Snow Machine Logistics

Snow fall event professionals requires practice and knowledge of what equipment is out there and available. There are six snow machine options and many types of effect fans. The use of effect fans along with grouping machines is the basic secret. The placement of snow machines at 15 – 25 feet apart will give a room great coverage. The use of effect fan along with the room air currents or wind help moves the snow around give the natural coverage. I have found that you just want to cover 75 % of the room to get that holiday feel.

Snow machines need to be above the heads of the audience, that's 12 ft - 15 ft - 18 ft to 30 feet height off the ground level. That means on tripods, roof tops, awnings, free standing truss and lifts. Indoors you will need to be near the ceiling on chain motor Truss, free standing truss tripods to get the machine as high as possible. Indoors you'll need an awareness of the floor type and the height of the machine, and adjust the flake size accordingly. Carpets , concrete and grass are no worry surfaces. On tile floors, marble floors and wood floors you need to have the machine high and use a small flake (Flurry) size. Using a DMX machine like a T -1100 - T - 1500 allows for total Flake control.

Once we are set us we can control the machines with a remote control. We can make an incredible amount of snow that can blow throughout the day. You have 60 minutes of snow to use and addition hours we will need extra fluid at 45.00 a gal.

Don't forget that at night you will need to light the snow. Malls for example have lot of ambient lighting that works well. Snow in a ballroom will need us to address lighting the snow.

We arrive and either set up our machines at a high spot with the venue supplying a lift. The electric supply is worked out by the venue and is ready for us. If a high spot is not ideal we set the machines on tripods or trussing.

It's best for the snowfall to be close to the action or poeple. It's also best if you provide an area so kids and play under the snowfall. Unless you want a theatrical opening of your holiday production and the snow to fall over a stage area.

In the state of Florida will save you money on cargo.

Electric

The machines need 10 – 15 amps each. Using extension cords lose 1.5 amps every 20 feet. If you're in a park, rooftop or remote location this will have to work out your end. . Providing 2-4 20-amp circuits is not a problem for a commercial property. We do have 12/3 cable runs as well.

Placement

All machine placements will need some material or supplies.

High spot – We look for a high spot for the machine placement. We hang a machine on a pipe, or place on a level shelf or baloney.

Tripod – we can use tripods for placement.

Truss – from a lighting company

Lighting- from lighting company or flood light from Home depot.

Rooftop – will need to have an even surface or a wood frame and shelve built

Outdoors wind

Since this is an outside event wind will be a factor. If the wind is blowing in the direction that the machines are pointing then it will help the distance that the machinescovers. If

the wind is working against the machines then you might not get the expected coverage. Outdoor every night will be a different show.

Shooting off a roof we need a surface even to place the machines even with the ledge so that our machines can aim and spray right off the front edge. If your rooftop is flat and even not problem but if your roof had a drop behind the false front façade we would need a build up of that area where ever we have a machine placement.

These surfaces are not perfectly even, but works.

As an alternate method, I recommend freestanding truss in the streets will be a better plan. If your Mall maintenance dept can attach cross poles to the light poles already in the street so we can hang the machines (see photo) this better.

The clients here elected to custom make hang bars and place an electric box next to the unit. These cross bars are option that the manufacturer makes for the lamp posts for hanging signs and may be bought from the manufacturer.

Tripods for a temporary install indoors or outdoors

One of the biggest challenges, and most often overlooked factor when using snow, is proper lighting. Back lighting, and to some extent side lighting, are vital to the audience being able to see a snow effect well. If lit from the front only, the effect's visibility will be poor at best. Lighting can be especially challenging in a ballroom or other "total environment" setting or venue, when your audience will be viewing the snow from multiple angles and positions in the room. Ideally, you want your lighting to come from above, yet below the snow machines, like hiding the snow machines in the dark above the light

sources. By hiding the source of the snow, you add to the sense of wonder this effect often has on an audience.

Tripods hidden next to a tree.

Freestanding truss and lighting @ 15 ft off the ground

The freestanding truss will be on floor plates (in a inverted U shape) 15 foot high (a 10 ft section with a 5 foot section bolted on top) with a 5-foot section spreading the truss apart. (see photo) Sandbags to keep the base solid.

The free standing truss (that we hook our gear on) will be needed in two locations. You can rent this from a stage equipment company. The electric will be need at the top of the truss.

