



[User Manual]

Concrete Cooling Water Chillers

CW-50 (3600 lt/h)



Contents

1. Correct Placement of CW-50
2. Power Connections (380V/50 Hz/3Ph + N + E)
3. Water Connections
4. Pre Start Instructions
5. First Check & Start Up
6. Optimising Performance
7. Cleaning the CW-50 Model
8. Installed Equipment
9. Warnings & Solutions

1. Correct Placement of CW-50 Model

The following must be observed for the correct placement;

- The CW-50 must be fastened with the marked ring bolts during lowering and loading.



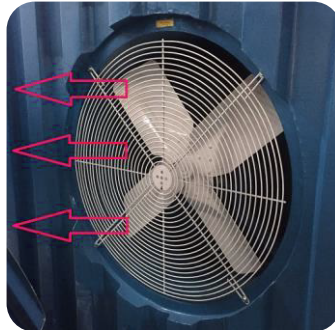
- The floor where the CW-50 is positioned should be smooth and smooth.



- Cut the tower fan cover that has been welded for shipping.



- The front of the water cooling tower fan should be open.



2. Power Connections

Follow the steps below to make the correct electrical connection;

- Open the electrical board
- You will see the electrical panel equipment inside the board.
- You will see that all fuses and conditions are closed.
- The first thing you need to do is to connect 3 phase 1 neutral and one earth end to the device by passing your main supply cable from the input that appears in the picture.
- The minimum cable thickness to be used should be 5x25



3. Water Connections

- Make the water connection of the device through the water inlet part of the cycle tank.
- The device water inlet flow rate must be the same as the output flow. For this reason, 2 large buoys are used. If your mains water cannot provide enough flow, you need to use water booster.

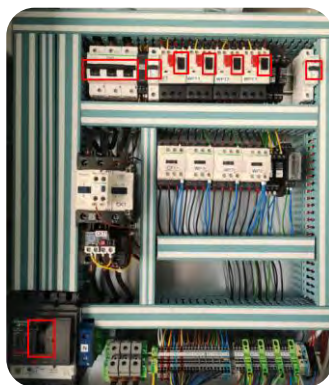


- Water outlet connection will be made from the place indicated in the picture.

4. Pre Start Instructions

Make sure the electrical connection is correct and follow the steps below;

- After making the main connection, turn on the all fuses shown in the picture.



- Make sure all valves that could block the water flow are open.

5. First Check & Start Up

Before starting the machine, we recommend that you check all the steps again.

- Make sure the emergency stop button on the electrical board is in the on position.



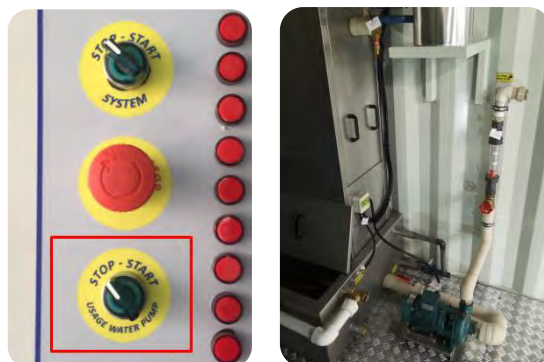
- When you activate the start button, the device will operate.



- When the start stop buttons are activated, the button will light up green.
- The main compressor, condenser water pump, evaporator circulation water pump and other system elements will be activated.



- System Start button will not operate the domestic water pump. For this, you need to open the usage water pump start button on the panel.



- However, the fans of the cooling tower run or stop automatically according to the outside condensing temperature. Please don't be worried.



- If you do not see any problems, you have completed the first test successfully.
- Stop the device by turning the key back to "stop". The machine will stop after a certain time (approx. 10 seconds). Likewise, you can turn off the domestic water pump from the other start button on the panel.

6.Optimising Performance

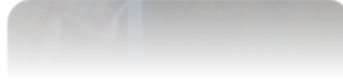
The CW-50 Model are designed for maximum efficiency with respect to the design and system components. In case of strict adherence to the points to be observed in use, it works with perfect performance. Thanks to the high air flow rate of the fan, it can transfer the whole cooling load to the water. Thanks to its high capacity condenser, it works with maximum efficiency even in the hottest weather conditions.

