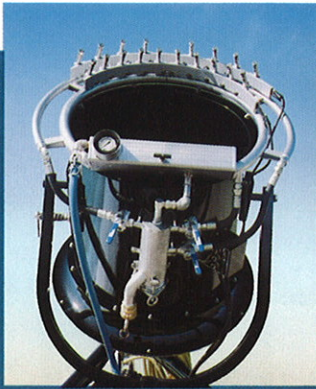


# HIGHLAND

## S N O W M A K E R



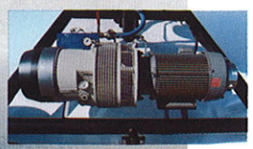
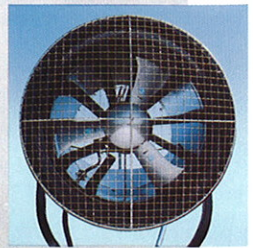
SMI's Highland Snowmaker is the most popular fan snowmaker in North America. As a small, light weight, and superior price performer, the Highland has met the snowmaking needs of hundreds of ski areas throughout the world.

SMI's Highland Snowmaker combines small amounts of compressed air and electricity with large quantities of water and a fan powered plume to provide a high efficiency snowmaking system with tremendous energy savings. The Highland was designed and engineered by ski area operators and professional snowmakers for maximum snow production at marginal temperatures (28°F to 32°F) (-2°C to 0°C) for the least energy dollars and a minimum noise level.

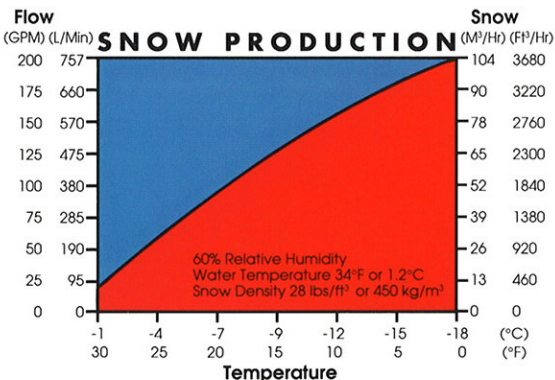
SMI's patented high efficiency propeller thrusts air through a special tapered housing to direct and deflect the air upwards. Water from the primary and secondary manifolds is then projected to the upper side of the air stream and "seeded" from below by a nucleating compressed air/water mixture. The expanding compressed air mixed with water particles turns into very hard nuclei before mixing with the larger bulk water particles out in the air stream. These partially frozen particles are then lofted high into the air so they have maximum opportunity to crystallize into snow before landing on the ground. SMI's unique and patented concepts are the key to the Highland Snowmaker's marginal temperature success.

Three-way self draining stainless steel ball valves control water flow to the various banks of nozzles. Adjustment of water flow is fast, simple and efficient. Excellent draining characteristics reduce freeze-up problems. The ball valves are an integral part of a SMI valve manifold which incorporates a water filter. The filter is easily removable for cleaning.

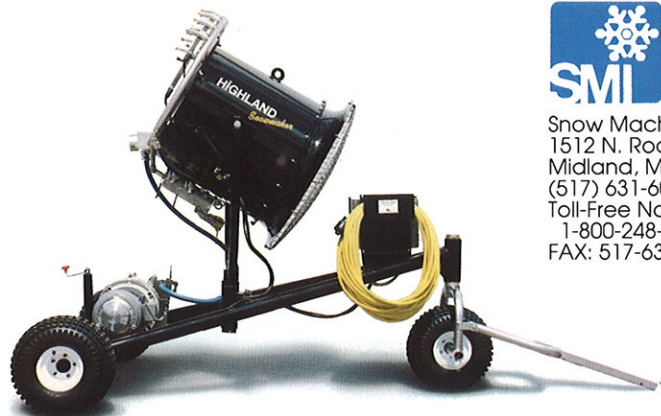
The Highland is energy efficient, portable, easy to use and has proven itself at hundreds of ski areas throughout the world. It is one of the world's quietest snowmakers, 20 times quieter than most air/water guns. This combination of low noise and low operating cost makes the Highland the best investment in marginal temperature snowmaking you'll ever make.



20 Times quieter than compressed air guns.



Note: Maximum flow at 500 psi or 35 Bar. Flow is dependent on water pressure.



Snow Machines, Inc.  
1512 N. Rockwell Drive  
Midland, MI 48642  
(517) 631-6091  
Toll-Free North America:  
1-800-248-6600  
FAX: 517-631-3162

# HIGHLAND SNOWMAKER

## TECHNICAL SPECIFICATIONS

**Dimensions** Height 7' 2"  
 Width 8' 0"  
 Length 9' 4" (12' 3" including tow bar)  
 Weight 997# with optional compressor

**Construction** Three-wheel chassis, featuring tubing frame and less weight for easier slopeside stability

Anchoring Jack  
 Cord rack  
 Stainless steel tow bar  
 Heavy-duty pintle hook hitch  
 150' or 200' special snowmaking cord and electrical plug  
 Water debris strainer  
 Optional Manifold heating system

All stainless steel manifold, stainless steel screen, and stainless steel control panel

Eighteen bulk water nozzles, 3-way self draining ball valves control flow to three banks of nozzles

Available with an on-board 5 HP or 10 HP specially adapted air compressor, or without compressor for use with hill air

**Warranty** One year on parts and workmanship

## HIGHLAND SNOWMAKER OPERATING COSTS FACTS

Standard Conditions: 60% R/H, 34°F water temperature, calm winds, water pressure at 300 PSI, 40 CFM air at 100 PSI, snow density 25#/cu. ft.

	28°F	20°F	10°F	0°F
Gal. of water/min. converted to snow	42	80	150	180
Gal. of water/hr. converted to snow	2520	4800	9000	10800
Cu. ft. of snow produced/hr (3 gal. water=1 cu. ft. snow)	840	1600	3000	3600
Acre-in. of snow produced/hr	.18	.35	.55	.66
Tons of snow/hr. (1 ton=80 cu. ft.)	10.5	20	37.5	45
Compressed air required CFM (or less)	40	40	40	40
Kw. electricity used/hr. (including electricity for compressed air)	15	15	15	15
<b>Cost/hr. of operation</b>				
@\$.06/KWH	\$ .90	\$ .90	\$ .90	\$ .90
.07/KWH	1.05	1.05	1.05	1.05
.08/KWH	1.20	1.20	1.20	1.20
<b>Cost/acre-in. snow</b>				
@\$.06/KWH	4.99	2.57	1.63	1.36
.07/KWH	5.83	2.99	1.90	1.59
.08/KWH	6.66	3.42	2.18	1.81

## SERVICES REQUIRED FOR HIGHLAND SNOWMAKER

### Electrical

Standard: 460 volt - 3 phase - 14 amps up to 28 amps with 10 HP on-board compressor

Optional: 230, 380, or 575 volt - 50 or 60 Hertz - 3 phase

### Water

At least 150 gallons per minute at 150 PSI (minimum)

### Compressed Air

At least 20 CFM at 100 PSI up to 100 CFM at 100 PSI

### Highland licensed under U.S. Patents:

3,979,061  
 4,004,732  
 4,105,161  
 4,214,700  
 4,222,519  
 and foreign patents

