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MEHAO

INDUSTRIAL CHILLER
TECHNICAL MANUAL

Thank you for choosing and purchasing our products.
Please read carefully the technical manual before application.
Please make safekeeping of the technical
manual for further reference.

MAIN PRODUCTS

Hopper dryer
Autoloader
Strong crusher
Machine-side crusher
Chiller (air cooled)
Chiller (water cooled)
Mold temp controller
Mold dehumidifier
Honeycle dehumidifier
Dry-Dehumidifier-Conveying 3in1
PET large Dehumidifier Dryer system
Centralization Conveying system

CONTENTS

SAFETY PRECAUTIONS FOR ATTENTION

To avoid any dangers caused to operatorsthemselves or others, or any losses on assets, instructions are made on safety precautions to be observed as follows.

The sorts of safety precautions to be followed can be distinguished by


Operation stryctly prohibited


Operation must be plemented

The below explains what will happen if someone fails to heed particular precaution statement


Danger Hidden dangerous is indicated, personal injuries or casualties can be caused for the nonobservances.


Caution Hidden dangerous is indicated, low-grade personal injuries or casualties can be caused for the nonobservances.

Danger!

Do not operate the device where water, corrosive or inflammable gas can be found or near inflammable substances	Fire accident can be caused.
Do not place any inflammable substances on the device	
Do not damage the power lines of the device; or attach overstress or pressure from both sides	Wire damage or electric shock can be caused.
Do not operate device with the power lines dipped in oil or water	
Do not operate the device under vibrations or strong impacts.	Fire accident, injury or electric shock can be caused.
Do not disassemble the electric elements in the electric cabinet.	
Do not touch the high-temperatureor rotating parts of the device	
Do not operate the device or make wiring connection with hands wet.	

Danger!

Wiring connection must be operated by professional electrician.	Wiring connection by personnel without rofessional competence can cause electric shock.
Safety validation must bemade after the device is moved or natural disaster happens	Fire accident,electric shock and injury can be caused with validation ignored.
The equipment shall be operated inconditions with fewer dusts and away from water and oil.	Fire accident or damage can be caused when operating the device in improper places.
Emergency stop electric circuit shall be set external the device during installation to ensure that the device can be stopped and the power supply can be cut off on emergent circumstances.	Electric shock can be caused when operatingwithout cutting off the power supply.
Do not contact any part of the body with the metal parts of the connecting terminals when opening the electric cabinet.	Accident such as electric shock and injury can be caused.

Caution!

Never apply transformers. with power capacity less than the power of the device.	Accident such as fireaccident, electric shock and injury can be caused with the instructions ignored.
Appropriate arrangements shall be made when making operations such as installation etc. According to the net weight of the device.	
Spontaneous disassembly and alteration of the device is strictly prohibited.	Accident such as fireaccident, electric shock and injury can be caused with the instructions ignored.
Make sure that the environmental condition where the device is being operated is controlled within the application temperature and humidity.	
The designated installation methods shall be followed strictly.	
When making combination application of the device with other devices, the application must be made according to the relevant instructions on the combination.	Accident such as electric shock, injury, damage and fire accident can be caused with the instructions ignored.

Caution!

When making operations of conveying and setting etc, pay attention to the stability of the device to avoid accidents caused by dropping or slipping	Injury or failure canbe caused with the instructions ignored.
Do not drag the wires and the rotation parts of the device when making the conveying.	
Restarting can probably happen when the power supply is resumed after the power failure, therefore settings of the device shall be properly made to avoid accidents of the restarting and ensure the personal safety.	Accident of injury can be caused with the instructions ignored.
Make sure that the device is operated stably.	
Keep the device away from strong impacts; avoid connecting and disconnecting the power supply too frequently.	Accident of electric shock,injury, damage and fire accident can be caused with the instructions ignored.

1.FOREWORD

1.1 User Precautions

1.Please read the technical manual carefully before the installation and application of the device.
2.The performances, operations and maintenances of the device will be detailed in the following characters.
3.The documentations must be provided to the managerial personnel and the onsite operation and maintenance personnel.
4.The device has been made various testing before making the delivery to ensure that the device is complied with exfactory standards. Proper application, careful maintenance of the device is the greatest guarantees to ensure the reliability, stability and effective operation of the device.
5.The documentation is permanent file for the device, please make proper keeping of the documents.

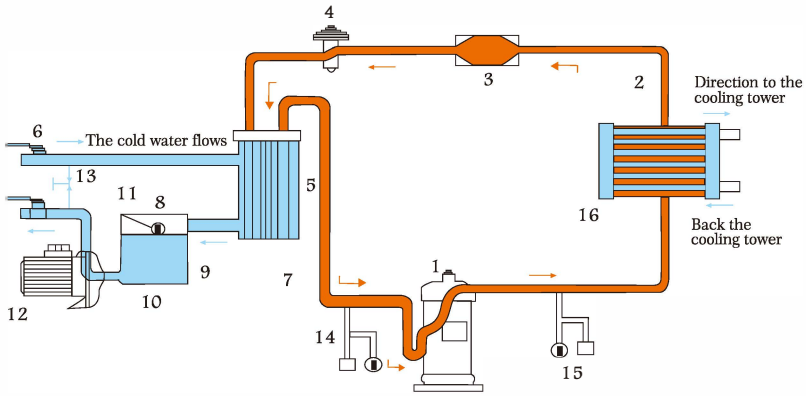
1.2 Application environments

1.The device is required to be applied in the indoor environments of clean and neat, ensure that there's ample light and ventilations.
2.The environmental temperatures for the operation of the device shall be controlled within the range of 5℃ to 45℃,the surrounding temperature where operation is made for more than 24 hours shall be no more than 40℃.
3.The air humidity shall be controlled within the range of 20% to 95%, certain space shall be left surrounding the device.
4.Irrelevant personnel are not allowed to enter the working area when the device is under operation.
5.Make proper use of the device. do not operate the device beyond the application ranges.