The truss needed in each location and separated by 40-70 feet
2- truss base plates
2- 10 foot truss sections 12x12
3- 5-foot truss sections 12x12
2- Connor truss box sections 12x12
8-sandbags

Two of these are needed, so here the order to the stage and lighting supplier
4- truss base plates
4- 10-foot truss sections 12x12
6- 5-foot truss sections 12x12
4- Connor truss box sections 12x12
16-sandbags

The freestanding truss will be on floor plates (in a inverted U shape) 15 foot high (a 10 ft section with a 5 foot section bolted on top) with a 5-foot section spreading the truss apart. (see photo) Sandbags to keep the base solid.
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I will need a lift or 20-foot ladder to get the machines on the truss.

This photo shows the snow spray and how a the roof need to have a solid footprint of roof or a wood stand to make the machine or grouping of machines even with the edge.
Most roofs have a front façade that drops down. We need an even surface to spray off of so a wood frame (box) covered in 3/4 ply on top and 5/8 ply on sides. It should be able to fit up to the facade wall.

Snow Evaporates On Cue
Our snow machines have DMX Software that allows the control of the 100 snow flake size options, which is the key to make the "flakes" disintegrate more rapidly. The "flake size" control varies the speed of the pump, and therefore the amount of fluid sprayed. More evaporating snow fluid results in more and larger clusters of bubbles. If the machines are placed 10 foot off the ground we will need smaller flakes to make the snow evaporate before the flakes hits the ground. If the machines are placed 30 feet off the ground a larger flake size can be used.

The flakes size and travel time makes the snow evaporates on cue.
0 - 3/16 inch flake - 10ft
1/8 - 1/4 inch flake - 20ft
1/4 - 1/2 inch flake - 30ft
Only our professional grade snow machines have these abilities.

Evaporative time: Small – medium flakes: 30-90 secs
Large flakes: 90 to 120 secs

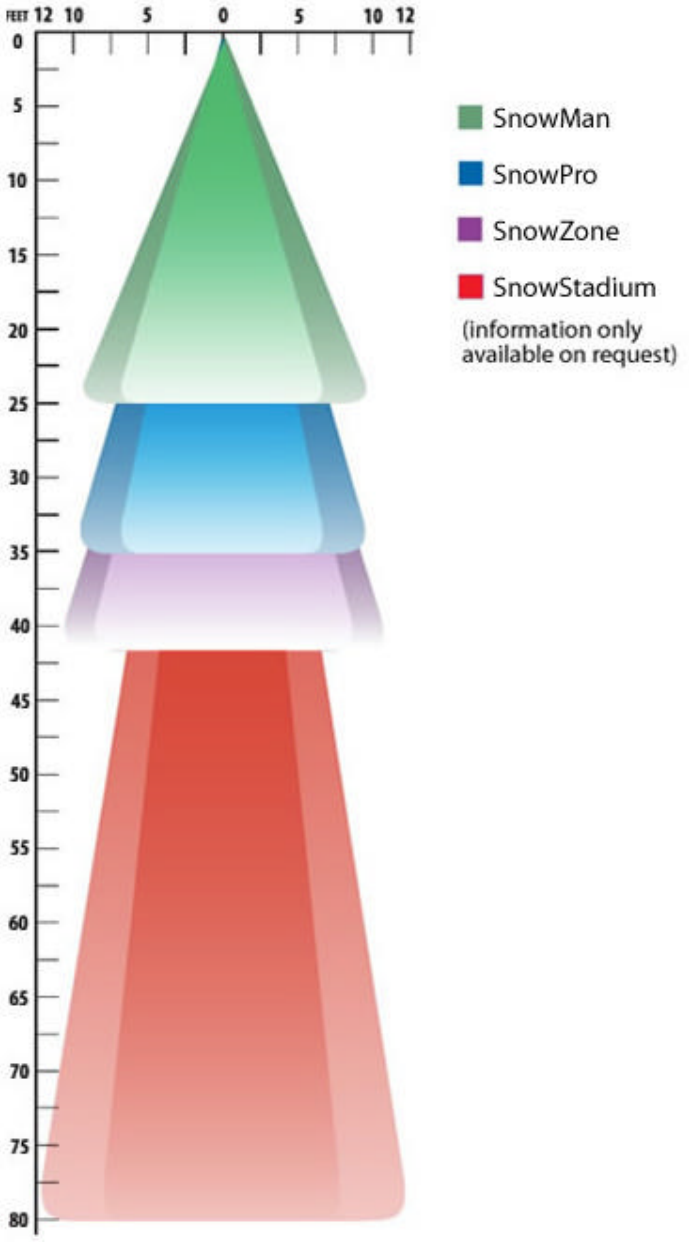
Duration of snow per gallon: approximately 1-1½ hours per gallon of continuous use (depending on flake size)

Snow Flurries Snowstorms and Blizzard Distances

We can obtain an unbelievable snowfall or snowstorm with blowing blizzard snow going long distances from heights of 14 feet above the ground. The different colors show the different machine options.

