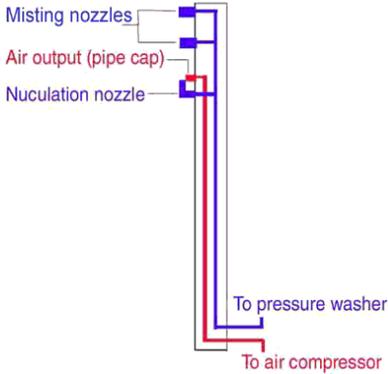




# SG3™ E-Type (External Mix) Snowmaker Plans



### Pros

Inexpensive to build  
Efficient design (external mixing).

### Cons

Higher degree of difficulty to build

### Requirements for Operation of the SG3 E-Type Snowmaker

- Pressure washer with a pressure range of 1200PSI to 1800PSI and a GPM range of 1.3 - 1.7
- Compressor with a minimum rating of 5.4 CFM @ 90PSI \*Please read the FAQ's on compressors

### Construction of the SG3 E-Type Snowmaker

Because this design can be constructed in a variety of ways, we do not supply a detailed parts list. Review the guide below and choose a method of construction that suits the resources available to you.

If you do not have the resources available to you to construct this design consider the **SNOPRO™**. This is a great economical way to begin making snow.

Above is a schematic drawing of the snow maker in its most basic form. This drawing will give you a better understanding of what you are trying to construct. Accomplishing what you see above is all you

need to construct to build a fully functional snowmaker. This can be done with standard 1/4" or 1/8" plumbing or hydraulic hose you can have cut with fittings put on for you at your local truck supply store as shown below. NOTE: Make sure to use Teflon tape on all threaded fittings.



**Plumbing** - We used 1/4inch Hydraulic hose for our plumbing in the photos above. This hose can be cut to any length and have various fittings crimped on the ends. Hydraulic hose can be made up for you at most truck parts stores and is relatively inexpensive. We had 1/4inch male NPT thread fittings crimped on all ends. If hydraulic hose is not available to you, any plumbing can be used to achieve the configuration of the above diagram. Make sure your choice of plumbing can support the pressure of the pressure washer you plan on using with your snowmaker.

**Nozzle Head** - The head shown to the left was fabricated from .063 aluminum folded into a 3"x3" channel. You will need access to a sheet metal brake. You can make yours out of whatever is most available to you. Some suggestions would be 3 or 4inch PVC tubing with the back cut out on top to make the connections. Or possibly some extruded 3x3 square aluminum tubing from your local metal distributor.



**Nozzles & Air Output** - SAH offers an External Mix Nozzle Kit for this design. It includes 2 upper misting nozzles, the nucleation nozzle, and the precision air nozzle. Spacing between all nozzles setups should be 7". If not using the SAH external mix nozzle kit, you will need to drill a 7/64" hole in a pipe cap. This air stream needs to intersect with the nucleation nozzle at a 90° angle like in the photos. The alignment of the air and nucleation nozzle is very important. When proper alignment is achieved it should look like the third photo when running.

**High Pressure Water and Air Connections** - To connect your snowmaker to the pressure washer you can purchase a pressure washer extension hose with 22mm swivel connection on both ends. Use a 22mm fitting on the snowmaker to attach the pressure extension hose. Use a quick connect air fitting on your snowmaker to attach the air line from your compressor.