2.STRUCTURAL DRAWINGS AND NAMES

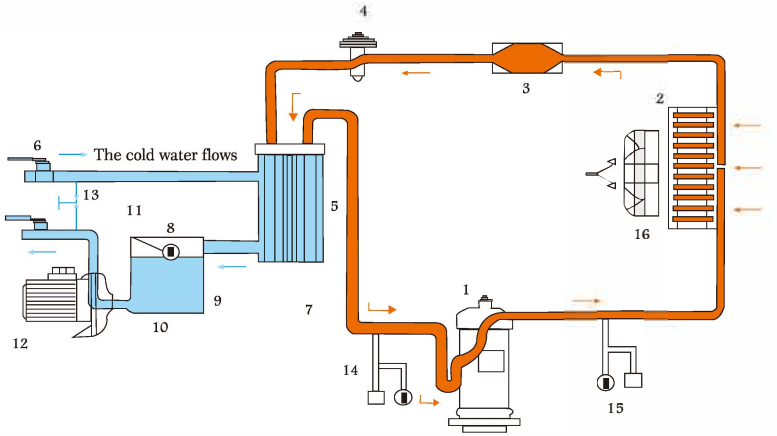
Chiller-water 3-50

Model Water-Cooled		MH-3WD	MH-5WD	MH-8WD	MH-10WD	MH-15WD	MH-20WD	MH-25WD
Capacity	Tons	3	5	8	10	15	20	25
	BTU	36000	60000	96000	120000	180000	240000	300000
Compressor								
Compressor Power	HP	3.3	5.9	9.4	12	3*5.9	4*5.9	2*14
	KW	2.5	4.4	7	9	3*4.4	4*4.4	2*10.5
Refrigerant		R-407C Freon						
Full Load Amps								
220/3/60	Amps	12	25	33	45	72	90	101
460/3/60	Amps	7	12	18	24	35	44	50
Water Pump								
Power	HP	1	1	2	2	4	5.4	5.4
	KW	0.75	0.75	1.5	1.5	3	4	4
Flow Rate	GPM	25	25	30	30	36	48	60
	L/min	94	94	113	113	136	182	227
Pressure	PSI	45	45	28	28	45	45	45
Process connections	Inch(npt)	1"	1"	1.5"	1.5"	2"	2"	2"
Water Tank Capacity	Gal	18	24	37	43	57	77	77
	Lit	70	92	142	164	216	292	292
Dimensions								
Length	(mm)	1080	1200	1480	1540	1660	2100	2100
	(Inch)	42.52	47.24	58.27	60.63	65.35	82.7	82.7
Width	(mm)	650	700	800	820	860	860	860
	(Inch)	25.6	27.6	31.5	32.3	33.9	33.9	33.9
Height	(mm)	1000	1090	1300	1350	1350	1350	1350
	(Inch)	39.37	42.9	51.2	53.2	53.2	53.2	53.2
Weight	(kg)	130	140	315	330	650	750	1050
	(lb)	286	308	693	726	1430	1650	2310



1.Compressor
2.Cooled condenser
3.Drier filter
4.Expansion valve
5.Evaporator
6.Globe valve
7.Antifreezing switch
8.Float switch
9.Temperature sensor
10.Water tank
11.Pressure gange
12.Pump
13.Pressure relieve valve
14.Low pressure controller
15.High pressure controller
16.Pressure release valve

Chiller-air 5-50A



1.Compressor
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7.Antifreezing switch
8.Float switch
9.Temperature sensor
10.Water tank
11.Pressure gange
12.Pump
13.Pressure relieve valve
14.Low pressure controller
15.High pressure controller
16.Fan

3.PRODUCT SPECIFICATIONS

Model Air-Cooled		MH-3AD	MH-5AD	MH-8AD
Capacity	Tons	3	5	8
	BTU	36,000	60,000	96,000
Compressor				
Compressor Power	Hp	3.3	5.9	9.4
	Kw	2.5	4.4	7
Refrigerant		R-407C Freon		
Full Load Amps				
220/3/60	Amps	12	25	33
460/3/60	Amps	7	12	18
Water Pump				
Power	Hp	1	1	2
	Kw	0.75	0.75	1.5
Flow Rate	GPM	25	25	30
	L/min	94	94	113
Pressure	PSI	45	45	28
Process Connections	Inch (npt)	1"	1"	1.5"
Water Tank Capacity	Gal	16	16	32
	Lit	60	60	122
Condenser				
No. of Fans				
Power	Hp	1	2	2
	Kw	0.33	0.48	0.67
Dimensions				
Length	mm	1260	1440	1720
	Inch	49.6	56.7	67.7
Width	mm	690	730	860
	Inch	27.2	28.7	33.85
Height	mm	1260	1350	1470
	Inch	49.6	53.15	57.87
Weight	kg	200	250	320
	lb	440	550	704

