



BACKYARD  
**SNOWSTORM**



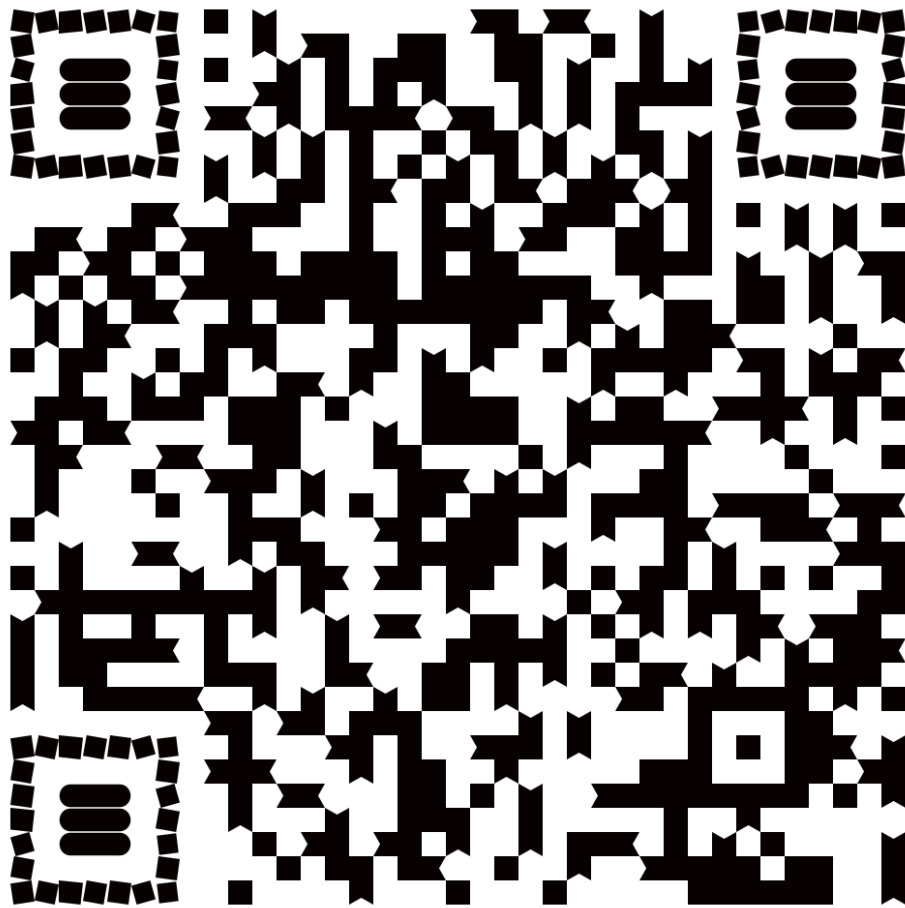
# Little Cloud

**Instruction Manual**

**v2.0**

Congratulations on purchasing a Backyard Snowstorm Little Cloud Snow Gun! We're excited for you to make snow with us!

Please check out our full instructional course below for in-depth instructional videos regarding the Little Cloud Snowmaking System.





## **WARNING!!!**

**This is a high-pressure system. Failure to follow procedures and instructions could lead to injury and/or damage to equipment.**

### **Safety Guidelines:**

- **Always use protective clothing when setting up or taking down equipment.**
- **Follow safety guidelines listed with each pressure washer and air compressor.**
- **Make sure all connections are tight and secure.**
- **NEVER point a snow gun or hose near yourself or others.**
- **Use caution around snow gun surfaces. Surfaces near and around snow gun WILL become wet and slippery.**
- **Follow ALL setup and take down procedures exactly.**
- **Ensure snow gun stand is lowered and secured before turning on any equipment.**

# Table of Contents

Parts and Equipment.....	5
STEP 1 - Prepare the Snow Gun Stand.....	6
STEP 2 - System Setup.....	8
STEP 3 - System Start-up.....	10
STEP 4 - System Take-down.....	12
Troubleshooting Help.....	15
Snowmaking Weather Chart.....	18
Quick Guide .....	19

# Parts and Equipment

(included with Little Cloud)



Snow Gun Body



Low Pressure Filter



Low Pressure Blow Out Tool

NOT INCLUDED:



