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MAINTENANCE MANUAL OF **D**ESICCANT WHEEL



Global leader in desiccant rotor & application technology solution

3. Problem analysis and solution

Symptoms	Parts to be checked	Solution
wheel works failure	Power failure 	Power on
	Whether the wheel itself can turn 	Determine the cause by checking other items
	Whether the drive motor is running 	Check the wiring or replace the motor
	Whether the sealing strip is clean and intact 	Check the position of the wheel and the sealing strip
	Whether the bearing can rotate 	replace the bearing
	Whether the timing belt is slipping or broken 	Replace non-slip block or timing belt
The wheel work normally but the dehumidification effect is not good	Performance parameters measured again	Determine the cause by checking other items
	the sealing strip is clean and intact	Check the position of the wheel and the sealing
Outlet air temperature is too high	Whether the sealing strip is clean and intact	Check the position of the wheel and the sealing strip
	Check the speed(rph) of the wheel	Contact us
Regenerate outlet air temperature is too low	Whether the sealing strip is clean and intact	Check the position of the wheel and the sealing strip
	Check the speed(rph) of the wheel	Contact us
	Check the air outlet temperature of the heater	Adjust heater temperature

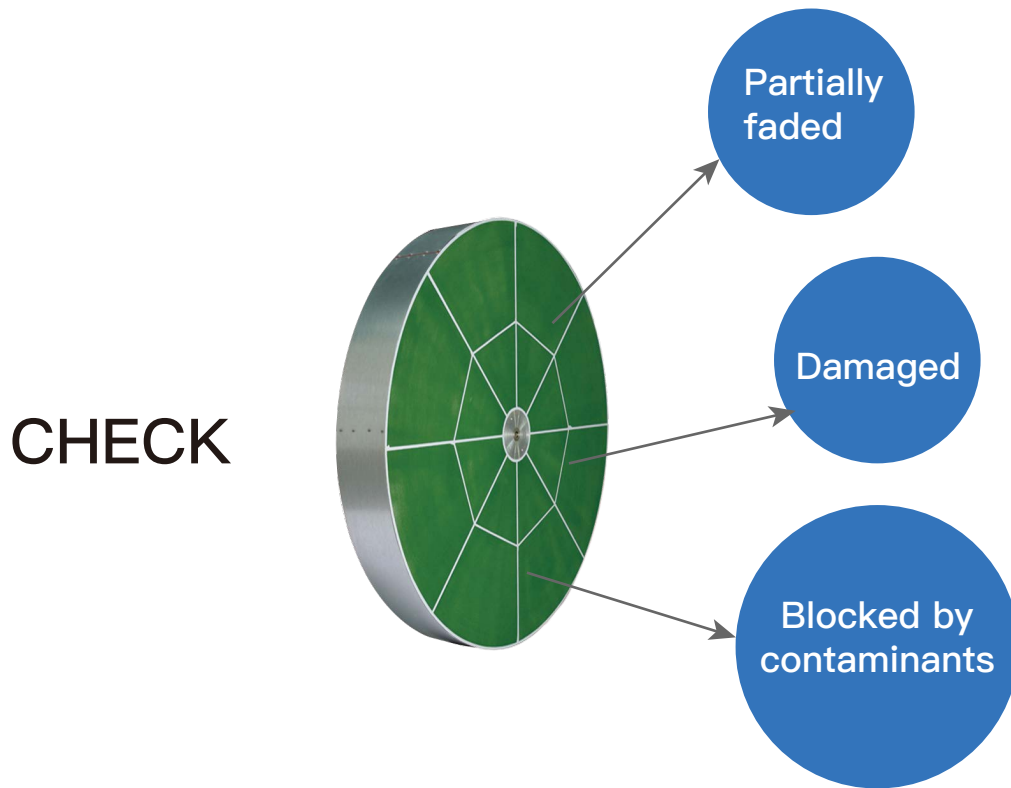
1. Daily maintenance inspection

1.1 The cycle and content of daily maintenance

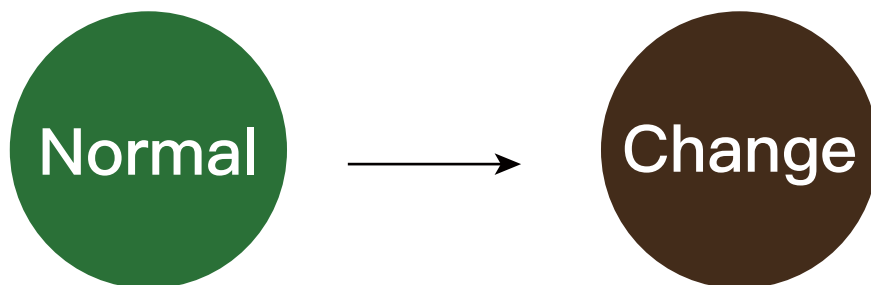
The desiccant wheel requires regular routine maintenance. The following table lists the cycle and content of daily maintenance:

Cycle	Maintenance items
First use	Check whether the sealing strip, the driving part are intact, and whether the wheel is cracked
After one week	Check whether the sealing strip, the driving part are intact, and whether the wheel is cracked
After one year	Check whether the sealing strip, the driving part are intact
Once a year	Check whether the sealing strip, the driving part are intact
When the dehumidification effect is lower than 95% of the new wheel	Check in accordance with the "Problem Analysis and Solution"

1.2 Inspection of the wheel



Carefully check whether the surface of the wheel is partially faded, damaged, or blocked by contaminants. It indicates that the wheel has been damaged by high temperature if the surface color changes to a different color. The heating temperature should not exceed the temperature which the wheel can withstand.