Model Air-Cooled		MH-10AD	MH-15AD	MH-20AD	MH-25AD
Capacity	Tons	10	15	20	25
	BTU	120,000	180,000	240,000	300,000
Compressor					
Compressor Power	Hp	12	3 x 5.9	4 x 4.9	2 x 14
	Kw	9	3 x 4.4	4 x 4.4	2 x 10.5
Refrigerant					
Full Load Amps					
220/3/60	Amps	45	72	90	101
460/3/60	Amps	24	35	44	50
Water Pump					
Power	Hp	2	4	5.4	5.4
	Kw	1.5	3	4	4
Flow Rate	GPM	30	36	48	60
	L/min	113	136	182	227
Pressure	PSI	28	45	45	45
Process Connections	Inch (npt)	1.5"	2"	2"	2"
Water Tank Capacity	Gal	32	49	84	84
	Lit	122	183	320	320
Condenser					
No. of Fans					
Power	Hp	2	2	3	3
	Kw	1.12	1.12	2.25	2.25
Dimensions					
Length	mm	1720	1850	2300	2500
	Inch	67.7	72.83	90.55	98.43
Width	mm	860	930	1010	1070
	Inch	33.85	36.61	39.76	41.13
Height	mm	1470	1580	1930	2280
	Inch	57.87	62.2	76	89.76
Weight	kg	380	710	830	1200
	lb	836	1562	1826	2640

4.FUNCTION DESCRIPTION

4.1 Operational principles

This machine has the timing control by the computer board, pulling out the vacuum through the inflow air pump from the vacuum hopper, causing raw material into the vacuum hopper through the conveying rubber tube, after the computer board hypothesis time arrives, the air pump stops working. After the materials in the vacuum hopper are using up, the machine will restart to attract the materials.

4.2 Product features

There are high effect to save energy and low noise and multifunctional for industrial chiller. The machine are widely used in many trades including plastic and rubber, electroplate, chemical industry, ultrasonic, etc. Especially, it shows high ascendant capability in plastic and rubber industry. It is important assistant equipment in plastic and rubber industry. It can exactly control the temperature of process mould, increase output, expedite finalizing the design, reduce shrink, buildup exterior luster and transparence. In the mean time, it appear important effect in pledging quality of output and reducing manufacture cost.

5.INSTALLATION INSTRUCTION

5.1 Preparation before installation

1.Other devices, stacking of materials and maintenance space must be taken into consideration before determining the installation position of the device. At least a distant of 1m is required to be kept surrounding the device.

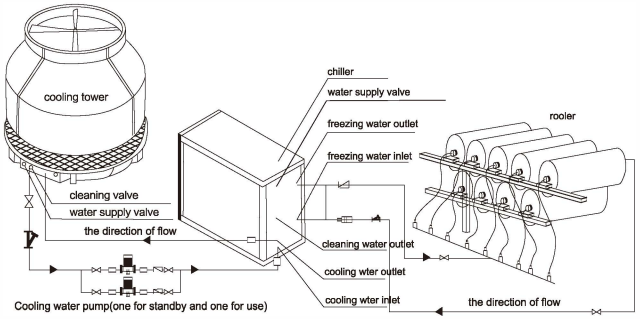
2.The arrangements of power supply must be made before the installation, the load power of the power source wires shall be over the total power of the device.
3.Please check whether the machine appearance has been damaged during the transportation. If there is the obvious damage of the appearance, please don't hesitate to contact with the factory or seller.

5.2 Installation methods

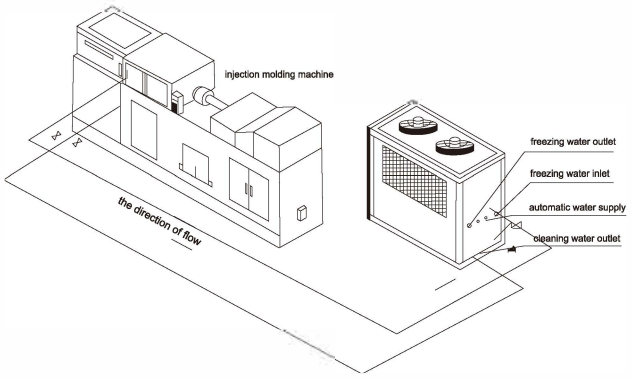
1.Keep the device level and flat and ensure the ventilation of the surroundings.
2.During making the installation, do not change the tube diameter of the cooling water outlet in case that alarming is made on high pressure caused by poor heat dissipation.
3.Filter valves must be made on the return circuits of refrigerated water and cooling water when the water source is too directly or the surroundings near the water tower is too poor. Periodical cleaning shall be made.
4.If the refrigeration water system is designed as closing pipelines, exhaust valve shall be installed at the highest position of the system and drain valve at the lowest position of the system to facilitate the cleanings and drainages of the system.
5.Proper cooling tower with ample size shall be determined according to the refrigeration capacity of the device. The reference method is that each 1HP compressor shall be allocated with a cooling tower of 1.5 ton.
6.After the coolant hoses and pipelines have passed the leakage testing, coat them with heat preservation layer to avoid heat dissipation and pipeline dripping.
7.The water pump, water tower and water supply pump of the circulating water system can be connected into the control circuits of the chillers to facilitated operations and protect the chiller.

