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Welcome to the user manual of ACCESS ROSIN chillers. In order to operate the chiller correctly and efficiently, please read the following instructions carefully.

- Notes for operation

- The refrigerating water pump should not work if there is no water in the water tank; (For the chiller unit above 7.5 HP, there is a built-in water level protector in the water tank. While the water level is too low or the tank is empty, the water pump will be stopped automatically, and it displays the water-level fault code and alarm.)
- The operating switches should be avoided frequently switching over. Pls turn off the main power when the machine did not work for a long time.
- While the refrigerated-water temperature reaches to the set temperature, the compressor will stop.
- In order to prevent the evaporator freezing, do not set temperature below 5°C;(except the low temperature chillers), Pls drain out the chilled medium off the machine when it did not work for a long time.
- To make sure the best cooling efficiency and best working condition of the unit, please clean the condenser, evaporator and the water filter regularly, and confirm there are no adulterant and other obstruction.
- Please turn off chiller as long as if it is alarming. And start chiller after the failures are removed according to the way stated as item 7 and item 10. Or you can contact with our after-sale service staff shortly.

- Installation requirements:
 - Location: Pls choose the more convenient maintenance place to install the chiller, Never place the chiller unit in a location where excessive heat, moisture, inadequate ventilation, pollution, or have corrosive materials in site.
 - Water cooled chiller, Pls choose the cooling tower according to the cooling capacity of the water cooled chiller. And install the plumping pipe according to the size of the chiller unit, smaller size pipe for connecting the tower and chiller is not allowed, that will cause the high pressure overload to affect the cooling efficiency and increase the energy consumption.
 - Air cooled chiller, it must be installed above one meter space from the wall to avoid the low efficiency in heat dissipation , which will arise the high pressure overload to affect the cooling efficiency and increase the energy consumption.

Note: 1. Pls follow the relevant laws and regulations to do the job of power supply load and ground connection of the chiller.

2. The insulation measures should be done to the chilled water pipeline for the new installed chiller.

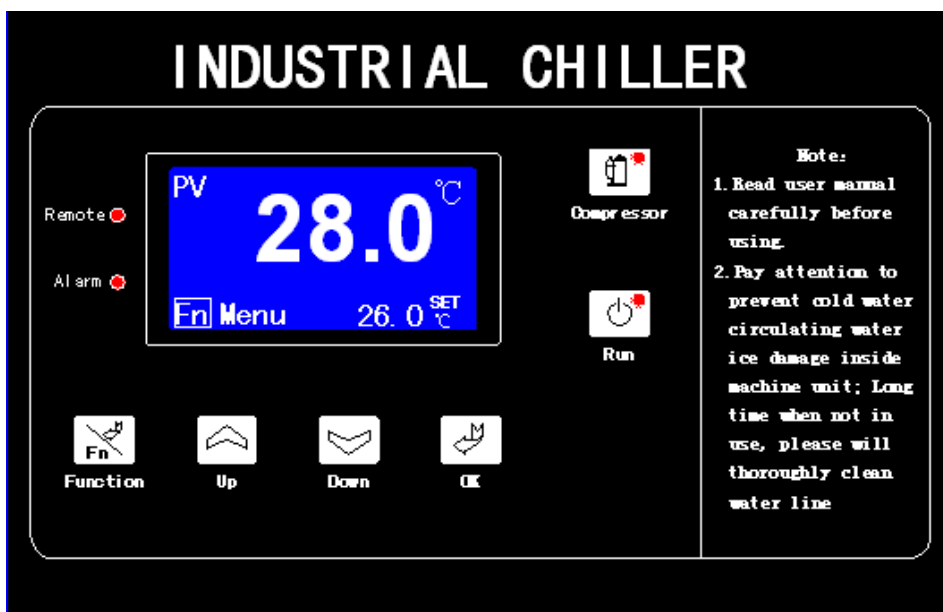
- Preparation for startup

For the first operation, please confirm the following issues:

- Check and confirm the exactly electrical power supply voltage and phases with our name plate.(Note: Phase lines of three phases power supply