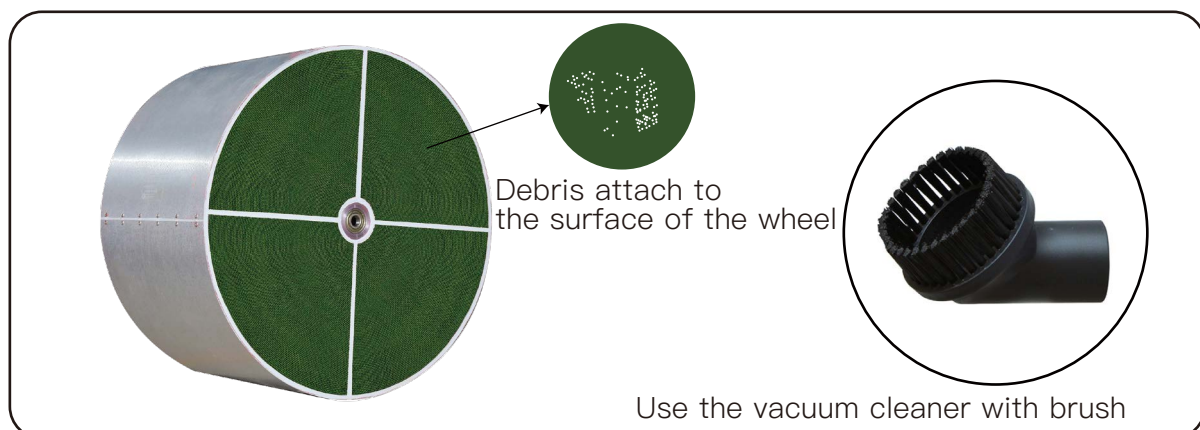


2. The clean of the wheel

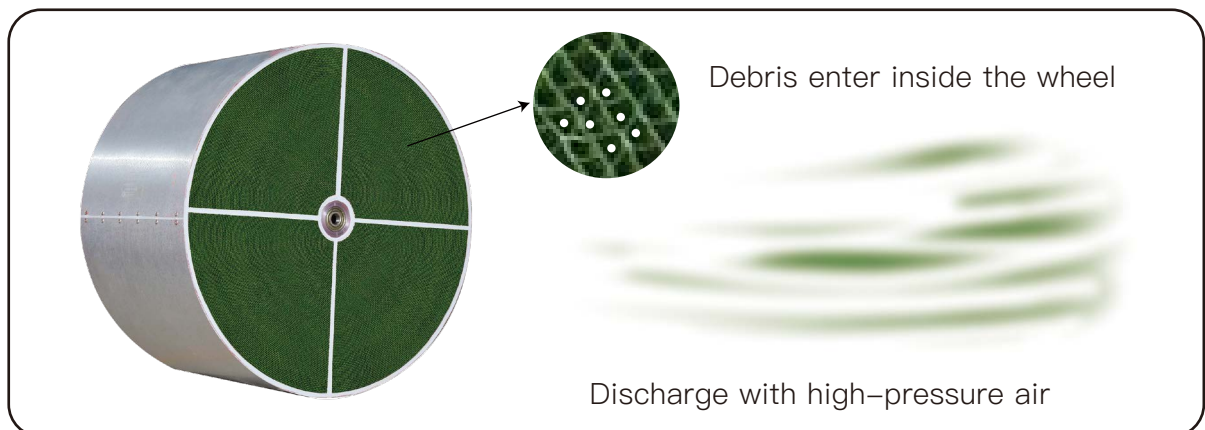
If inspection indicates there is dirt or dust buildup in the wheel, clean the wheel using the following procedure:

Vacuum the wheel

1. Using a standard shop vacuum, vacuum any debris from both faces of the wheel. Slowly work around the entire face of the wheel to complete the procedure. Do not damage wheel face by excessive pressure of the vacuum nozzle on the wheel face.



2. Using 20 psig clean dry air, and a small air nozzle, blow air through one face of the wheel. At a similar location on the oppositeside of the wheel, gently apply a shop vacuum to "receive" any remaining debris exiting the wheel. In most instances this should adequately clean the wheel. In the event the wheel is subject to an aerosol, smoke or other material that coats the wheel, it can be washed with water and/or a mild detergent. The desiccant wheel can be washed thoroughly without affecting the performance of the wheel. The wheel will simply dry out following a washing procedure and resume dehumidification without any deviation in performance. If the desiccant wheel can be easily removed from the cassette or unit, it is recommended to do so to facilitate the washing process. However, in most cases, it is impractical to remove larger wheels and therefore, the washing procedure must take place within the air handling unit and provisions need to be made to collect the run off water from the bottom of the unit.



Washing the wheel

1 Disconnect all power.

2 Shield or remove all electrical components with plastic sheeting. Shield the bearing with plastic sheeting. Precautions should be taken to ensure the motor windings and capacitor do not get wet.

3 Ensure that an adequate drainage system exists to collect run off water from the bottom of the unit.

4 Using standard pressure water (do not use a high pressure washer) and working from the lower half of the wheel, wash the wheel with a standard "garden" nozzle to flush any debris trapped within the flutes of the wheel. Minimize water contact with the seals. Wash from one side and vacuum up water from the other side with a wet vacuum.

5 Once the entire process side is adequately washed, rotate the wheel one half turn and wash the section that was at the top.

6 After washing, there will be a temporary derate in performance as the wheel dries out. To expedite the dry out time, regeneration preheat should be activated if it was provided.

Cautions



1. The wheel should be used at its suitable temperature, strictly avoid exceeding the temperature range of the wheel.

2. The following gases will affect the service life:

- a. Alkaline gas, such as ammonia
- b. Acid gas, such as hydrofluoric acid
- c. VOCs, such as benzene series, organic chlorides, organic fluorides, organic ketones, amines, alcohols, ethers, esters, acids and petroleum hydrocarbon compounds.

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Focus on Air Handling



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