5.3 DIAGRAM OF INSTALLATION

Installation Schematic of chiller (water-cooled)



Installation Schematic of chiller (air-cooled)



6.OPERATION INSTRUCTION

6.1 Operation panel introductions

Industrial Chiller

Technical Specifications

1、Operating Voltage:AC380V 415V/AC220V AC460V ±10% 50HZ/60HZ

2、Output Load :Compressor relay 10A/220V/AC

3、Power Consumption：≤3W

4、Working Environment:－10℃～50℃ R H≤90%

5、Input Signal ： one line NTC-sensor input.20k×1. 5m

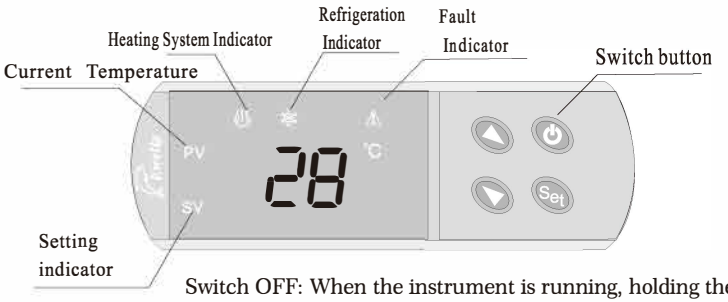
6、Control Range：—40℃～80℃

7、Resolving Power：1℃ Accuracy：±1℃

8、Overall Dimension：80(wide)×32(height)×70(length)mm

9、Starter Size: 71(wide)×29(height)mm

Pane Sketch



Switch OFF: When the instrument is running, holding the switch button for 8 seconds to shut down, and all outputs are disconnected.
Switch On: After the instrument is turned off, holding the switch button for 1 second to turn it on, and the instruction eturns to the automatic standby state.

Demand of install

1.The voltage must accord with controller's demand. The voltage's deviation is no more than ±10%.
2.The loop of sensor is possible to keep away from theloop of power.
3.The sequence of line's must have been connectedProperly.

Operating Procedure

1.Temperature setting: Press set gently to displaycontrolling temperature. Press ▲ or ▼ to change controlling temperature.

Operating Procedure

2.Data setting: Hold set for 6 seconds to enter set procedure. When it is on the procedure, it will bedisplayed **HC** . Then Press set to circle setting .

HC — LS — HS — Pt — CA — d

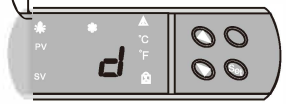
Hold set 6 seconds, press ▲ or ▼ simultaneously. Choose **HC** , **H** means Heat Mode, **C** means Refrigeration Mode.

Press set 1st, press ▲ or ▼ simultaneously. Choose the lowest temperature limits:
—40℃ to Temperature control to -1℃

Press set 2nd, press ▲ or ▼ simultaneously. Choose the highest temperature limits:
Temperature control+1℃ to 80℃

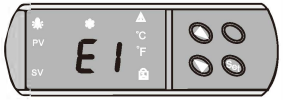
Press set 3rd, simultaneously press ▲ or ▼ to set delayed starting time: 0 to 5 minutes.

Press set 4th, press ▲ or ▼ simultaneously. Choose temperature correction:
—15℃~15℃



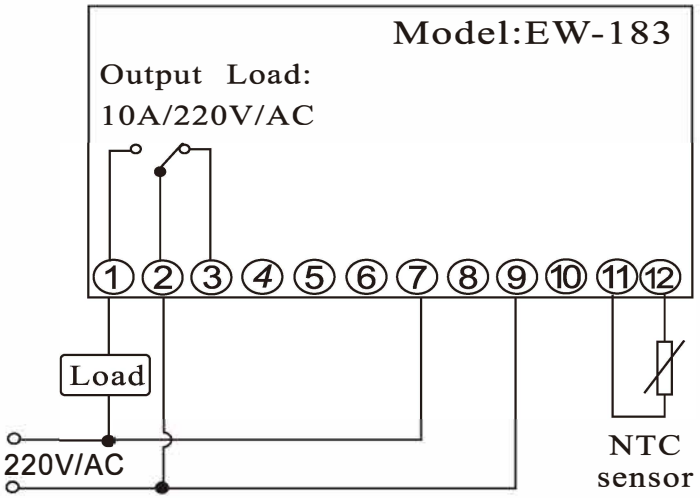
Press set 5th, then press ▲ or ▼ simultaneously. Choose return difference:1℃～15℃

Temperature conversion:
C is displayed in Celsius temperature,
F is Fahrenheit temperature display



ON Error: when the sensor is open or short circuit. Code "EI" will be displayed and the fault indicator flashing.

Electrical diagram



Feature Descriptions

Cooling: When the current temperature ≥ setting temperature + temperature hysteresis(D) and delay the setting of the "delay time", the load relay On.