Snow machines produce a “cone” of snow which is smallest near the machine and disperses as you get further away creating a “curtain effect” Our snow units archives distances of 25 - 80 feet indoors at a 30 foot height, while with outdoors winds going further. We can increase the distances and direction of the overall effected area through the use of judiciously place effect fans in combination of grouping our high output high - volume machines.

This distance chart represents an bird's eye view of our different machine options with the snow machines placed indoors at 30 feet from ground with unobstructed air flow. The chart to the rightshows the higher the special effect snow machine is placed the further the distance and wider coverage at 15'- 20'- 25' - 30 feet.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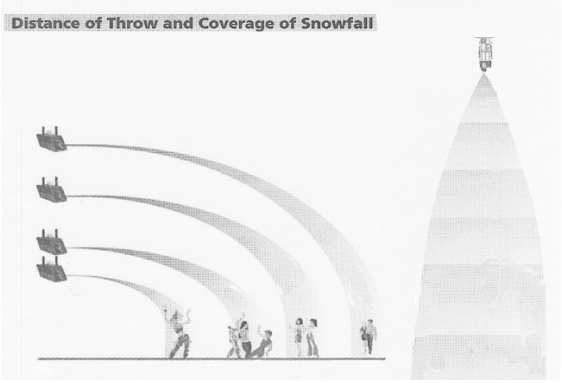
Distance of Throw and Coverage of Snowfall

Effects fans
We can blow show to 80 feet using effect fans and blowers. Grouped with two machines make to a large snow zone.

Electric requirements
We need clear true power.
Machines and effect fans are either 10 or 15 amps each
Two machines and an effect fan need a 30-amp circuit or two 20-amp circuits.
Each machine should have a dedicated 20-amp curcuit.

The machines T-1000, T-1100- T-1600 use a 10 amp draw, or a T-1500 uses a 15 amp draw. The machines work best with a dedicated 20 amp circuit for each machine. The T- 5000 uses two dedicated 20 amp circuit each. To gain best results us 10/3 - 12/3 power extension cords

The math on the amp draw required to run 10 - 10 amp machines, the total amps required are 100 amps. This calculation is with out extension cords. This would add 1 amp for every 20 feet of extension cord. That be said the first thing we need to see is the amps at the machine locations. Each machine needs dedicated circuits. Not shared with lights. My experience proves that power is the number one problem when using snow machines. The first sign is usually when the throw of a machine is less than 10 feet with the wind to your back.

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16 gauge, 25 or 50 feet, 13 amps, 1625 watts
16 gauge, 100 feet, 10 amps, 1250 watts

14 gauge, 25 or 50 feet, 15 amps, 1875 watts
14 gauge, 100 feet, 13 amps, 1625 watts

12 gauge, 25, or 50 feet, 20 amps, 2500 watts
12 gauge, 100 feet, 15 amps, 1875 watts

Conductor size (AWG)	10 ft.	25 ft	50 ft.	100 ft.
18 gauge	10 amps	10 amps	10 amps	7 amps
16 gauge	13 amps	13 amps	13 amps	10 amps

14 gauge	15 amps	15 amps	15 amps	13 amps
12 gauge	20 amps	20 amps	20 amps	15 amps

Access
We will need scissor lifts, boom lifts, and ladders
Machines should have 24-hour security guards.

Weather
Our machines are weather Resistant.

Shipping

Snow machines shipping has increased this year due to the cost of a barrel of oil (gas surcharge), UPS Supply Chain and FedEx - FedEx Ground has increased prices. As oil prices increase so does shipping fuel surcharge. We charge the quoted fees given by these companies and we have not increased our prices. Its beyond our control. We need you shipping address to get a quote. We use UPS Supply Chain, FedEx ground and FedEx Express.