7.Cleaning the CW-50 Model

The only equipment that may clog the device is the shell & tube condenser under the compressor.



In order to prevent this regularly add 15 lt of located under the water cooling tower every 3 months and to clean it.

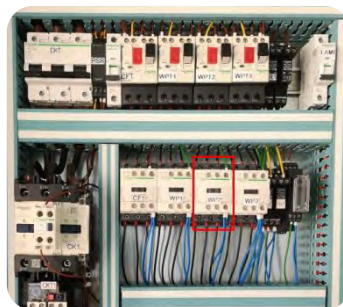


clogging, it is sufficient to descaler to the water tank

located under the water cooling tower every 3 months and to clean it.



After adding the descaler, you can turn the water between the tower and the condenser by pressing the WP2 contactor without starting the machine while the main switch is on. Then do not forget to empty this dirty water and add clean water.



8.Installed Equipment

- **Compressor** : *Dorin H5000CC - 50 Hp*
- **Condenser** : *Erbay Special Shell&Tube*
- **Water Cooling Tower** : *Üçsan*
- **Water Pumps** : *Varan*
- **Evaporator** : *Buco Special Falling Film Chiller*
- **Pressure Controller** : *Danfoss*
- **Expansion Valve** : *Sporlan*
- **Liquid Line Eq.** : *Castel & Danfoss*
- **Liquid Accumulator** : *Güven*
- **Check Valve** : *Castel*
- **Compressor Oil** : *Total Planetelf ACD 32 Lubricant*
- **Copper Pipes** : *Halcor*
- **Electrical Equipments** : *Schneider*

9. Warnings & Solutions



Nu.	Warning Light	Possible Causes	Solution Ways
1	Compressor On	The system is working correctly.	-
2	Water Cooling	The water has reached the target temperature.	-
3	Evaporator Water Pump Thermic Alarm	Evaporator pump draws more current than the adjusted value.	<ul style="list-style-type: none"> - Check the water flow of the pump. - Check the voltages at the Contactor and Thermic outputs. - Check the pump electrical voltage. - Check the mechanical seal. - Check for short circuit of pump.

4	Usage Water Pump Thermic Alarm	The water level in the evaporator tank is lower than it should be.	<ul style="list-style-type: none"> - Check the domestic water pump and the flow of water entering the system. The outlet flow rate and the flow rate of the entering water should be equal. - Check the buoys for any obstructions. - If there is a filter, check the filter.
5	Cooling Tower Fan Thermic Alarm	The cooling tower fan draws more current than the set value.	<ul style="list-style-type: none"> - Check the fan blades and the direction of rotation. - Check the fan belt - pulley. - Check the voltages at the Contactor and Thermal outputs. - Check the fan motor electrical voltage. - Check the fan motor for short circuit.
6	Evaporator Water Low Level	The flow rate in the evaporator water line is not at the desired level.	<ul style="list-style-type: none"> - If there is a filter, check the filter. - Check the feed pump. - Check the buoys for any obstructions.
7	Cooling Tower Water Low Level	The water level in the tower tank is lower than desired.	<ul style="list-style-type: none"> - If there is a filter, check the filter. - Check the feed pump. - Check the buoys for any obstructions.
8	Evaporator No Water Pass	There is no water flow through the evaporator.	<ul style="list-style-type: none"> - Check the water flow of the pump. - Check the water flow switch. - Check the evaporator plate surface.
9	Condenser No Water Pass	No water flows through the condenser.	<ul style="list-style-type: none"> - Check the water flow of the pump. - Check the water flow switch. - Check the condenser contamination.
10	Power Fault or Inverting	Phase Sequence Reverse or Missing - Low Voltage	<ul style="list-style-type: none"> - Check the main power supply phase voltages. - Check the phase sequence.
11	High Gas Pressure Alarm	High pressure in the system	<ul style="list-style-type: none"> - Check the tower fan. - Check the condenser pump. - Check the condenser contamination.
12	Compressor Thermic Alarm	The compressor draws more current than the set value.	<ul style="list-style-type: none"> - Check the voltage at the Contactor and Thermal outputs. - Check for short circuit. - Check the compressor plate and valve.