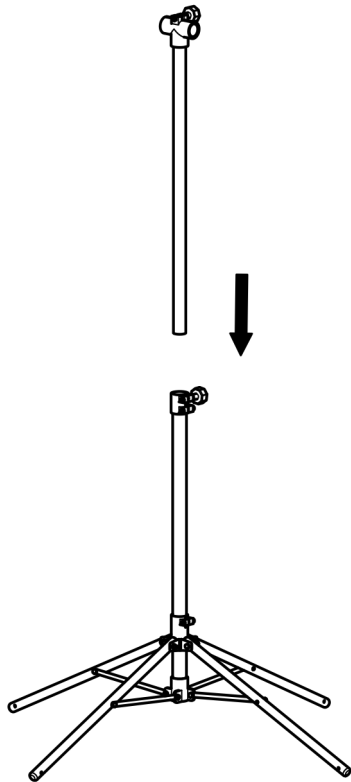
Garden Hose



Air Compressor

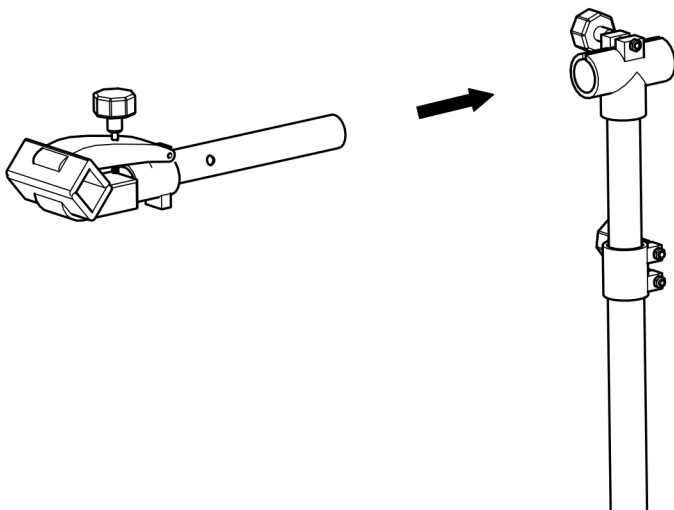
## Step 1 – Prepare the Snow Gun Stand

1-1



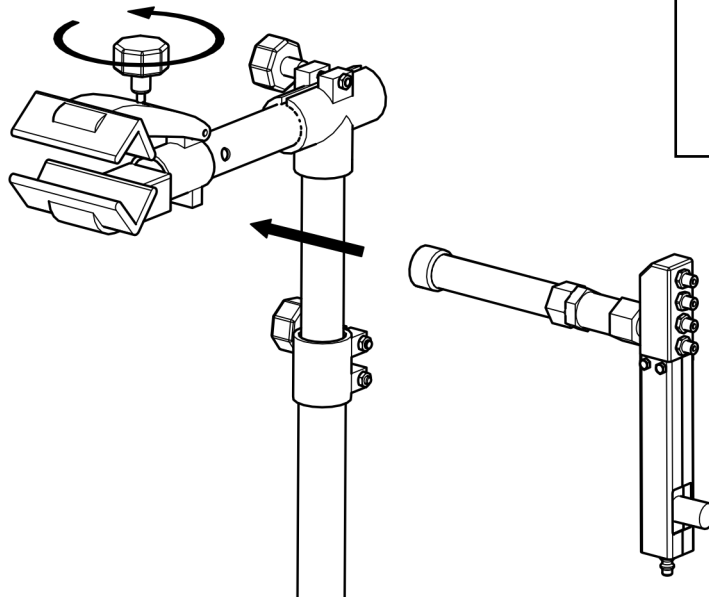
- Insert top stand into the tripod base

1-2



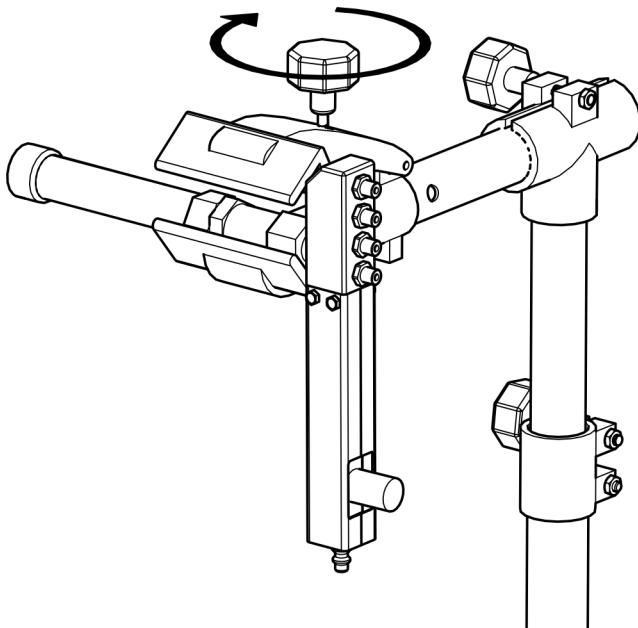
- Position the stand clamp into the stand

