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Introduction

Wanfeng snowmaking machines use the most advanced snowmaking technology in the world today and are different from air, water and airless snowmaking machines in some aspects.

The superiority of Wanfeng snowmaking machine lies first in its ability to produce high-quality snow (a large amount of high-quality snow), with large snow output and high snow quality. And under the premise of the same snow output, it saves time and electricity compared with other brands of snowmaking machines. At the same time, another advantage of this product is its simple design, quick use and easy maintenance. During use, as long as you master the various functions of this product, you will experience the excellent performance and advantages brought to you by Wanfeng snowmaking machine.

After continuous design and innovation by senior experts in the domestic snowmaking machine industry, our company has successfully launched the Wanfeng snowmaking machine. Today, many domestic ski resorts and snow parks have widely used this product to provide them with high-quality services. In different latitudes and various natural climate conditions, the Wanfeng snowmaking machine has withstood rigorous tests.

Mudanjiang Wanfeng Machinery Manufacturing Co., Ltd. has been providing high-quality, low-fault quality products to each end user for 30 years, providing satisfactory products for your different needs.

Please read this instruction manual carefully before using the Wanfeng snow machine, so that you can use the product more safely and correctly.

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Overview

The advantage of Wanfeng snowmaking machine is that it does not have high requirements for critical snowmaking temperature and humidity. Based on the original model, the snowmaking machine has increased the snowmaking spray distance, thereby improving the critical temperature and humidity indicators of snowmaking, thereby greatly increasing the amount of snowmaking.

How this product works:

Wanfeng snowmaking machine has 5 circles of snowmaking nozzles evenly installed in the snowmaking spray barrel, with 72 nozzles in each circle, for a total of 360 nozzles. High-pressure water is sprayed through these nozzles to form "mist droplets". At the same time, high-pressure air is generated by the air compressor, mixed with high-pressure water, and then sprayed through the 24 nucleator nozzles on the outermost circle of the snowmaking spray barrel to produce "seed snow particles". Through the action of the high-powered fan, these mist droplets and seed snow particles are combined during the ejection process, thus forming the snow particles we need.

The Wanfeng snow machine is installed with a galvanized chassis, and the three jacks next to the tires are used to fix the position of the product. When making snow, the three wheels are mainly used to enhance the stability of the product and make it easier to move. Snow fields with snow groomers can hang the snow machine bracket on the front shovel to transport it to the designated location for snowmaking. The swing head can automatically swing the snowmaking nozzle, which can evenly scatter the snow particles on the ground.

Wanfeng snow machine is equipped with a 50W lighting lamp. When the circuit of this product fails, the fault indicator light will automatically alarm.

The snow-making nozzle of the Wanfeng snow-making machine is equipped with a 6-kilowatt electric heating system. It is mainly automatically controlled by the temperature sensor to prevent the snow-making nozzle from freezing and causing unnecessary losses. Therefore, the temperature control sensor can adjust the critical working temperature of the heater so that as the external ambient temperature decreases, the heater is automatically turned on and the snow-making nozzle, the nucleator nozzle and the three-way ball valve are effectively heated.

Wanfeng snow machine features:

Easy to use, simple maintenance, energy saving, efficient snowmaking

Technical indicators

Water supply: 12-150GPM (45-600LPM) depending on the nozzle structure. The minimum water pressure is 100psi (100 pounds per square inch) or 7bar (about 7 kg/cm2).

Range: 30-55 meters

Fan motor : 15KW

Air compressor: 7.5 KW

Electric heater (starting power): 6 KW

Lighting: 50 W

Water pipe interface: 2 inches

Cable: Equipped with 20m cable

Users can choose to purchase plugs according to their needs

Training

Wanfeng snow guns must be operated by professional technicians, and operators must undergo professional training, otherwise they are not allowed to operate this product.

All personnel working in positions related to snowmaking should undergo corresponding professional and technical training.

Training content: basic knowledge, precautions, and operating procedures.