Cooling stop: When the real temperature ≤ the set temperature, the load relay is Off.

Heating system: When the current temperature ≤the setting temperature - the temperature hysteresis (D) and delay the setting of the "delay time", the load relay Off.

Heating system to stop: when the current temperature ≥ setting temperature, the load relay Off.

Tips: cooling and heating conversion set in the parameter H / C menu selection, H is the heating system, C is cooling.

Parameters for Procedure

Code	Function	Setting Range	Ex-factory Value	Unit
HC	Heat / Cool	H/C	C	—
LS	The lowest temperature limited	−40 to control temperature -1	−40	℃
HS	The highest temperature limited	control temperature +1 to 80	80	℃
Pt	Delayed Time	0～5	1	Min
CA	Temperature Correction	−15～15	00	℃
d	Temperature Return Difference	1～15	2	℃

Attention: The highest temperature limited (HS) and the lowest temperature limited (LS) have been locked. Please don't change.

Trouble Shooting

Failure	Causes	Precautions
No display when power is on.	check to see if the power is shorted circuit or the thermostat is failed.	Check power supply and change fuse. Check if there is 220V power input or change thermostat with our distributor.
Display but machine does not work	The setting temperature is higher than the current temperature. The heat protector is open circuit because the pressure is over loads. The heat protector within compressor is open circuit.	Reset the necessary controlling temperature. Check the reasons for overload and overheating. After the trouble is solved, restart to work.
Displayed temperature is unstable or there exists misplay	The sensor wiring is interfered, poorly contacted or is tied with other cables. The circuit is damaged.	Separate sensor wiring with power cables or change shielded lines or check if the contact is tight or not.
Real temperature is much difference to thermostat display.	The locations for the sensors are not correct or sensor wiring is too long and its resistance is too big. The wiring contact is poor and the sensor is damaged.	All sensors should be corrected at their locations. Enlarge the cross section of the expanded wires. Make sure the wiring sealing, water-proof or Moisture-proof of performance is good. Change sensor.
Machine does not stop as soon as the temperature reaches	The sensor is not correctly installed and cannot measure the correct temperature. The contactor of compressor failed.	Check if the sensor has accurately measured the temperature or not. Change compressor contactor.
Cooler works with over-frequency	Return difference value is too small or the setting for pressure protection is incorrect.	Reset and enlarge the temperature value of return difference. Adjust setting for pressure protection.
"EI" is displayed	The sensor circuit is opened or shorted.	Check to see if the sensor wiring has good contact with coupling end or not.

6.2 Operation cautions

1.The transportation and installation of the machine must be completed by the professional peoples who know the technical parameters of the machine very well.
2.After finishing the machine's installation but before use,the machine must be cleaned and inspected to see if there is any tools and sundries forgotten in the machine.
3.After installation, it needs to check the machine's parts, electric elements and electric wires to see if they have loosened or broken off during the transportation. If they have, please fasten them again,then the machine can be put into operation.
4.When installation, the machine must be placed vertically and be placed on the flat ground.
5.Please make sure that the earth wire connects the ground correctly in order to avoid the electric shock accident.
6.The use of three-phase five-line system, according to the head of the line marking the correct connection, L1,L2.L3 next phase, N to zero line, PE earthing grounding resistance requirements of less than 0.1 ohm.
7.The main power supply should be rated at 10 percent,the frequency should be rated frequency of less than 2 percent, if the power fluctuations may not exceed the scope of this boot, if the damage caused by forced reboot, the Company will not within the scope of the warranty.
8.Before starting the device, inspect whether there's something abnormal on the device, whether the power supply is correct connect and the voltage is complied with requirements.
9.If warning is made on the reserved phase, please shift the positions of the connection wires L1 and L2 of the power supply.

10.The operators shall be made essential trainings before operation including: Possible dangers when operating the device; The working principle of the machine and the correct application methods; The regulation of the device parameters and the possible results; Safety apparatuses of the device and safety knowledge.Stop any unsafe activities that can damage the device.
11.The managerial personnel have the obligation to inform to the operators knowledge relevant to safety, operations and performances; and possible dangers during operation and how to make safety protection on operators themselves and the device.
12.The device is provided with the function of overload. When overload is detected, both the pump and the compressor will be stopped. Please inspect the causes for the overload. The overload detector can be resumed to work normally by resetting it after remove the failures.
13. Inspect to make sure that the cooling water valve and the cooling water tower are kept open to ensure that there's enough cooling water to run into the device.
14. Make sure that the ball valves for refrigeration water inlet/outlet are opened. Make sure that the water tank of the cooler and the condenser are full of water; operation without water is strictly prohibited.
15.The parameter of the Temp. Controller has been set before delivery. Please don't amend the parameter optionally by non-specialist users.

6.3 Operation methods

Startup

1.Please connect the suited water pipe to the device to ensure that the circulating water is running to the device. And ensure that the water temperature is below 30℃, the pressure is within 3-6Bar and the flow rate reach the device requirement.

2.Open the Pump switch in the control box of the device, when the AC contactor of the Pump connected, the Pump starts to work.

3.Open the control switch of the compressor to connect the temperature controller. When the actual temperature is detected higher than the set temperature, the AC contactor of the compressor will be connected and refrigeration is made by the device. The compressors will be started up separately. Operation of the temperature controller.