**1-3**



- Connect the garden hose to the snow gun, and open the stand clamp. Insert the Little Cloud Snow Gun into the clamp.

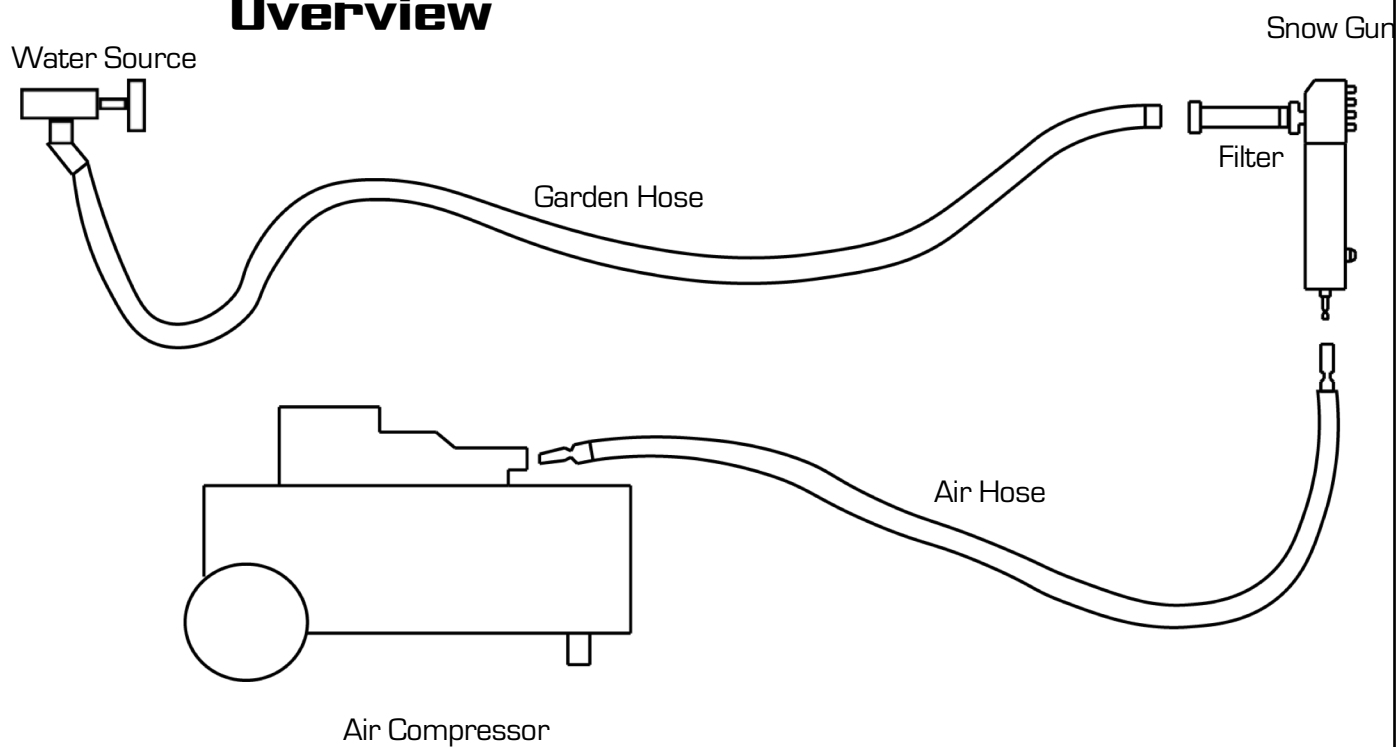
**1-4**



- Secure the Snow Gun by twisting the blue screw. Make sure the snow gun is secure.