Training objectives: 1. Master the entire set of safe operation procedures for this product; 2. Avoid machine damage or personal injury caused by improper operation; 3. Be able to make correct handling methods in time when unexpected problems occur; 4. Maximize the efficiency and service life of this product;

Each ski resort should develop a training plan based on its own characteristics. Operators must read this instruction manual in detail. They must be proficient in safe operating procedures and be able to solve problems that arise during the operation of the snow machine in a timely manner. They must perform routine inspections on all parts of the machine before each start-up.

Precautions

1. When plugging or unplugging the power plug of the snow machine, please make sure that the front power supply equipment and all circuit switches on the snow machine are turned off to avoid casualties caused by current shock;

2. It is forbidden to open the electric control box or work inside the electric control box when the snow machine is powered on to avoid casualties caused by current shock;

3. When operating the snow machine, technicians should not wear loose clothing to avoid getting clothes entangled in the snow machine;

4. When the snow machine is operating, the operator should stay outside the air flow and away from the snow particle spraying area to avoid being injured by flying ice or other foreign objects;

5. Operators are requested to stand behind the self-sinking water outlet to operate the water valve switch to avoid personal injury caused by sudden bursting of the hose or joint;

6. Please open and close the air valve and water valve slowly. If you open the relevant valves quickly, it will cause damage to the parts of the air or water circulation system, and in serious cases, it will cause personal injury;

7. Do not ride on the soft water pipe to avoid hurting yourself;

8. When snowmaking is in progress, it is forbidden to remove ice from the fan and protective net, and any mechanical and circuit repairs are forbidden. Do not start the snowmaking machine before installing the fan protective net and adding any protective measures;

9. Do not use tools such as wooden sticks or iron bars to reach into the snow-making spray barrel to clean the ice when the fan is running, so as to avoid breaking the fan blades and causing casualties;

10. Before mobile snowmaking, please cut off the power supply, wrap up the cables, and put away the soft water hose;

11. Please place snowmaking signs or fence off the snowmaking area when the snowmaking machine is in operation to prevent sharp objects from causing damage to the high-pressure soft water pipes, cables and the equipment itself;

12. When the operation is completed, please put the soft water pipes and power cords in a safe area to avoid damage to the products due to random stacking;

13. The snow machine nozzle is a precision component. Please perform routine maintenance on the nozzle before each use.

14. Please monitor the operation of the snow machine at any time during operation to avoid machine damage or personal injury caused by failure to deal with problems in a timely manner;

15. Please pay attention to safety when walking in the snowmaking area to avoid injuries caused by slipping or tripping;

Precautions

Safety operation rules:

1. Operators and related personnel must be familiar with this instruction manual;

2. The operator must be familiar with the safe operation rules of the snow machine;

3. Please do not move the snow machine while it is running;

4. During the operation of the snow machine, it is prohibited to clean up the debris on the protective net and it is prohibited to dismantle the protective net;

5. When the snow machine is in operation, please do not wear loose clothing to avoid being caught in the machine and causing accidents;

6. During snowmaking, be careful of accidental injuries caused by slipping;

7. Do not open or close the valve quickly to avoid damage to equipment, water pipes, water pumps or personal injury;

8. Please set up snowmaking signs or barriers in the snowmaking area to avoid personal injury;

Basic knowledge

1. Transportation and positioning

A. Traction

Most snow machines at ski resorts are towed by transport vehicles. When towing or using a snow groomer to hang a snow machine, the machine head must be locked on the bracket with a locking steel sheath, and the direction of the fan should be kept opposite to the front wheel. Safety chains must be used when towing a snow machine, and the following must be done before moving the snow machine:

(1) The jack cannot be frozen on the ground. Remove the jack from the snow and raise it to a certain height to prevent damage to the jack during the movement of the snow machine.

(2) The tires must not be frozen on the ground. Remove the tires from the snow and ensure they can rotate freely.

(3) Lock the towing rod;

(4) Before towing the snow machine downhill, use a pin to lock the towing rod to prevent the equipment from colliding with the towing vehicle. Try to go downhill in a straight line to prevent slipping or the front and rear vehicles from forming an angle and colliding with each other. If it is not possible to go downhill in a straight line, add an auxiliary chain to manually control the anti-skid. When driving on a flat road, the towing wheel should be unlocked.