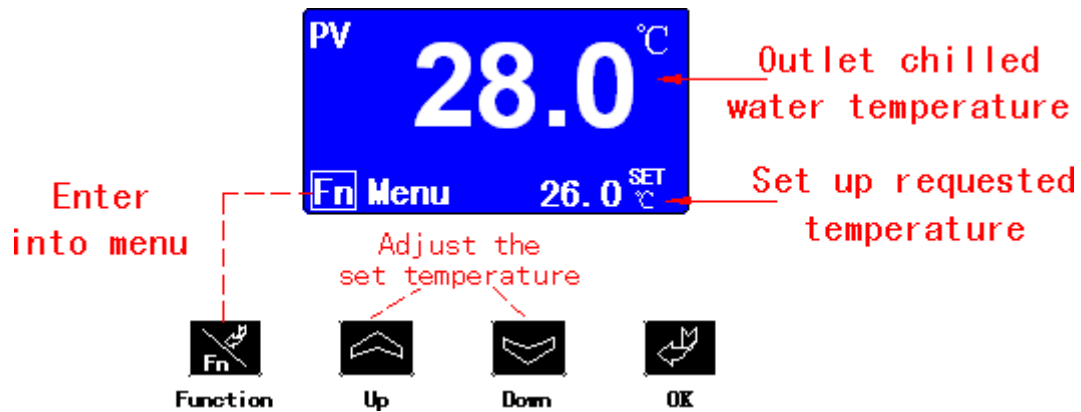
including R. S. T, Neutral line N (Zero line) , and Earth line E(double color lines), Wrong phase lack protector installed in the electrical box, when you start up the chiller in the first time, there is a electrical alarm of the chiller, maybe it is the fault phase protection, pls change and connect the any two of the phases and start the chiller again. For the single phase power supply, the phase line is L, Neutral line is N, and earth line is E.

- Make sure the pipeline connected well and keep the water valves open。 (Refer to the installation sketch map.)
- Confirm the built-in storage tank with full of chilled medium before start the pump. (Note: please choose the chilled medium according to requirements.)
- Pay attention to the reversed running direction of the cooling water pump and the fan of the cooling tower. (If pump is with 3 phases and running reversed, please exchange any two phases' connection, problem will be solved.)
- Operation panel sketch map and instructions.

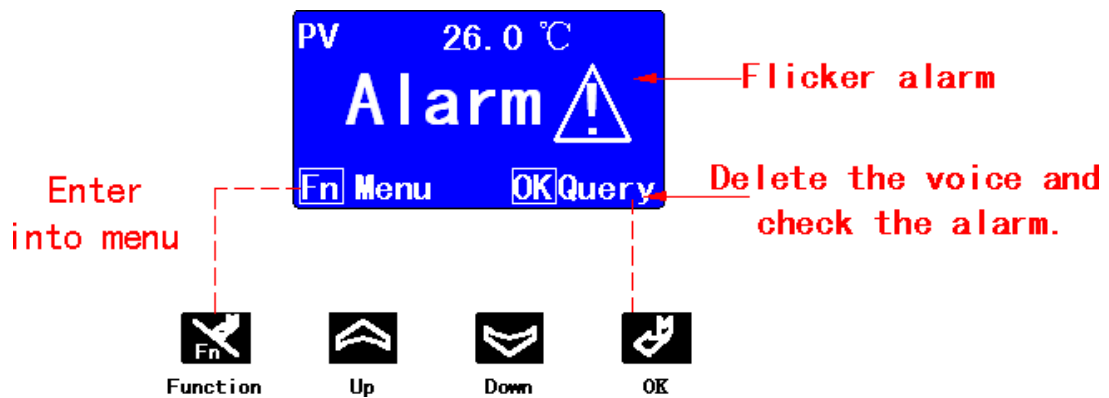


■ Common used interface.