## Step 2 – System Setup

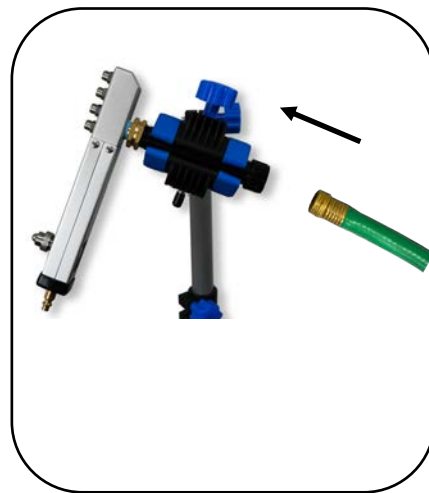
### Overview



### 2-1



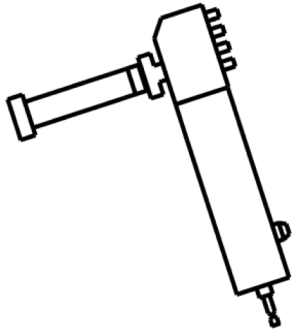
- Connect garden hose to water source



- Connect garden hose to Snow Gun



## 2-2



**Tilt Snow Gun Back**  
(tilting the snow gun angle back will provide more "hangtime" for snow formation)



- Make sure all connections are tight! Use Teflon Tape to wrap any threads to create a tight seal.
- **Make sure snow gun stand is secured and lowered**

**You are now ready to turn on your system! Continue to step 4...**

## Step 3 – System Start-Up

3-1



- Turn on the water

**Make sure water flows through the entire water line and exits the snow gun.** Water should exit the top misting nozzles, and a small stream should exit the bottom nucleation nozzle.

3-2



- Connect air hose from compressor to snow gun
- Turn on air compressor and allow pressure to build

**Pressure at the compressor should run between 75 – 125 PSI**

-Do Not Regulate Air Compressor. Let full air flow through the snow gun

### **3-3**

Setup

- Turn on Water

Quick Review

- Plug in/Turn on Air Compressor

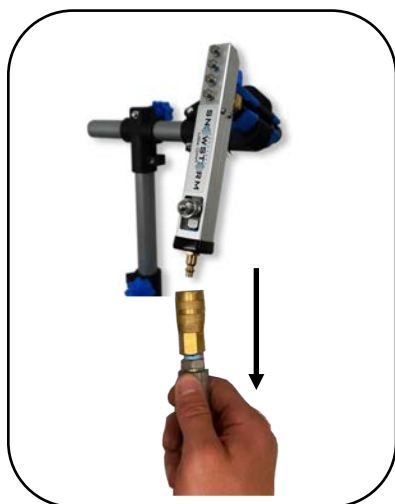
**DO NOT PLUG IN AIR BEFORE TURNING ON WATER SOURCE!**

The cold compressed air can quickly freeze the bottom nucleation nozzle and will require de-icing to blow snow.

## Step 5 – System Take Down

4-1

Take Down Procedures are the REVERSE of the start-up procedures



- Unplug the air line from the snow gun

**Do not drain the compressor. Compressed air is required to blow excess water out of the head.**

4-2



- Turn OFF the water at the water source



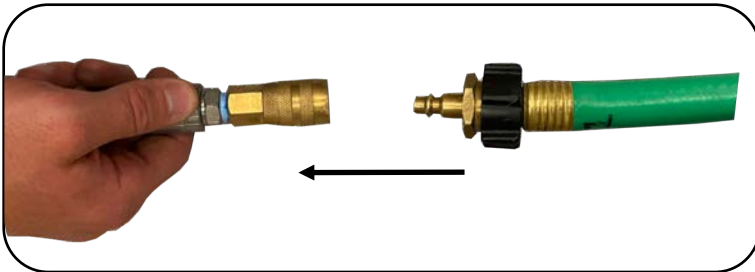
- Disconnect the garden hose

## 4-3



- Insert Blow Out Tool into the female end of garden hose

**USE CAUTION!!! Make sure snow gun and hoses are SECURE.**



- Plug Blow Out Tool into the air hose/compressor to blow out water

The compressed air will push water through the garden hose and out of the snow gun. Thoroughly blow out the water line (5-10 min if necessary)

The goal is to remove all water from the system. This will ensure the functionality of your snow gun and will make future snow making sessions easy and hassle-free!