(5) If the tire is frozen or buried deep in the snow, you should dig the tire out of the snow before moving it. Otherwise, the machine or tire may be damaged.

B. Snowmaking machine positioning

Use the crank handle to raise or lower the jack, check the level gauge, and try to level the machine. Make sure the jack is securely fastened to prevent the snow gun from sliding.

When the snow machine is in operation, the air compressor must be placed in a horizontal position, otherwise the oil in the air compressor cannot flow evenly. In addition, if the snow machine is not level, the automatic head swing device will be damaged. When the fixed position has been adjusted, please place the front steering wheel in a direction perpendicular to the equipment.

Please carefully observe the location where the snow machine is placed in advance to ensure that it is placed

absolutely safely to avoid losses caused by the snow machine tipping over.

C. Snow groomer towing hook

The snow machine can be towed and installed with the snow groomer's towing hook. Therefore, the snow machine can be transported with or without tires, and can also be fixed with a jack without tires. The snow machine can be transported with or without tires, and a special steel towing frame is installed, which cooperates with the front shovel of the snow groomer to lift and transport the whole machine, so that it can be separated from the snow machine tires.

D. The jack on the snow machine support is used to keep it level.

The three lifting jacks of the snow machine can adjust the horizontal position of the machine body. There is a positioning steel sheath on the upper end of the jack. Moving the steel sheath can change the lifting height of the jack.

2. Adjustment of the snow machine head and nozzle

A. Adjust the pivot and friction clutch

The swing head device of the snow machine is installed on the bracket, the brake can be adjusted, and its friction force needs to be checked and adjusted regularly. See the parts section for details.

The friction is adjusted by loosening the three vertical screws on the pressure plate (see part drawing CENTER PIVOT & OSCILLATOR 17A). Further adjustment can be made by loosening the horizontal screw 17B, which allows the sleeve to be turned clockwise.

Note: The 1/2 screw is used to fix the rotating assembly and the bracket. Please do not loosen it.

It is important to adjust the brake pressure. Too tight will affect the rotation; too loose will make the nose wobble.

B. Vertical rotation adjustment of snow machine

The snow gun is equipped with a very easy-to-operate snow gun lift adjuster. The lifting angle of the gun is controlled by a crank. When the wind speed changes, the snow gun lift can be adjusted by changing the angle of the gun.

C. Automatic horizontal swing device for snowmaking machine

The automatic head swing device of the snow machine can make the head swing automatically within a range of 45 degrees, which can increase the snow distribution area and maintain the uniformity of snow distribution.

Note: Do not use the automatic head swing function in cyclones or when the wind direction is uncertain.

Before starting the swing function, please remove the safety pin and check whether there are any obstacles around the machine. The snow machine must be placed horizontally and the hose must be long enough to accommodate the left and right movement of the snow machine during the swing process.

3. Nuclear Device

The nucleator nozzle is installed on the outermost ring of the die-cast aluminum stainless steel ring. Snow cores are produced by the nucleator. A snow core is a small snow particle, which stimulates tens of millions of small water droplets like a seed. When high-pressure water is sent into the nucleator, it combines with the high-pressure air produced by the air compressor. The high-pressure air beats the water into very fine water mist and cools the water

mist during the whole process, so the water mist can be quickly frozen to generate tiny snow particles. The seed snow particles produced by the nucleator nozzle are combined with the large number of small water droplets ejected by the inner ring nozzle, so a large amount of new water mist is frozen into a large number of high-quality snow particles like a seed.

Wanfeng snow machine uses 7.5KW air compressor to provide high-pressure air to 24 nucleator nozzles, mixing air and water in a reasonable proportion. The nucleator nozzles designed by our company can be freely disassembled for replacement or cleaning.

Before being sent to the nucleator, the high-pressure water is adjusted by the pressure regulating valve, so the water pressure of the 24 nucleator nozzles is the same. This pressure value has been debugged by technical engineers during the factory production process and does not need to be adjusted by the user. If the user must modify the pressure value of the adjustment valve according to local climatic conditions, please contact the Wanfeng Snow Machine Factory After-sales Telephone for effective adjustment.