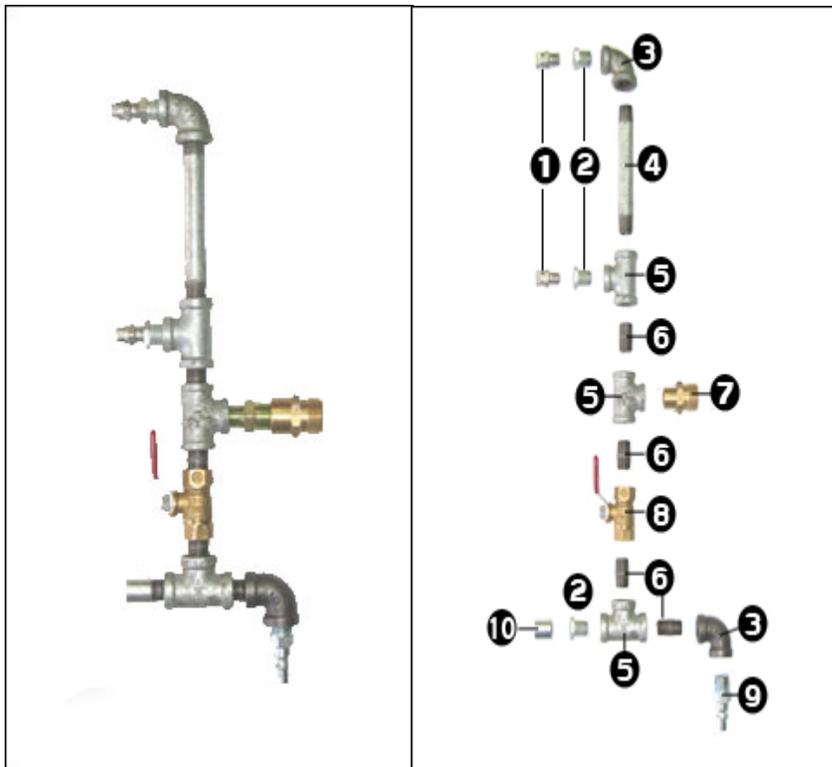
### Operating the SG3 E-Type Snowmaker

1. Check the Weather Conditions are right for snowmaking. [www.snowathome.com/snowmaking\\_weather\\_tools.php](http://www.snowathome.com/snowmaking_weather_tools.php)
2. Attach your SAH-SG3 E-Type Snowmaker to something secure like a ladder or fence post. You can do this with large wire ties or metal hose clamps.
3. Connect one end of the pressure washer extension hose to the 22mm fitting side of the snowmaker. Connect the other end to your pressure washer.
4. Connect the air hose from your compressor to the snowmaker using the quick connect fitting.
5. Connect a garden hose from your pressure washer to your water spigot.
6. Turn on your compressor
7. Turn on the water
8. Turn on your pressure washer
9. You should now have high pressure water coming out of the top 2 upper misting nozzles and the bottom nucleation nozzle.
10. If the weather conditions are right for snowmaking you will now be making snow!
11. HAVE FUN AND ENJOY!

*Due to the nature of the free plans provided we do not offer technical advice on construction or operation on any of the free snowmaker plans. If you are not comfortable constructing a snowmaker from the plans provided, please consider our entry level snowmaker, the SNOPRO™*



# SG2™ Combo (Internal Mix) Snowmaker Plans



### Pros

- Cheap to build

### Cons

- If compressor is shut off for any reason, **PERMANENT DAMAGE** can occur to the compressor from water backing down the air line and into the compressor.
- Need constant attention to keep air water balance
- Galvanized plumbing will rust inside & cause excessive nozzle wear.

### Requirements for operation of the SG2 Combo Snowmaker

- Pressure washer 1.3 - 1.7gpm & pressure range of 1200PSI to 1800PSI
- Compressor with a minimum rating of 5CFM @ 90PSI

### Parts List

1. SAH™ Upper Misting Nozzles - QTY 2 included in nozzle kit
2. ¼" x 1/8" Bushing - QTY 3
3. ¼" x 90 DEG elbow - QTY 2
4. ¼" x 4" nipple - QTY 1
5. ¼" x Tee - QTY 3
6. ¼" close nipple - QTY 4
7. ¼" x 22mm p.w. adapter - QTY 1 included in nozzle kit
8. ¼" mini ball valve - QTY 1
9. ¼" quick air connect - QTY 1
10. SAH™ Air Nozzle - QTY 1 included in nozzle kit

### Other miscellaneous items you will need

- Roll of Teflon tape
- Pressure washer extension hose with 22mm swivel connectors on both ends.

### How the SG2 Combo snowmaker works

This design utilizes internal mixing. The top 2 nozzles on the SAH-SG2 Combo Snowmaker are high pressure water. The bottom nozzle is a "combination" of high pressure water and air, this nozzle is your nucleation nozzle. For more information on how man made snow is made check out our\_snowmaking science page. [www.snowathome.com/snowmaking\\_science.php](http://www.snowathome.com/snowmaking_science.php)

### Assembling your SG2 Combo Snowmaker

- You can purchase the remainder of plumbing parts listed above at most hardware or home improvement stores.
- Assemble the parts exactly as they are shown in the photo. All connections must have Teflon tape pipe sealer before final assembly.

### Operating the SG2 Combo Snowmaker

1. First step is to check if the weather conditions are right for snowmaking. [www.snowathome.com/snowmaking\\_weather\\_tools.php](http://www.snowathome.com/snowmaking_weather_tools.php)
2. Attach your SAH-SG2 Combo Snowmaker to something secure like a ladder or fence post. You can do this with large wire ties or metal hose clamps.
3. Connect the pressure washer hose to the 22mm pressure washer adapter on the snowmaker (At part #7) and to your pressure washer.
4. Connect the air hose from your compressor to the snowmaker using the quick connect fitting. (At part #9)
5. Connect a garden hose from your pressure washer to your water spigot.
6. Make sure the ball valve (part #8) on your snowmaker is closed and turn on the water.
7. Turn on your compressor
8. Turn on your pressure washer
9. You should now have high pressure water coming out of the top two SAH™ Upper Misting Nozzles and air coming out of SAH™ Air Nozzle.
10. Open the ball valve slowly until you see a small amount of water enter the air stream. *It is typical for you to get a pulsing flow, adjust the ball valve to get as steady of a stream as possible.* Remember the valve should be opened a very small amount. You want mostly air coming out of the bottom nozzle.
11. If the weather conditions are right for snowmaking you should now be making snow!
12. **HAVE FUN AND ENJOY!**

Due to the nature of the free plans provided we do not offer technical advice on construction or operation on any of the free snowmaker plans. If you are not comfortable constructing a snowmaker from the plans provided, please consider our [SG4-LED U-Build Kit](#). The U-Build kit gives you everything you need to construct a SG4 snowmaker with detailed instructions for every step.