

WOOMERA SNOW GUNS PTY LTD

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History

Woomera Snow Guns have been in the business as a snow maker manufacture since 1959. We make ground, tower and fan air fan snow makers. In addition special snow makers are fabricated for cryogenic application. Woomera has extensive knowledge in both outdoor and indoor snow making. From a skiers point of view we make snow that is "skier friendly".

October 1959

Given a Larchmont Blizzard model snowmaker I was asked to carry out a snowmaking test on Mt.Buller. Larchmont had stated that it would make snow when the temperature went below freezing. The result was a fog creating a deposit like dew on the grass, but no snow.

Some years later while waiting for it to snow on holiday at Falls creek in the mid 60's it was noticed that where there was some snow on the ground there was a build up on that snow when the snow fell, but on the surrounding bare area the minimal snow build up was washed away with the following light rain. Realising that a small cover of snow would allow the ski area to open and have the snow depth increase if some snow was made on the ground early in a season, the thermodynamics of snowmaking was investigated. As the U.S. snowmaking equipment manufacturers believed the process was a sensible heat exchange to make snow from fine water droplets, our calculations indicated that snow did not appear until the temperature was under -20 C by this process. As snow had been made overseas at higher temperatures, then it must be by another process.

The effect of evaporative cooling was investigated and found to be viable for a higher temperature for which snowmaking would be successful. Calculations indicated that a very low humidity snow could be made up to +10 C, but that it was most likely that it would be economic up to +6 C.

Based on these principles components of a snowmaking system were envisaged and designed. For compressed air/water snowmaking, we were given an opportunity to commence making these components and to flow test each component. In 1973 during one of these tests some snowcrystals were made – *our first indoor snowmaking*.

1975

We were given an opportunity to test these systems at Falls Creek, firstly using a fan snowmaker (lower cost infrastructure) and later an air/water snowmaker.

The fan snowmaker did make some very thin snow at -5 C and it was apparent that more development was needed to make this system viable in Australia. The air/water system at -1C worked exactly as predicted and made quantities of snow laying down a continuous surface in 20 minutes.

As the various businesses at Falls Creek could not agree to pay for a snowmaking service, Mt.Baw Baw was investigated to see if it was viable for a commercial test system.

This system was manufactured and installed, found to make snow which enabled the area to be the only lift open in Australia causing a flood of customers. Unfortunately the business that made the most out of the snowmaking did not make the agreed payment, so we withdrew the system to reinstall at Mt.Buller to test snowmaking there in 1977 and 1978 for Blue Lifts Mt. Buller. These tests were successful but again the various businesses could not agree on a process for paying to this service.

1977 - 1982

Snowmaking equipment made by us was taken to the U.S. for development – we were employed as consultants in charge of operations at several snow areas and snowmaking equipment manufacturers – solving technical problems in their equipment and other faults in their design. During this time we improved the air/water efficiency by some 90%, carried out snowmaking testing for 4 manufacturers at various snow areas, invented a tower fan snowmaker, designed and made the world's largest fan snowmaker for Mt Brighton, Mi.. Obtained a patent for air/water snowmaker.

1985 - 1986

- Contacted by SkiTrac for snowmaking consulting services and in 1986 made snow for the proof on concept of the Ski Trac system. This snow was made indoors and sequentially put into +30 C and -10 C to prove that the snow would last.
- Invented cryogenic snowmaking for non refrigerated indoor snowmaking following the refrigeration failure at the above Ski Trac test.

1988

Made indoor snow for Ski Trac for their twelfth scale system tests at Tarren Point. Experienced several refrigeration failures by reputable refrigeration experts. This lead to the consideration of the thermodynamic impact of snowmaking on a refrigeration system. From this we took out a co-patent with Ski Trac for snowflake reduction fowling a refrigeration system and hidden in this patent is our invention of a new more efficient process of refrigeration with a considerable energy reduction (this efficiency proven during a test in 2018 – Indoor Snotech).

1996

PT Marina City, Snow House carried out the original snow-up for ACER Snomec when their refrigeration was late for the site opening by the Indonesian Cabinet.

1998

Snowmaking demonstration (cryogenic) for ACER Snomec at Kaoshuing, Taiwan – inside an air supported approx. 1000 sq.metre tent.

1999

Several cryogenic snowmaking sessions in Mumbai, leading to sales of this equipment to both Mumbai (in 2000) and Johannesburg, South Africa (in 2006). As this is a high risk process we only supply this equipment where we either make the snow on contract or train the technical staff of the purchaser.

Provided system design, commissioning, training staff and supply indoor snowmaking equipment for Hyderabad, Bangalore, Ahmedabad, Chennai, Mumbai (2nd system) and Noida (Delhi).

Not only was Woomera equipment used to “snow up” the area it was also used for a “Falling Snow” demonstration during each session of their customers. An example of this is in the photo attached.

Summary

George Jennings is a principal partner of **INDOOR SNOTECH PTY LTD** and also the owner operator of **WOOMERA SNOW GUNS PTY LTD** a privately owned company which provides a full range of services associated with the ski/snow industry, specifically related to snowmaking.

More information about us, and a list of some of our clients and projects to date is available.