Tips: At high altitudes, the nuclear device must be reset.

4. Water supply system

Wanfeng snow guns can be used in a wide range of snowmaking conditions. The recommended water pressure range for the snow gun water inlet is 100 PSI (7 BAR) - 500 PSI (35 BAR). The water pressure must not exceed 35 BAR, otherwise it will cause damage to the snow gun water system components.

The high-pressure water generated from the water pump outlet must first pass through the self-sinking outlet, be transported to the 2-inch diameter soft water pipe, and

enter the stainless steel water distributor through the QD interface. The water distributor is equipped with a water filter with a screen size of 100 mesh. The screen can ensure that large particles of impurities in the water are removed without reducing the water pressure and affecting the amount of snow made. The filter disassembly and cleaning steps are simple. Please clean the filter regularly to avoid clogging of the filter, which may cause too little water pressure and reduce the amount of snow produced.

When cleaning the screen, first unscrew the end cap of the water distributor and place it in the appropriate position on the snow machine. When removing the water filter, do not pull the screw buckle on it. Both ends of the filter are sealed with O-rings. Please be careful to buckle the sealing rings during installation and do not lose them.

If the water source contains a lot of impurities, a 60-mesh or 100-mesh main filter should be added at the self-sinking water outlet for primary filtration.

Tip: The water filter should be cleaned immediately after it becomes dirty. Once sediment adheres to the water filter, it must be soaked in water before cleaning.

The snow machine has five snowmaking nozzle rings, each ring has 72 nozzles. The water output of each ring is different, and the water output is generally divided into three levels. When the water pressure value is 7 BAR, the three levels of water output are: 10 gallons/minute, 12 gallons/minute, and 15 gallons/minute. The configuration of the snowmaking nozzles of the Wanfeng snow machine is: 10 gallons/minute, 10 gallons/minute, 12 gallons/minute, 12 gallons/minute, and 15 gallons/minute from the outside to the inside (for the water output of each nozzle). The nozzle water output of this product can be changed according to user requirements. For example, when the water

pressure is 7 BAR, in order to increase the snow production, the innermost ring can be replaced with a 22 gallon/minute nozzle.

The first ring of nozzles, also the outermost ring, can produce water at a rate of 12 gpm to 28 gpm (7 BAR to 34 BAR). The outermost ring of nozzles does not have a ball valve to control the water flow, and the water flow is always in a normally open state regardless of the pressure.

The nozzles from the second ring to the fifth ring need to be controlled and closed by a three-way ball valve. After the ball valve heater switch is turned on, the ball valve can be automatically heated. Preheat the ball valve to avoid damage to internal parts. After the ball valve is closed, the snowmaking spray gun needs to be shaken to a certain angle to automatically drain the residual water inside and drain it clean.

The second ring can vary the water flow between 12 gpm and 28 gpm (7 BAR-34 BAR). The third ring can vary the water flow between 15 gpm and 34 gpm (7 BAR-34 BAR). The fourth ring can vary the water flow between 19 gpm and 42 gpm (7 BAR-34 BAR). The fifth ring can vary the water flow between 19 gpm and 42 gpm (7 BAR-34 BAR).

When the outdoor temperature rises, please turn off the fifth ring first. If the temperature continues to rise, please turn off the fourth ring, the third ring, and the second ring in turn.

When the three-way ball valve is closed, the ball valve will automatically drain water, but the spray gun must be at a certain angle to the horizontal position to control the water out. The three-way ball valve is equipped with a heater. Once the water in the ball valve is frozen, please turn on the heater switch in the control box for heating operation.

The water pressure can be controlled by the water pump and the water outlet. (Please make sure the water pump is a variable pressure pump)

Changing the water pressure can affect the quality and output of snowmaking. Increasing the water pressure can increase the output and make the snow particles smaller; decreasing the water pressure can reduce the output and make the snow particles larger.