◆ Main interface



◆ . Alarm interface




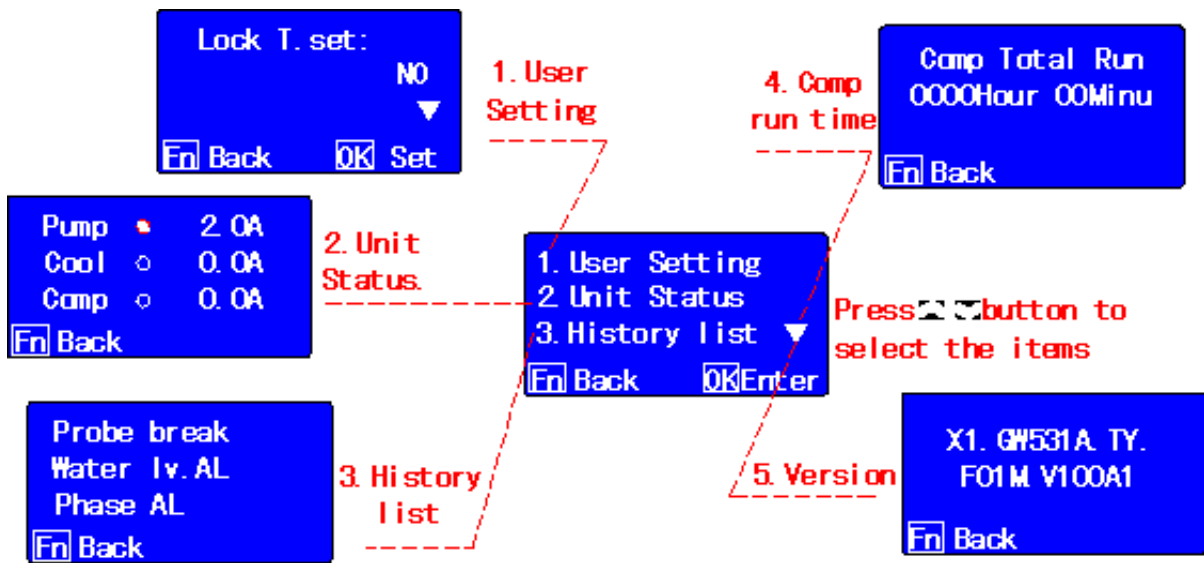
◆ Fault checking and Reset






Note: After checking the fault, pls remove it first, then reset the chiller.

■ Function menu











- ◆ To press  button to enter into the menu in the main interface. The function menu include five items as follow:



■ Temperature setting

By Press  or  button in the main interface to set the temperature you need and confirm the data by press  button (or automatically confirm after 3 seconds).

■ Switch On /Off for the chiller unit

- ◆ Power on by switch on the air –break switch in the electrical box.
- ◆ Press  button, Cold water pump start to run, indicator light on () , then by press the  button to start the compressor (If the setting is one –Key start, no need to do this step), the indicator light will on () , the system will in delay status, when the actual temperature \geq setting temperature+ temperature difference, the fan and cold water pump will run, after 10 seconds delay, the compressor will run, and indicator light  keeps on. Pls refer to the below temperature control theory.
- ◆ By press  button, the indicator light will flicker, after 10 seconds system delay, the compressor will stop, the indicator light on this  button will flicker, delay more 10 seconds, the Fan or cold water pump will stop, after more 10 seconds, the cold water pump will stop, indicator light in this  button will off. Press  button, indicator light on it will off().
- Temperature control theory of unit:
In the procedure of water temperature rise, when the actual temperature(PV) \geq set temperature (SET)+temperature difference, the compressor will automatically start , On the contrary, it will stop when the actual temperature(PV) $<$ set temperature(SET) + temperature difference in the process of water temperature decrease.

Note: If reserve the chiller for a long time, pls turn off the general electrical power and drain out the chilled medium in the evaporator.

