State as: 02/2010

POWDERstream WellnessBOX Basic

Schnee- und Eistechnik GmbH
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Technical data POWDERstream WellnessBOX Basic:

snow temperature	0°C up to -5°C
room temperature without snowing	0°C up to -3°C
room temperature with snowing	-6°C up to -3°C
snow quality	dry powder snow
number of nozzles	1
snow volume	approx. 0,4-1,0 m^3/24h (depends on the snow quality) 60% daily output with 1 chiller (basic version) 100% daily output with 2 chillers (optional)
water quality and demand	pure drinking water, water hardness <10°dh, water temperature <+10°C, conductance >300mS If water quality deviates, water treatment may be necessary.
mains	32A, 400V, 50Hz, 3PH N PE
connected load	6 kW
refrigirating capacity snow room	6 kW
heat recovery /cooling water demand	avarage approx. 9 kW cooling water flow and return flow temperature upon request (max. flow temperature 32°C)
water pressure	2-8 bar
water connector	min. 1/2"
water consumption	approx. 10,5-16,5 l/h (depends on the snow quality)
required space engineering room	2.600 mm x 2.000 mm
height engineering room	2.200 mm
fresh air supply engineering room	70m^3/h
weight technics	approx. 450 kg
installation opening technics	min. 1.100 mm x 2100 mm
required space condenser outdoor installation (optional when air cooling)	1.500 mm x 900 mm x (height 900 mm) wall distances 300mm
intake area snow room	550mm x370 mm
free chamber profile snow room	DN 250
sound-pressure level engineering room	max. 74 dB(A) in 1 meter
sound-pressure level snow room	max. 72 dB(A) in 1 meter
sound-pressure level condenser outdoor installation	max. 50 dB(A) in 1 meter

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Service on the part of the builder:

1. electric feed cable 400V 50Hz 3PH N PE, fuse protection 32A (delay fuse) with fuse 0,3mA into the engineering room
2. air ventilation (inlet and outlet air) of engineering room when condenser is installed outdoor >70m^3/h
3. fundament or concrete base for condenser if installed outdoor (1.900 Lx 900W; load: 200 kg)
4. engineering room incl. 2 Stück pieces of pipes vents
5. floor drain in engineering room
6. drinking water connector in engineering room accoring to water quality (see technical data). If the water quality deviates, water treatment may be necessary (extra required space for technics might be neccessary)
7. horizontal concrete base for compressors in engineering room 2500L x 1000W
8. isolated air conducts from snow room to POWDERstream according to specifications
9. heated floor drains in anteroom and snow room (approx. 100W/m with <DN 50)
10. service and cleaning vents in air intakes and supply air ducts
11. floating switch box in public area for emergency stop – empty conduit leading to engineering area
12. floating switch box in anteroom and snow room for emergency stop - resp. alarm or emergency button - empty conduit leading to engineering area
13. control CABLES from engineering to public area or service area resp. control area for emergeny signal and and emergeny call installation
14. fire dectors in all areas
15. Warnings: circulation, temperature, snow, ice, slip danger, eyes, frost, frostbite....
16. opening and closing of wallbreaks
17. lifting and assembling tools, e.g. scaffold, forklift, crane...
18. fresh air rotation in anteroom and snow room

Snow room service on the part of the builder:

1. size snow room 4-6m²
2. entry lock not air conditioned 2m², optional air conditioned 2-4m²
3. insulation of the snow room with approx. 120mm insulation k-value approx. 0,18 – 0,22W/K*m². Preferably, basic construction as cold-store 120mm insulated e.g. with Polyurethan- rigid foam or Styrodur (do not mix it up with styrofoam) resp. comparable materials. Individual interior fittings according to customer request.
4. doors of the anteroom and the snow room are self-locking; when glass door: insulated glass, construction of the door frames thermic decoupled; where necessary heated door frames
5. doors the the anteroom and the snow room open outwards; if they can be locked from outside, there is a emergency opener inside
6. if sealed doors are used a heated air valve is necessary
7. diodes in anteroom and snow room < 200W, prefered luminescent substances, energy saving or LED illuminants – series connection units in engineering area

Assembling:

1. snow nozzle will be assembled in the engineering area approx. 400mm under the ceiling – preferred direction to the middle of the snow room´s ceiling
2. installation refrigerating technology in engineering room according to VBG 20 and EN 378
3. installation chiller in engineering area of the snow room
4. water cooled with coaxial chiller for swimming pool water by default
5. arragenment of the wiring and equipment installation according to DIN EN 378 and VBG 20

Appliance and operation:

1. Intake openings and snow barrier must be controlled regularly and cleared if necessary.
2. The snow nozzle is operated cyclically.
3. Before snowing starts, the snow room must be cooled approx. 1-1,5 hours in advance.
4. The snow room must be cleared at least once a day resp. soiled snow must be removed.
5. The complete snow room must be defrosted once a week.
6. Filter cleaning and compressor dewatering must be done once a week.
7. The stillstanding snow nozzles are heated and will be cleared with compressed air after snowing.
8. The defrosting of the chiller runs with hot gas.
9. 5 people max while snowing in the snow room.
10. When too many people attend while snowing the system stopps automatically and continues when the set temperature is reached.

Notes:

1. Chloric cleaner is just allowed for wall and floor of the anteroom and snow room.
2. Cleaning with high-pressure cleaner is not allowed.
3. Entering engineering room and area is only allowed for instructed personell.

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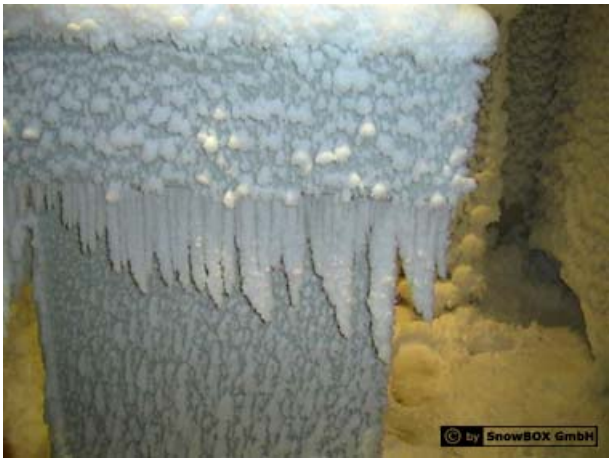
pic. 1: example for snow shelves in snow room

pic. 2: example interior view snowing



pic. 3: example snow table

pic. 4: example snow deposit at the wall and door area

pic. 5+6: POWDERstream WellnessBOX Basic, technical entity