5. Snow machine nozzle

Before using the snow gun, each nozzle must be checked for spraying.

Each nozzle should spray a cone of water mist. A clogged nozzle will seriously reduce the amount of snow output and even cause ice to form at the nozzle. Water filters can remove some impurities in the water, but nozzle clogging still occurs from time to time.

To prevent impurities from clogging the nozzles, each nozzle ring should be checked and cleaned regularly. The outer ring can be checked with the help of a three-way ball valve. When checking the inner ring nozzles, turn off the hose that supplies water to the outer nozzles.

If the nozzle is clogged, turn off the snow gun completely and remove the nozzle immediately for cleaning or replacement.

The nozzle holder of the snow gun is made of die-cast aluminum stainless steel. Do not damage the threads when disassembling. Please install and remove by hand, and try not to use power tools. At the end of installing the nozzle, please use 18 foot-pounds of torque (with the help of a wrench) to loosen or tighten. Please make sure that the nozzle is completely sealed with the die-cast aluminum stainless steel ring, and do not tighten the nozzle.

6. Electric heating system on water distributor and ball valve

The snow guns are equipped with electric heaters on the nozzles and ball valves.

The total power of the nozzle heater is 6KW, and the temperature sensor controls the switch of the heating system. The heater is divided into two powers: the starting power is 6KW, the fan is in the stopped state, and the heater heats quickly to defrost; the fan is in the started state, and the heater is reduced to 4KW for heating. For cold weather, the strong heating switch needs to be turned on.

Valve heaters will prevent 3-way ball valves from freezing. These heaters have separate circuits and switches. When a heater is operating, its corresponding heater indicator light will illuminate.

Note: The temperature controlled by the thermostat cannot exceed 65℃, otherwise the O-ring on the nozzle will be burned. When the heater is working, its indicator light is on; when the snow machine stops making snow, the heater will automatically turn off.

7. Air compressor

Wanfeng snowmaking machine is equipped with a 7.5KW motor, an air compressor with a working pressure of 8 kg and an air output of 1.06.

During the operation of the machine, the air compressor must remain horizontal, and the maximum inclination angle must not exceed 15 degrees. If the machine exceeds this range, the compressor cannot supply oil normally, resulting in abnormal operation. In this case, please adjust the three jacks to adjust the machine level to the specified range.

Note: Before starting the air compressor, please check whether the drain valve is closed; after shutting down the air compressor, the drain valve must be opened to drain the impurities in the air pipe.

Snow machine operation procedures and storage methods

A. Settings

When designing the ski slopes, the ski resort manager should design the best snowmaking position for the snowmaking machine according to the specific conditions of the ski resort. When choosing the snowmaking position of the snowmaking machine, pay attention to the following factors:

1. Slope of the snow track: If the slope is too steep, the snow machine cannot be parked, otherwise it may easily cause the snow machine to overturn;

2. Visibility: Please ensure that the visibility is above 100 meters when operating the snowmaking machine;

3. Wind direction: Please ensure that the snow is made with the wind or crosswind. Making snow against the wind will result in a decrease in the amount of snow. In serious cases, the snow will be covered by snow, causing the snow machine to malfunction and endanger people;

4. The distance between the self-sinking water outlet and the snowmaking machine: Generally, the length of the soft water pipe is 20 meters, so please keep the distance no more than 60 meters;

5. Please determine the thickness of snow according to local past meteorological data;

B1. Preparation before starting

1. Please remove the cables and lay them on the snow surface. Do not roll or tangle them. Lay the cables of appropriate length according to the distance from the switchboard to the snow machine, and place the ends next to the switchboard.

2. Connect the power plug after verifying that the switch of the distribution board is in the off state;

Note: If the power plug has poor contact, please clean the plug of ice, residual snow and other impurities. Please ensure that the power plug is free of impurities at all times.