1.The setting of the application temperature shall be: press the set" button on the temperature controller. The figures indicated in the display screen flashes. Press the "▲"or"▲" button to increase or reduce the set temperature. The temperature can be set as low as 3℃. Determine the proper value according to the needed. Wait for 3 seconds and the temperature controller will confirm the input automatically.

2.The setting of the temperature difference shall be: Press the"hys" on the temperature controller. The figures indicated in the display screen flashes. Press the "▲"or"▲"button to increase or reduce the temperature difference. The compressor can be started only the difference of the actual temperature and the set temperature are the some of the value of "hys".

7.REPAIR AND MAINTENANCE

7.1 Common faults and solutions

Phenomenon	Cause	Elimination
No indication for the whole device	The breaker of the device is turned off or the fuse isburnt	Open the breaker or replace the fuse
Light for Phasereverse on	The phase sequence of the power supply is incorrect.	Shift the positions of any two of the connection wires of the power supply.
Light for Water pump overloaded on	The water pump is blocked, the power supply is incorrectly connected that regarding the null line as the Phase line, the pressure is abnormal, and the motor of the water pump is burnt.	Inspect the water pump and the power supply.
Light for Compressor overloaded on	The high pressure is over high, the motor is heated abnormity caused by the bad contact ion of the compress, or the electric coil of the compressor is broken.	Clean the cooling fin, inspect the cold media pipeline, inspect the power wire of the compressor and the electric coil of the compressor.
Light for High pressure excess on. (water chiller)	The circulating water is not open, the circulating water pipe is too small, the flow rate is in sufficient, the cooling tower is two small, the temperature of the circulating water is too high, the filter and the condenser are blocked.	Inspect the circulating water switch, inspect the flow of the circulating water, the temperature of the circulating water, or clean the condenser.

Phenomenon	Cause	Elimination
Light for High pressure excess on. (water chiller)	The circulating water is not open, the circulating water pipe is too small, the flow rate is in sufficient, the cooling tower is two small, the temperature of the circulating water is too high, the filter and the condenser are blocked.	Inspect the circulating water switch, inspect the flow of the circulating water, the temperature of the circulating water, or clean the condenser.
Light for High pressure excess on. (air chiller)	The cooling fin is blocked by dusts and it leads to heat dissipation badness, or the environmental temperature is over high.	Clean the cooling fan, put the device in a ventilated place or keep away from the heat source.
Light for Low pressure shortage on.	The pipeline is leaking, the cold media is not sufficient, or the drying filter is blocked.	Figure out the leakage points, make welding again and recharge the cold media moderately, or replace the drying filter.
Light for Low water temperature on	Water temperature is below 0℃.	To ensure the device can work normally, please ensure the water temperature is above 10℃
The light for without water flow on	The device doesn't connect with the water pump, or the water pump is lack of water.	Inspect the source of the water pump and the water pump.
The light for Fan overloaded on	The heat release fan is blocked, the motor is damaged, or the power supply is breakdown.	Inspect the heat release fan and the power supply
Water leakage of the pump	The water seal is broken	Replace the water seal

7.2 Cautions for maintence

1.When the device's work and the temperature is veryhigh, please don't process servicing to avoid the danger of scald. If necessary, please shut down the electric heater until the machine is cooling, then can do it.
2.All the repairs and maintenances must be made with the main power supply off. Lock the disconnected switches if necessary.
3.All the repair and maintenance must be made by assigned qualified person. The repair and maintenance personnel must know clearly the performances and parameters of the machine.
4.Careful inspections shall be made after the repair or maintenance. The device can only be handed to the operators after all are confirmed to be in order. Records shall be kept.

7.3 Maintences

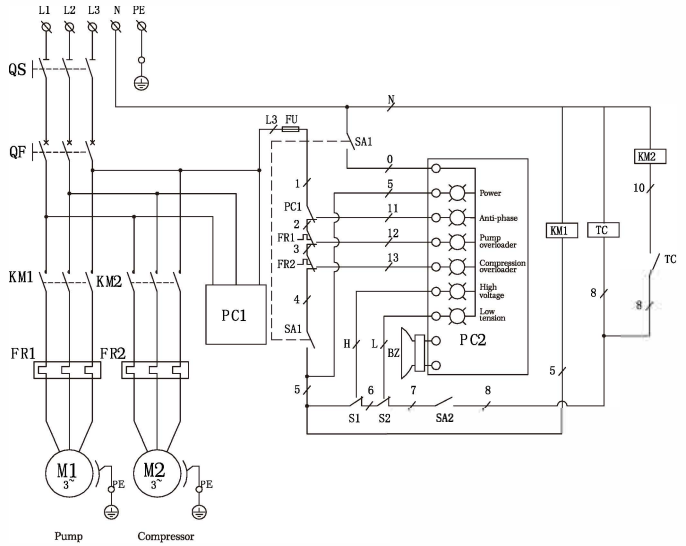
1.Condenser shall be cleaned under the following circumstances: The chiller has been operated for over half years; the circulating water is in order while warnings are often made on high pressure, the refrigeration capacity is lowered or the high pressure indication is over 20Kg/cm2 under operations.
2.Keep the cleanliness of the water tower and the air ventilation surrounding the water tower to avoid the irrelevant materials to enter the water tower to reduce the heat dissipation efficiency.
3.To reduce the dew accumulation of the molds, before stopping the injectioner, first turn off the refrigeration water and the chiller; stop the injectioner after the temperature of the mold is heated up so that the mold will not be damaged by corrosion.
4.The blades of the water pump of the chiller can be blocked by water fouling after the suspension for a long period. Please rotate the water pump before starting to ensure that the water pump is in order.
5.If the chiller will be suspended for a long time, especially in

winter, the residual water in the water tank and condenser shall be discharged to prevent the condenser from being frost broken or blocked.

