



SnowNews



A TIMELY NEWSLETTER FOR OWNERS AND OPERATORS OF SNOWMAKING EQUIPMENT WORLDWIDE

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Editorial

SMI is again having a strong business year. Customers continue to see the benefit of Fan snowmaking, particularly in marginal temperatures. With big throw, quiet and energy efficiency SMI snow performance is excellent across the full temperature range from marginal to cold. The products are flexible and easy to use and SMI's service and support remain top-notch.

Our engineering and construction teams remain the best in the industry with work across the world. From simple piping extensions to pumphouse modifications to multi-million dollar turnkey projects, all are regularly installed by SMI's team of professionals.

SMI's newly organized North American sales force allows our representatives to work only on SMI projects and products. This results in better communication, coordination and service.

SMI continues to invest in the future with a tremendous push into automation in the past few years. Over 25% of the machines SMI will sell in North America this year will have semi or full automatic controls. Technology, pricing and support factors have all come together and SMI will continue to place a strong emphasis on automation.

Over half of SMI's product will be sold this year with tower mounts as more customers realize the benefits of fan technology in fixed position snowmaking. Tower fans really are the ultimate answer for all conditions. Having the snowmaking capacity to open your core trails to full width simply and easily in marginal conditions continues to be one of the keys to a successful resort.

As you continue to evaluate your snowmaking system, future needs and the complexity of issues, we hope you will consider SMI as a source for information.

Have a great season!



Automation

SMI's automatic strategy has continued to develop and evolve over the past twelve years into making simple, solid and well designed software and products.

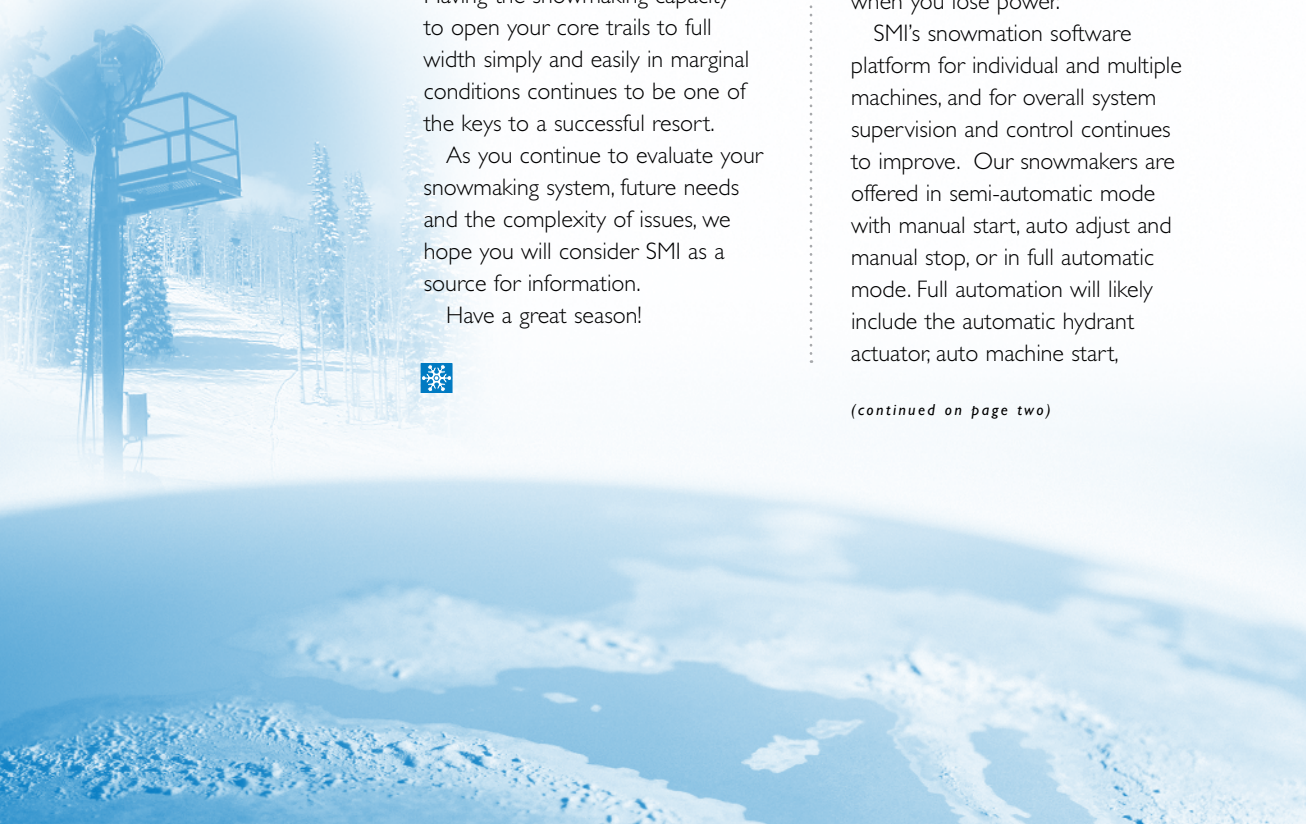
SMI's new automatic hydrant and continuously improving snowmation control system are the final pieces in the range of fan products. The automatic hydrant is adaptable to most water hydrants on the market today. The SMI auto hydrant offers