3. Water pipes and cables should be prevented from being buried by newly formed snow, and should not cross the transport channel to cause the pipes to be crushed. Vehicle drivers should understand the location of water pipes and cables, and make clear signs;

4. Please connect the soft water hose to the water inlet of the snow machine, drag the soft water hose away from the snow track for flushing, to avoid ice formation or damage to the snow track surface. If the flushing is not thorough, ice chips or impurities in the pipe will clog the water filter. After the soft water hose is flushed, please turn off the water supply valve;

5. Make sure the water supply interface is closed. Connect one end of the soft water hose to the water supply interface and the other end to the water inlet of the snowmaking machine;

6. Please rotate the snow gun nozzle to the downwind or crosswind direction;

7. Shake the handle to lift the spray barrel, lift the snow gun spray barrel to a certain angle to achieve the expected snowmaking coverage area and the predetermined spray lift;

B2. Check before starting

1. After the snow gun is safely positioned, please lower the jack to ensure that the snow gun is firmly placed in the target area;

2. Keep the snow machine level;

3. When the power is off, check whether the fan is frozen or iced;

4. Please completely tighten the fixing sheath of the hose connector to prevent the hose and cable from being pressed by snowmaking machines, vehicles and snow groomers.

5. Please adjust the snow machine's spray gun to the proper angle and correct spray direction. Please do not spray snow onto power lines, trees or other dangerous buildings;

6. Please ensure that there is no ice in the nozzle, and the ball valve handle is completely dropped to drain the water in the pipe completely;

7. Please turn on the switch of the distribution board;

Note: Before fully starting the snow machine, please turn on the power of the control box and press the start and stop buttons of the fan. This will allow you to determine whether the fan blades are balanced and have no other faults before the fan runs at full speed. At the same time, you can check whether the fan is reversed. Before starting the machine, please check your clothes, gloves, hats, etc. to prevent them from being sucked into the fan.

8. The nozzle heater can be automatically turned on and off as needed for automatic heating; the temperature sensor will automatically operate according to the temperature of the nozzle heater; the ball valve heater is always in the on state;

9. Make sure the water filter is installed inside the water dispenser;

C. Startup steps

Please preheat the nozzle and ball valve after completing the pre-startup preparations.

1. Please check the snow machine thoroughly to ensure that all parts are working properly;

2. Please check whether the snow machine is properly marked/numbered/fenced;

3. Please turn on the work light when necessary;

4. Please turn on the air compressor and open the drain valve to discharge the dirty air;

5. Please check whether the pressure value of the air compressor is within the normal range.

6. Please turn on the fan to spray a strong airflow and pay attention to whether there are any debris flying out;

7. Please check the rotation direction of the fan. If the fan rotates in reverse, it needs to be reversed. Check the air pump and make sure that there is airflow passing through each nozzle of the nuclear device.

8. Please open the water supply valve slowly (depending on the water pressure, the maximum should not exceed 500 PSI)

9. Please keep the nozzle pressure stable;

10. Please control the quality of snow;

11. After the oil temperature of the air compressor rises, please check whether the oil level is level;

D. Machine operating status

1. Please check whether the water and air mixture ratio of each nucleator nozzle is normal;

2. During operation, if you want to adjust the snow quality and the amount of snow, please adjust it by opening or closing the four ball valves according to the local temperature changes and the water supply pressure; (For the water flow table under different water pressures, please

refer to the water supply system introduction in this manual)

E. Daily inspection and maintenance

1. Please check the power plug to make sure there is no ice, snow or other debris.

2. Please check whether the cable and plug are intact;

3. Please check the oil level of the air compressor;

4. Please check whether there is ice or other debris on the fan;

5. Please do not allow the snow machine frame or machine to freeze;

6. Please check whether the rack is damaged;

7. Please check whether the towing rack is intact;

8. Please check whether the soft water pipe is frozen or damaged, and whether there is ice inside;

9. Please check whether the nozzle is clean and intact;

10. Please check whether the nozzle of the nuclear device is frozen;

11. Please check whether the jack is working properly;

12. Please check to make sure there are no loose screws or nuts on the machine;

13. Please check whether the tire thread is within the safe size;

14. Please keep the tire pressure sufficient;

15. Please check whether the protective net is firm;

16. Please inspect the snow machine 360° to see if there are any abnormalities;

17. Please check whether the filter is clean and the sealing ring is intact;

18. Regularly maintain the wheelbase of tires;

F. Shutdown Procedure

To ensure that your snow machine starts up without any problems, be sure to strictly follow the shutdown procedures. In the cold winter, it is even more important to complete the shutdown operation accurately and quickly to prevent ice from forming.