- Start by blowing out the garden hose
- Blow out snow gun separately after to ensure no water is left

**FIRMLY SECURE HOSE END WHEN BLOWING OUT SEPARATE EQUIPMENT!!!**

## 4-4



- Store Equipment in a dry, warm location

**BEST PRACTICE:** store your equipment in a large storage bin indoors or in an area that is above freezing temperatures. Even though no water should be left in the equipment after the blow out process, storing in a dry, warm location will extend the life of your equipment and make things easy when setting up your system next time you want to make snow.

## 4-5

### Take Down Quick Review

- **Unplug Air Hose**
- **Turn OFF Water**
- **Blow out entire water line** (Each item separately is recommended)
- **Store Equipment for next time!**

# TROUBLESHOOTING HELP

## MAKING ICE (or low-quality snow)

**Restricted Air Flow:** The bottom nucleation nozzle needs a high amount of air flow + air pressure to break up the water into smaller droplets used for nucleation. If this air flow is restricted, the ice crystals formed will be too large and nucleation will be difficult or impossible, resulting in ice. Here are some possible reasons you may have restricted air flow:

- **Undersized Compressor** (will not supply enough air flow/pressure needed for the nucleation nozzle)

**SOLUTION:** Make sure your air compressor meets the minimum output requirement of 4.5 CFM @ 90 PSI

- **Restricted Air Hose** (naturally, water in the air will be pulled into the compressor tank and pushed through the air hose over time. This water will collect and freeze inside the air hose and slowly start to restrict air flow to the snow gun. Typically, a 25' air hose will have 3-4 hours of good use before this becomes an issue. Longer air hoses will freeze even quicker)

**SOLUTION:** 1.) Use a short 10' air hose to eliminate this issue. Shorter air hoses will significantly reduce the likelihood of water freezing in the air line. A 10' air hose will have no issues for 12+ hours of use. 2.) Use a larger diameter air hose to increase the amount of time before clogging becomes an issue. 3.) Insulate your longer hose to prevent freezing/clogging. 4.) Install a desiccant air dryer on your compressor to eliminate any water from entering the tank and hose.

## TROUBLESHOOTING HELP

### MAKING ICE (or low-quality snow) CONTINUED

- **Wind / Heavy Natural Snow Fall** (Wind can blow water and snow back onto the snow gun, resulting in ice accumulating on the head and restricting the bottom nucleation nozzle spray plume. If the spray plume is unable to mix with top misting spray, ice will form instead of snow)

**SOLUTION:** Wait until it is NOT windy to make snow. If you choose to make snow in the wind, try pointing the snow gun spray with the wind, NOT against it. Another option would be to use heat tape on the head of the snow gun. If snow does fall back onto the snow gun, the heat tape will melt the snow and stop it from building up.

- **The Temperature/Humidity combination is too warm**  
(Sounds simple, right? Making snow on the edge of “possible” snowmaking conditions is difficult. Many times, the temperature/humidity shown on most phone apps are not entirely accurate.)

**SOLUTION:** Wait until temperatures drop to at least 28°F to make snow. Pay attention to the forecast and how cold it will get during the night. If the low is on the edge of snowmaking temperatures, it may be worth it wait for a colder night. If the low is predicted to be much colder, then you can be confident that temperatures will continue to drop, and snowmaking will be possible.



## TROUBLESHOOTING HELP

### MAKING ICE (or low-quality snow) CONTINUED

- **No water is exiting the Nucleation Nozzle** (The most common reason that no water would exit the nucleation nozzle is because the nozzle in the snow gun is frozen. If the air hose was connected before the water feed was turned on, freezing can occur. This can also occur if water was left in the snow gun and froze during setup)

**SOLUTION:** Take the snow gun indoors to thaw. Run the snow gun under warm water if necessary. If freezing occurs, it is likely in the small fitting directly below the snow gun head inside of the aluminum housing. Run warm water over the bottom of the snow gun head near the top of the housing.

Make sure no water is left in the snow gun after use. Use the HP Blow Out Tool to remove all water from the snow gun after each session. Store indoors in a warm, dry location. Bring the snow gun outside only when you are ready to turn the water on to minimize the snow guns exposure to cold temperatures.