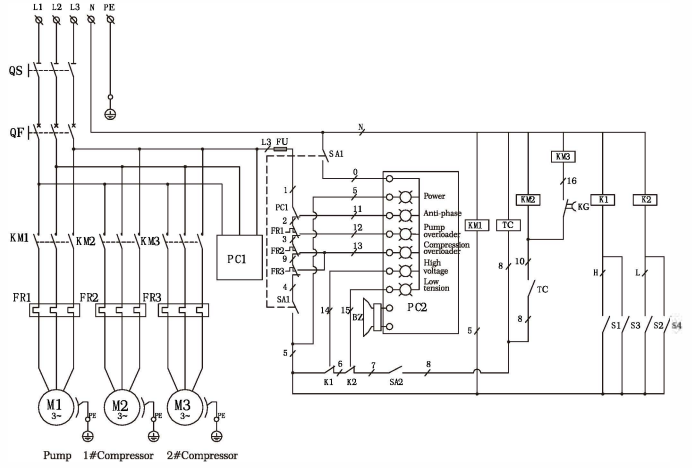
6.Cleaning shall be made on the cooling fin and evaporator of the chiller when the Air cooled chiller has been operated for 3 to 6 months with methods as follows: Clean up the dusts and irrelevant materials in the cooling fin with compressed air; the cleaning methods of the evaporator can be referred to water cooled chiller.

7.Method of cleaning for water cooled chiller Cleaning shall be made on the condenser and evaporator of the chiller when the chiller has been operated for 3 to 6 months with methods as follows: The first cleaning shall be implemented with 25 minutes from feeding the soaking liquid to finishing the rinsing. As instructed in the figure, connect hose and hopper at the“cooling water outlet” of the chiller; feed the soaking liquid (with the main ingredient of hydrochloric acid) from the hopper; collect the soaking liquid coming from the “cooling water inlet” with rubber basin. Wait or 1-2 minutes after feeding in about two liters of soaking liquid, then pour the soaking liquid running into the rubber basin again into the hopper. Collect with another rubber basin. Repeat for 4 to 5 times and then feed clean water in the hopper to rinse the soaking liquid in the condenser and discharge the sewage.

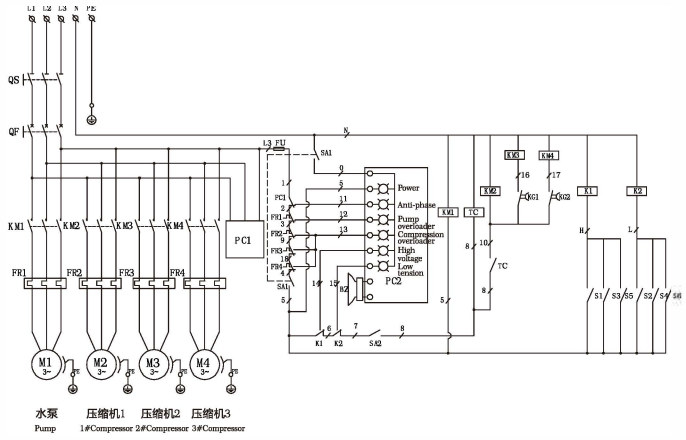
Circuit diagrams for water cooled chiller 5/8/12WD



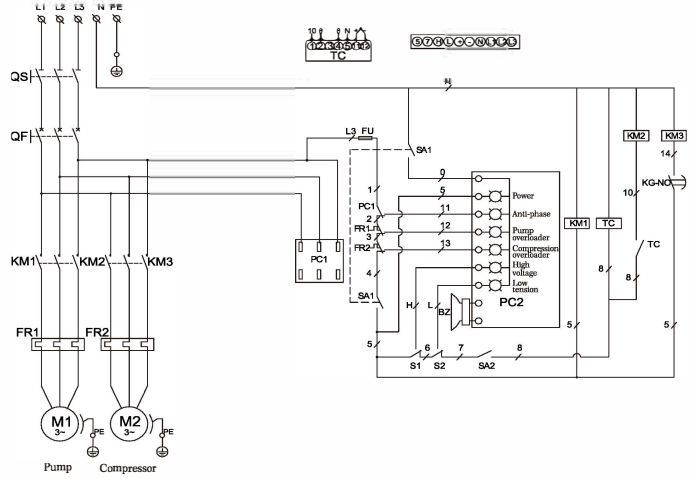
Circuit diagrams for water cooled chiller 10/20/25WD