1. Please close the water supply valve at the ski resort;

2. Please close the ball valve to ensure that the remaining water in the pipe is automatically discharged;

3. Please remove the soft water pipe after the water pressure is removed and drain the remaining water in the pipe;

4. Please turn off the fan;

5. Please tilt the machine to the maximum angle as soon as possible and drain the water in the spray barrel as much as possible;

6. Please continue to operate the air compressor to ensure that all moisture is discharged;

7. Please turn off the air compressor and open the drain valve;

8. Please operate the forced heating switch to the normal heating state;

9. Please turn off the work lights and all heater switches;

10. Please turn off the main switch;

11. Please roll up the water hose, turn off the power supply of the switchboard, remove the cable and coil it to a safe state;

12. Please clean and raise the jack before moving the snow machine to make sure the tires can be removed from the snow;

G. Storage method of snowmaking machine

In order to properly store the snow gun, please build a snow gun storage warehouse at the project site. Please formulate specific operation and implementation measures for the snow gun at each project site to ensure that the operators are clearly aware of the various precautions when transporting, installing, operating and parking the snow gun.

Troubleshooting

A. The snow is too wet during snowmaking

1. The nucleon needs to be adjusted;

2. Close the 2nd, 3rd, 4th and 5th ring nozzles appropriately;

3. The water pressure is too low or the internal filter is clogged;

4. Adjust the spray gun angle to increase the aerial spray distance;

5. Wind direction problem, the water mist does not have enough time to form snow before landing. At the same time, this situation will cause the snow machine to be covered with ice or snow;

B. Ice covering machine

Please make sure the snow machine is running and adjust the snow machine so that it can make snow with the wind. After the snow machine is turned off, please carefully clean the ice or snow on the equipment;

C. Nozzle blockage

1. Please clean the water filter thoroughly;

2. Check whether the nozzle is damaged. Please do not clean the nozzle while the machine is running;

3. Check whether the filter screen at the water pump inlet is damaged;

D. Intermittent spraying

1. Check whether the nozzle is blocked or frozen;

2. Check whether the nozzle is damaged;

3. Check the water pressure. When the water pressure is lower than 100 PSI, it cannot spray normally.

E. Fault light flashes

If the fault light flashes, the common problem is a circuit fault, which is mainly caused by the fan, air pump, automatic swing head or heater, etc. Please refer to the relevant detailed information on electricity.

F. Air compressor performance

Air compressor indicator gauge does not work:

It is possible to be "frozen" - this is caused by the temperature change when the air is compressed. As the temperature of the air compressor continues to rise, the indicator will return to normal.

Please prevent the air compressor from being washed away by rain, otherwise water will enter the cylinder and cause damage to the equipment.

G. Fan reverse

Please check this phenomenon before commissioning the machine. If the fan rotates backwards, it is because the motor phase is wrong.

Note: Do not change any circuits or open the control box before the switchboard power is completely disconnected. For safety reasons, disconnect the power supply and remove the cables before changing phases.

Snow quality and handling

A. What kind of snow can be called good quality snow?

According to the experience of the most successful ski resort operators, the best base snow is wet snow, but the snow is not wet to the extent of changing color or seeping water, but it is still wetter than freshly fallen natural snow.

Why is the snow this good? Natural snow becomes denser and denser over time. Therefore, most snowmakers create artificial snow equivalent to 3-15 days of natural snow as a base layer. The longer this snow is, the better it will hold, the less likely it will blow away, and the easier it will be to shape. Creating wet snow saves energy. Wetter snow acts as a base layer, so more snow can be created with the same number of operators, pumps, energy, and other conditions.

The snow on the surface can be laid in the order from wet to very dry. Now more and more snow lovers like to play sports on dry surface snow.