“Over 25% of the machines SMI will sell in North America this year will have semi or full automatic controls.”

full open, full close, and throttling capabilities and closes automatically when you lose power.

SMI's snowmation software platform for individual and multiple machines, and for overall system supervision and control continues to improve. Our snowmakers are offered in semi-automatic mode with manual start, auto adjust and manual stop, or in full automatic mode. Full automation will likely include the automatic hydrant actuator, auto machine start,

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Technology of Snowmaking

Snowgun Choices

The myriad of snowgun choices on the market today makes the snowmaking landscape a bit more complex. Water sticks, tower air, conventional air, fans, tower mounts and carriage mounts offer a lot of choices. Here is an approach to help you better understand where you are at and some of the alternatives to consider.

Snowmaking costs are best measured across a season and evaluated by temperature in cost per acre

“Don’t your signature, highly visible trails need to be looking good in all conditions?”

foot or gallons delivered. Some ski areas use dollars per hour across the entire season. The big expense factors include both capital and operating costs. Operating costs break mainly into energy, labor, maintenance, depreciation, additives and transport costs.

Gun selection factors primarily include snow production in marginal and typical conditions along with energy costs. However, throw, flexibility in multiple weather conditions, ease of operation, noise, appearance, tower heights and water pressures are all becoming important factors. Be careful evaluating a snowgun in only one weather condition. Some products today have only one “sweet spot” for operating. Raise the temperature two degrees and then check out the real marginal performance. It

can be quite surprising.

Gun performance dimensions of simple on/off, one step water adjustment or multiple water and/or air speeds are now very important in determining flexibility and snow quality. Can you afford to wait until it gets to below -7°C (20°F) before commencing snowmaking? And if it gets too cold, is the snow too dry with on/off technology? If the gun performs well at 23° or 24°F (-5°C), what happens to production at 26° or 27°F (-3° to -4°C)?

Fan snowmaking guns typically have the highest capital cost, but their superior performance in marginal, typical and cold conditions across the temperature spectrum combined with low energy costs make these products the winners. Add in the big throw, quiet, and ease of operation and you can quickly see the advantages. Don't your signature, highly visible trails need to be looking good in all conditions? Tower fans are worth the investment, particularly on your most important beginning and intermediate trails.

As you evaluate the weather at your area over ten year increments, we think you will find this chart to

Weather Over 10 Year Increments

- **3-4 years cold conditions**
 - easy to make snow
 - lots of cold hours
- **3-4 years medium conditions**
 - challenging to make snow
 - some cold hours
- **2-4 years marginal conditions**
 - very hard to make snow
 - very limited cold

In those 2-4 years out of 10 when snowmaking is real challenging, Tower Fans will pay for themselves by opening your best trails simply and economically in the most marginal conditions.

Automation

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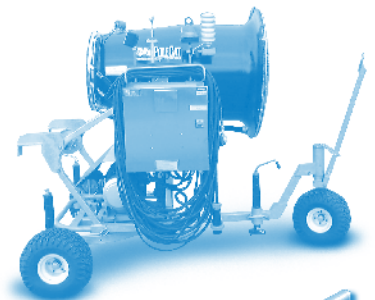
auto machine adjust, auto pressure control across the performance range and automatic stop and drain on loss of temperature or system problems. SMI's system supervisory software offers a variety of screen packages and can be priced to fit any automation budget.