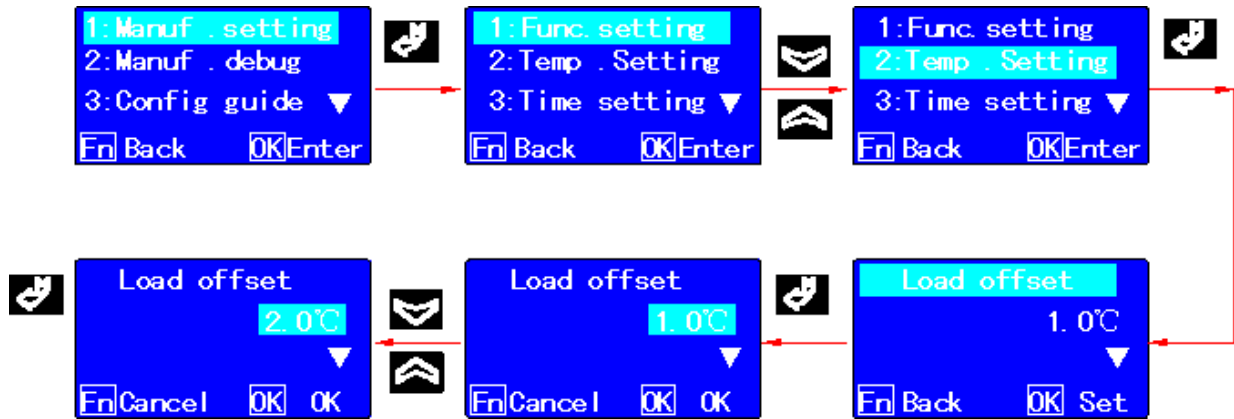
Instructions for modifying the setting parameters

- Parameter setting.

- Setting of End -user

No.	Parameter Name	Factory Default	Setting Range	Remark
1	Locked T.set	No	Yes ~ No	Yes: the set temperature can not be modified on the main screen when locked. No: the set temperature can be modified on the main screen.
2	T.setpoint	12.0°C	-38.0~99.9°C	Setting range is limited by the manufacturer parameters [T.set point min], [T.set point max].
3	Contrast	32	20~44	Adjust the LCD contrast
4	On/Off type	Local	Local / Local + Remote / Remote	Local: the unit can only start and stop locally. Local + Remote: the start and stop of the unit can be controlled both locally and remotely. Remote: the unit can only start and stop remotely.
5	Backlight On	0	0~255 minute(s)	0: backlight is not turned off.
6	Language	Chinese	Chinese~English	Select the display language.

- Steps for the end-user to modify the parameters.



Setting Item	Name of Parameter	Factory Default	Setting Range	Remark
Control Settings	*One-Key start	Use	Forbid ~ Use	Forbid: the compressor is allowed to ON only when press the compressor button; Used: the compressor allows ON when press the pump button.
	Auto start up	Forbid	Forbid ~ Use	Use: the unit starts automatically when powered on; Forbid: the unit doesn't start automatically when powered on; When the user parameter [On/Off type] is set to be "Remote", the electrical autostart is invalid.
	DO1 fuction	Alarm signal	Alarm signal; Run signal	If [DO1 fuction] is "Alarm signal", N.O: The
	Alarm output	Keep when mute	Keep when mute; Stop when mute	Keep when mute: press the "alarm output" parameter to take action once a fault occurs; Stop when mute: press the "alarm output" parameter to take action in case of no fault after silencing.

- **Manufacturer setting**(all the data have been set well before ship out, if have no specific requests, no need to change the below data)



	Alarm type	N.O	N.O~N.C	N.O: the alarm relay is ON in case of faults; N.C: the alarm relay is OFF in case of faults.
	*Low water lv.	Pump keep	Pump stop ~ Pump keep	Pump stop: stop the cold pump in case of low water level fault; Pump keep: do not stop the cold pump in case of low water level fault.
	*Lack of water	Pump keep	Pump stop ~ Pump keep	Pump stop: stop the cold pump in case of cold water flow fault; Pump keep: do not stop the cold pump in case of cold water flow fault.
	*Current detect	Forbid	Forbid ~ Use	Use: there is a current detection module; Forbid: no current detection module
	*Comp. I rating	0.3A	0~35.0A	0A: do not detect the current fault. When [Current detect] is set "Forbid", those parameter is not displayed.
	*Pump. I rating	0.3A	0~35.0A	
	*Cool. I rating	0.3A	0~35.0A	
	D11 input opt	Cool overload	C oo l ov erl oa d; Anti-freezing	Selection of switch D11 input function