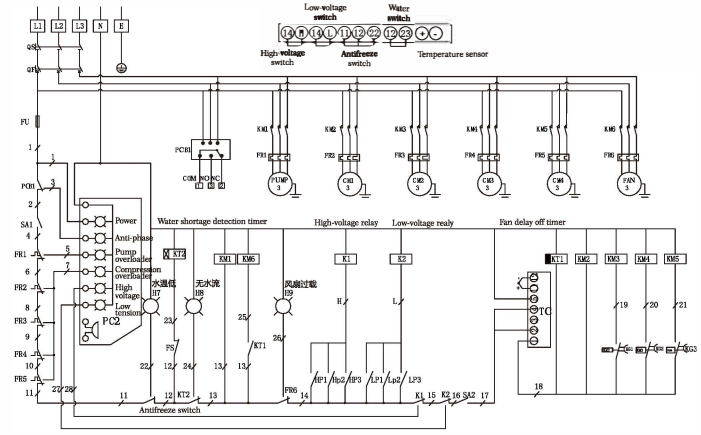
Circuit diagrams for water cooled chiller 15w/30/36WD



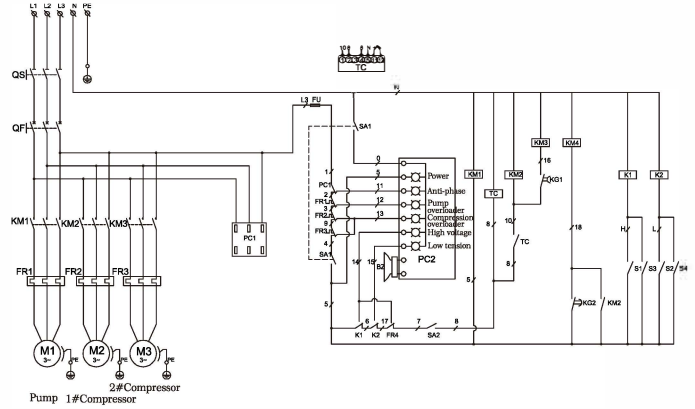
Circuit diagrams for air cooled chiller 5/8/12AD



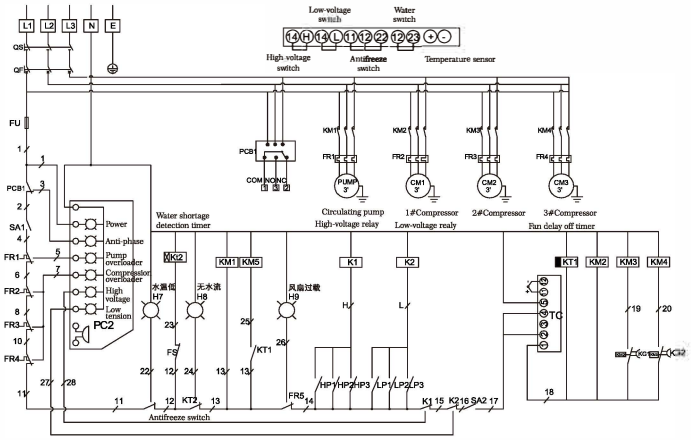
Circuit diagrams for water cooled chiller 20/40/50WD



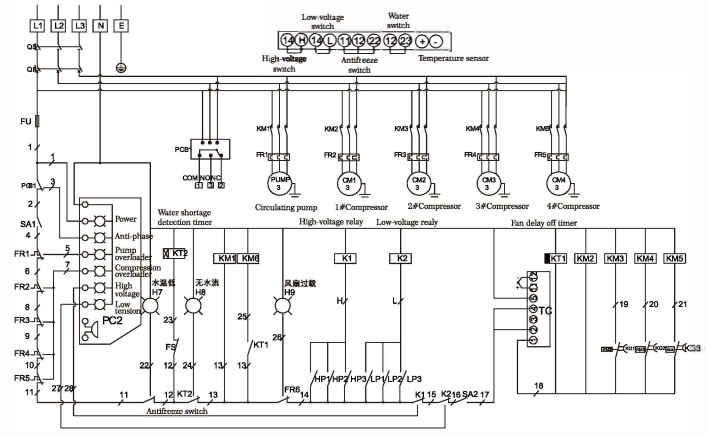
Circuit diagrams for air cooled chiller 10/20/25AD



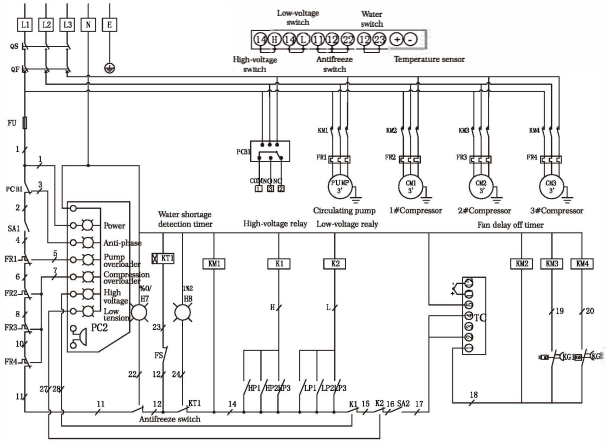
Circuit diagrams for air cooled chiller 15/30/36AD



Circuit diagrams for air cooled chiller 20/40/50AD



Circuit diagrams for air cooled chiller 30-36AD



Circuit diagrams for air cooled chiller 40-50AD