# Snowmaking Weather Chart

Outside Temperature (F')	WET BULB TEMPERATURE								
	20%	30%	40%	50%	60%	70%	80%	90%	100%
14°	9	10	11	11	12	12	13	13	14
15°	10	11	11	12	13	13	14	14	15
16°	11	12	12	13	14	14	15	15	16
17°	12	13	13	14	14	15	16	16	17
18°	13	13	14	15	15	16	17	17	18
19°	14	14	15	16	16	17	18	18	19
20°	14	15	16	16	17	18	19	19	20
21°	15	16	17	17	18	19	19	20	21
22°	16	17	17	18	19	20	20	21	22
23°	17	18	18	19	20	21	21	22	23
24°	18	18	19	20	21	22	22	23	24
25°	18	19	20	21	22	22	23	24	25
26°	19	20	21	22	23	23	24	25	26
27°	20	21	22	23	23	24	25	26	27
28°	21	22	23	24	24	25	26	27	28
29°	21	22	23	23	25	26	27	28	29
30°	22	23	24	25	26	27	28	29	30
31°	23	24	25	26	27	28	29	30	31
32°	24	25	26	27	28	29	30	31	32
33°	24	26	27	28	29	30	31	32	33
34°	25	26	27	29	30	31	32	33	34
35°	26	27	28	29	31	32	33	34	35
36°	27	28	29	30	31	33	34	35	36
37°	27	29	30	31	32	34	35	36	37
38°	28	29	31	32	33	35	36	37	38

IDEAL SNOWMAKING  
MARGINAL SNOWMAKING  
SNOWMAKING NOT POSSIBLE

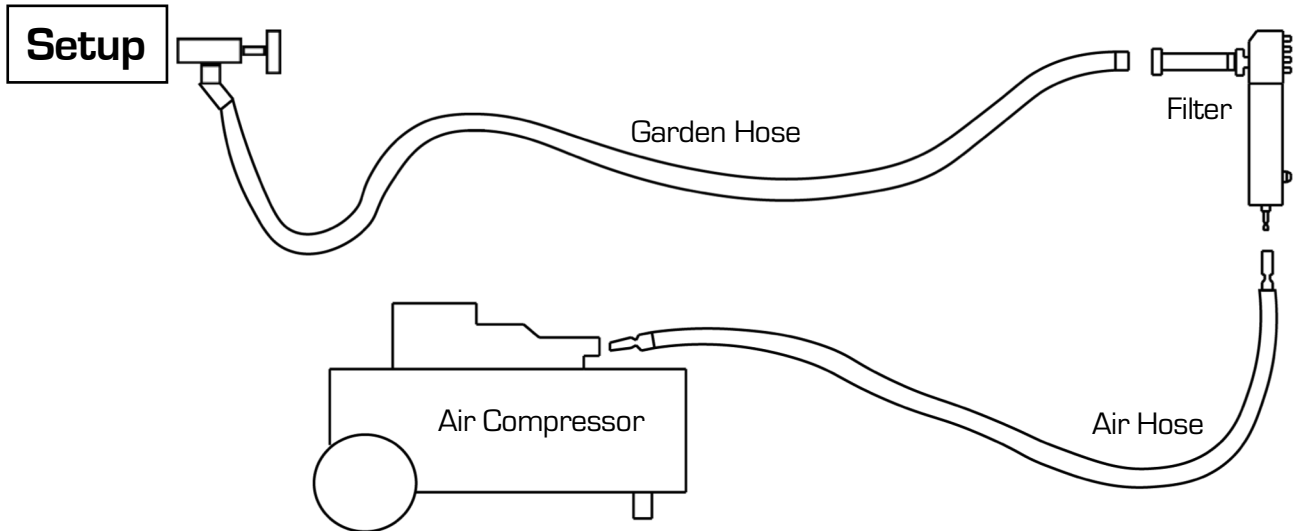


Snowmaking is possible when the temperature and humidity (Wet Bulb Temperature) are in the correct range. Snow created in the Ideal Snowmaking Section will be higher quality and “lighter” (powder snow). Snow created in the Marginal Snowmaking Section will be a little “heavier” (packing snow).

**EXPERT ADVICE:** Wait until the outside temperature reaches 28°F or lower to turn on your system. Trying to make snow on the edge of marginal conditions can yield poor results.

## Quick Guide

Snow Gun



- Turn on water
- Connect/turn on air compressor

**Air Pressure: 70-125 PSI**

### Take Down

- Unplug air hose
- Turn off water
- Blow out water line/individual components
- Store equipment in a warm, dry location

### EXPERT TIPS

- Use a 10' air hose, air dryer, or insulated air hose
- Wait for 28°F or colder to start the system
- Blow out each item separately after each session
- Store equipment in a warm, dry location