	DI6 input opt	Comp overloa d	C o m p o v e r l o a d; Cool W.flo w	Comp overload: DI6 input for Comp overload detection Cool W.flow: DI9 input for cool water flow detection
Temper ature Settings	Load offset	1.0°C	0~10.0°C	Temperature deviation of load the compressor
	Unload offset	1.0°C	0~10.0°C	Temperature deviation of unload the compressor
	T.setpoin t max	50.0°C	0~99.9°C	To limit the temperature of user set.
	T.setpoin t min	7.0°C	-38.0~99. 9°C	
	T.bias	0.0°C	-9.9~9.9 °C	Compensation for the liquid temperature
	T.low protect	4.0°C	-40.0~99. 9°C	Fault of “Temp.low AL” warning is reported when the liquid temperature is lower than the set value.
	T.high warn	50.0°C	0~99.9°C	Fault of “Temp.high warn” warning is reported when the liquid temperature is higher than the set

				value.
	T.high alarm	60.0°C	0~99.9°C	Fault of “Temp.high AL” warning is reported when the liquid temperature is higher than the set value. And Stop the compressor and delay to stop the cool pump.
	T.high reset	5.0°C	0~99.9°C	If liquid temperature<[T.high alarm]–[T.high reset], manual reset of “Temp.high AL” fault is allowed; If liquid temperature<[T.high warn]–[T.high rese], the “Temp.high warn” fault is automatically reset;



Time Settings	Pump on delay	10 S	1~255 S	Delay after cold pump startup.
	Cool on delay	10 S	1~255 S	Delay after cool pump startup.
	Capacity ctrl.	5 S	0~255 S	Control the compressor ON/OFF every [Capacity ctrl.] interval time; For double-compressor control, if the conditions of two compressors ON are satisfied, then one of the compressors ON and the other after the time of [Capacity ctrl.].
	Compressor protect	60 S	0~255 S	To avoid frequent ON/OFF the compressor, the interval between the start of two compressors must be greater than the set value.
	Input stable	2 S	0~255 S	The time General fault stable.
	W.flow stab.	5 S	0~255 S	It is considered to be valid only when the water flow alarm continue for the time.
	LP detect dly	60 S	0~255 S	Compressor low-pressure fault input is allowed only when the compressor has run for the set time.
	LP stable	5 S	0~255 S	Low-pressure fault stable time
	LP stop pump	0 S	0~300 S	0: the parameter has no effect . Non-0: in case of low pressure fault of the compressor, immediately stop all compressors and cool pump, delay the [LP stop pump] and stop the cold pump.