The communication to the machines can be via hard wire or radio modems or both to allow maximum flexibility. From simple machine and weather only information to trail and mountain snowmaking to full plant monitoring and control, all can be achieved with SMI's advanced automatic control package.

Contact your local representative for more details today.



Full mountain automation view



Radio-controlled Super Polecat auto snowmaker



SMI Hydrant Actuator



Recent SMI Construction Projects



Big Sky, Montana



Homestead, Virginia



Crotched Mountain
Crotched, New Hampshire



DEER VALLEY™
Deer Valley, Utah

Snow Facts

Quiet snow... Ever wonder why a fresh snowfall seems so peaceful? One reason is that freshly fallen snow muffles sound. Air pockets get trapped between flakes as they land, and the air pockets help absorb sound.

Snowflakes form... in much the same way raindrops form. Water vapor freezes onto microscopic bits of dust, salt or other nuclei creating tiny ice crystals. Winds throw the crystals up and down in the clouds, causing them to merge with others or grow with the help of super cooled water droplets.

Cold snow... Not all cold places have lots of snow. Air that is too cold contains little or no moisture and snowflakes cannot form. Snowflakes are much more common in the northern United States than at the North Pole!

Blizzard... A blizzard is the most dangerous type of snowfall. Winds must be at 35 miles per hour (56 kph) at temperatures below 20°F (-7°C). These conditions cause the snow to whip around and significantly lower visibility.

Barometric pressure... Due to gravity, our atmosphere has weight. About a ton of air is pressing down on you all the time, but you don't feel it. That's because the same air pressure surrounds and supports you. Air pressure is measured with a barometer. When air is cold and dry, it weighs more (high pressure), so the barometer is higher in fair weather. When air is wet, it actually weighs less (low pressure), so the barometer is lower when it is raining. Changing barometric readings indicate a



change in weather. A falling barometer indicates a change in weather. A falling barometer indicates precipitation is rising. A rising barometer means clear skies are on the way. In snowmaking, generally a clear cold night creates the best conditions for optimal production on high pressure nights.

Dew point... The temperature air would have to be cooled in order for saturation to occur. The dew point temperature assumes there is no change in air pressure or moisture content of the air.

Wet bulb temperature... The lowest temperature that can be obtained by evaporating water into the air at constant pressure. The name comes from the technique of putting a wet cloth over the bulb of a mercury thermometer and then blowing air over the cloth until the water evaporates. Since evaporation takes up heat, the thermometer will cool to a lower temperature than a thermometer with dry bulb at the same place and time. Wet bulb temperatures can be used along with the dry bulb temperature to calculate dew point or relative humidity.



Bright Thoughts:

"Anything worth doing takes a risk... go out on that limb, that's where the fruit is."

-Cynthia Brian

"Most of the free world is managed by disciplined people who rise early and work late, and who take pleasure in their craft."

-Hugh Hewitt

"Good judgement comes from experience and experience, well, that comes from bad judgement."

-unknown

SMI Successes



**Crotched,
New Hampshire**

90 Super and Standard PoleCat
Towers and Carriages



**Snow Summit,
California**

35 Semi-automatic Snow Wizard
Towers and Carriages



**Heavenly,
California**

25 Fully automatic Super PoleCat
Towers and Carriages



**Homestead,
Virginia**

25 Super and Kid Wizard Towers
and Carriages



**Perfect North
Slopes, Indiana**

25 PoleCat Towers

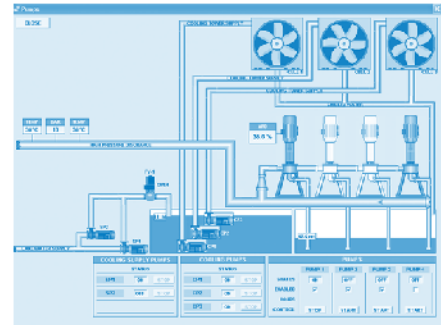
SMI Factory Service and Support

SMI continues to place significant resources into service and support from our factory in Michigan.

We thought you might enjoy a picture of some of our team!



Super Polecat automation information view



Typical pumping automation view

Return Service Requested

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