B. How to identify the quality of snow?

During the snowmaking process, the quality of snow can be tested in the following ways:

1. Grab a handful of snow with your hands. If a few drops of water seep out, that's the best. If no water drops, it means the snow is too dry. If a lot of water flows out, it means the snow is too wet.

2. Kick the snow with your toes. If the particles are the size of ball bearings, the snow is of the best quality. If the particles splash like sugar, it means the snow is too dry. If the particles are the size of golf balls or even larger, it means the snow is too wet.

3. Keep your arms horizontal and let the snow fall on them. If the snow bounces off, it means the snow is normal; if it falls like dust, it means the snow is too dry; if it falls with a snap, it means the snow is too wet.

4. Check the snow in several places within the target area to determine the quality of the entire snow; (the snow near the fan will be slightly wetter than the snow 30 feet away)

The above tests show that machine-made snow is wetter than natural snow, making it good artificial snow.

The quality and type of snow produced by a snowmaking machine is verified by laying snow fields, skiing and other production practices. Many ski fields first produce a relatively heavy snow as a base snow and cover it with lighter snow. Until now, snowmaking has not been measured by scientific behavioral standards. It is a physical phenomenon that varies with many parameters. It is often accompanied by challenges and failures. Environmental factors have a greater impact on snowmaking than any other factor. Therefore, it is important to pay attention to the impact of weather changes on the performance of snowmaking machines.

C. Natural crystallization of snow and snow groomers

Use snow groomers to lay the snow trails, which will be more conducive to extending the skiing period and improving the quality of the snow trail surface. Adjust the snowmaking time accordingly according to weather changes, and stop the operation for a period of time in the middle of the snowmaking process to allow the snow to fully crystallize.

Before you use a snow groomer to lay the snow, allow the snow to remain in the snowpack for 48 hours to fully crystallize before spreading it.

Snow gun maintenance

At least quarterly, perform a complete inspection of the machine to identify any severe wear and damage.

Please pay attention to the following details during the inspection:

1) tires, handles, screws and bearings;

2) Welds and bends of brackets;

3) Check the welds and bends on the drag bar;

4) Wear and welds on nozzle connection brackets;

5) The nozzle ring must be cleaned;

6) Check snowmaking nozzles for wear and damage;

7) Check the nucleator nozzle;

8) Check the welds of the fan housing and bracket;

9) Visually inspect fan blades for cracks, nicks, and wear;

10) Check whether the cooling fan and air outlet on the fan motor and air compressor motor are clean;

11) Check cables for cracks, breaks and wear;

12) Check the plug for damage and other possible related problems;

13) Instrument functions;

14) Check whether screws, nuts and other fasteners are loose;

15) Check the tires to prevent erosion and properly support them;

16) Avoid direct sunlight on the cables to ensure their service life;

17) Correctly operate the three-way ball valve;

18) Clean the filter and check the filter seal;

19) Check the friction of the bearing so that the bearing operates normally;

20) The air compressor oil must be changed at the end of the snowmaking season to allow moisture to escape from the air compressor before the snow gun is stored.

21) Depending on the operating conditions, replace the filter at the air compressor inlet at least once a snow season. If the air compressor does not work properly (the machine overheats), the air filter may be clogged. Please open the filter cover and replace the filter.

Regular accessories

1. Nozzle and O-ring
2. Spare water filter
3. Spare cable plug
4. High-pressure water pipe rubber gasket
5. Special oil for air compressor
6. Spare air compressor air inlet filter
7. Spare air compressor oil separator
8. Spare oil return valve and filter
9. Toolbox
10. Water pressure gauge
11. LED lighting

After-sales service

Mudanjiang Wanfeng Machinery Manufacturing Co., Ltd
Phone: 15612167779

Invoice or receipt

Paste place

Note: When you call the after-sales hotline, please provide the machine purchase time and the snow machine code on the homepage so that we can better serve you. Please keep the snow machine manual and purchase receipts properly.

Mudanjiang Wanfeng Machinery Manufacturing Co., Ltd
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