that.
   - Slide your first section of smaller diameter pipe — knurled side up — through the Tee so that the bottom of the pipe is nearly even with the bottom of the Tee. Then, place the Tee/Stack Pipe onto the Base Stack.
   - Install the Base Stack on the arch.



4. **GASKET**
Install one Gasket on the Elbow and one on the Tee *(See Fig A, pg 3)*.

5. **STRAP STACK**
Install using the provided hardware and anti-seize. The seam should be pointing upward as shown on page 2. See tool list on page 3.

6. **CONCENTRIC FINS**
Connect a set of Concentric Fins around the Smoke Stack Pipe (the inner pipe) like a belt using the hardware provided and anti-seize. The fins should be used every three to five feet to keep the Smoke Stack Pipe centered within the Steam Stack Pipe. See tool list on page 3.

7. Connect your starter Steam Stack Pipe (extra knurling) to the top of the "T" by sliding it over the top of the Smoke Stack Pipe and Fins. This is your outer pipe.

8. Continue building the concentric pipes upward until they BOTH exit your roof. Being sure to use Concentric Fins approximately every three to five feet as described in step 6. WARNING: BOTH OF THE CONCENTRIC PIPES MUST CLEAR YOUR ROOF LINE IN ORDER TO BE COMPATIBLE WITH THE CLEARANCES NOTED IN OUR SPEC SHEET. OTHERWISE THE OUTSIDE PIPE WOULD BE TOO HOT AND YOU WILL NEED TO INCREASE DISTANCE FROM COMBUSTIBLES JUST AS YOU WOULD FOR A REGULAR SMOKE STACK PIPE.

   Recommended distance between the outer Concentric Pipe and combustibles is 3+ inches. In contrast, the minimum distance between your Base Stack and combustibles is 18+ inches.

9. To decrease the number of burning embers, extend the Steam Pipe about 6 feet higher than the Smoke Pipe (ABOVE THE ROOF LINE). This gives the embers opportunity to mix with the steam before exiting.

10. **DRAIN RECOMMENDATION**
Attach a metal pipe to the drain on the "T" to direct any drain water to the location of your choice rather than letting it drip on your Arch/floor.

WHAT IS KNURLING?

"Knurling" is the crimped edge of a stack pipe which allows it to connect to another stack pipe.
Steam Pipes are oriented with the knurling on the bottom to help contain any condensation drips. Smoke Pipe is installed in the opposite orientation — with the knurling on the top — to prevent any rising smoke from escaping.