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	Comp operation	0 H	0~9999 H	0: this parameter has no effect. Non-0: the compressor cannot start when the accumulative operation time is greater than the set
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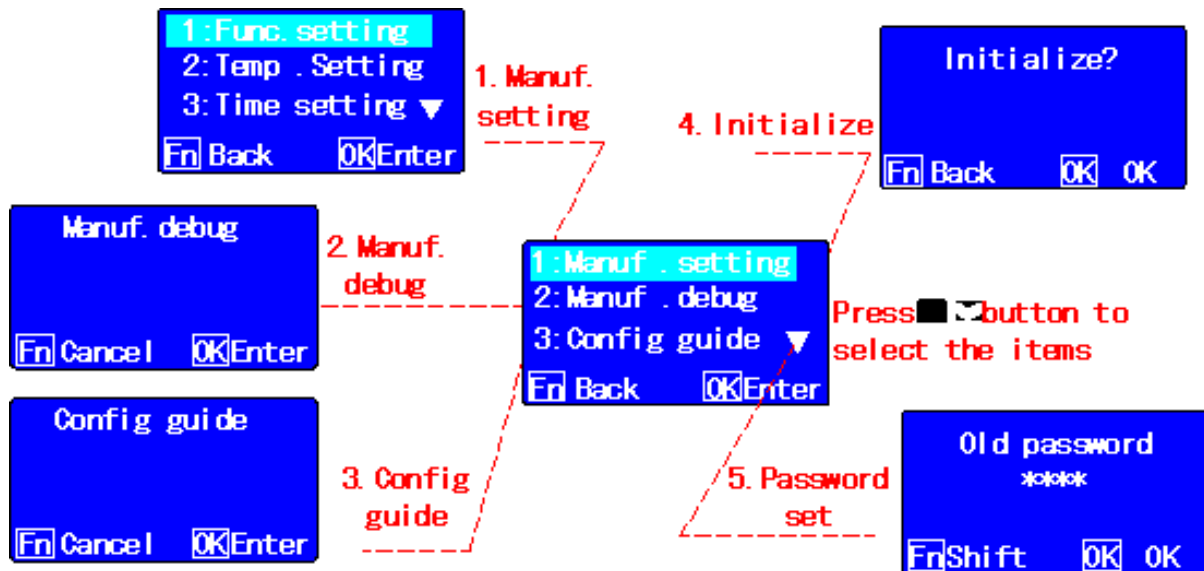
				value.
	Compl avoid	8 S	3~255 S	The current fault of compressor can only be detected after compressor has started for the set time. (When the [Current detect] is set "forbid", the parameter is not displayed.)
	Pump. l avoid	8 S	3~255 S	The current fault of cold pump can only be detected after it has started for the set time. (When the [Current detect] is set "forbid", the parameter is not displayed.)
	Cool. l avoid	8 S	3~255 S	The current fault of cool pump can only be detected after it has started for the set time. (When the [Current detect] is set "forbid", the parameter is not displayed.)
	HT detect dly	0Min	0~30Min	0: this parameter has no effect. Non-0: T.high warn and Temp.high AL is detected only after the unit has run for the set time.
Switch Settings	*Cool overload	N.O	N.O ~ N.C	Selection of switch input mode N.O: switch off with no fault; N.C: the switch is closed with no fault.
	*Freez overload	N.C	N.O ~ N.C	
	*Cold W.flow	N.O	N.O ~ N.C	
	*W.level switch	N.C	N.O ~ N.C	



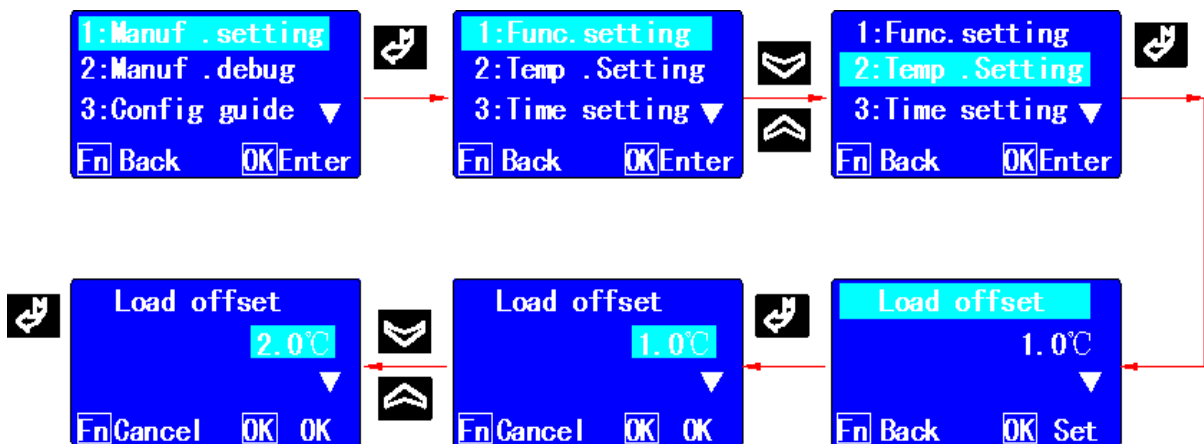
	*Comp overload	N.C	N.O ~ N.C	
	*Low pressure	N.C	N.O ~ N.C	
	*High pressure	N.O	N.O ~ N.C	

- Function for the manufacturer menu

- Press the  and  buttons at the same time in the main interface, then enter into the **password input interface**, press  or  button to input the correct password(4561), then press  button to move the password location, after that , press  button to confirm and enter into the **function menu of manufacturer**.

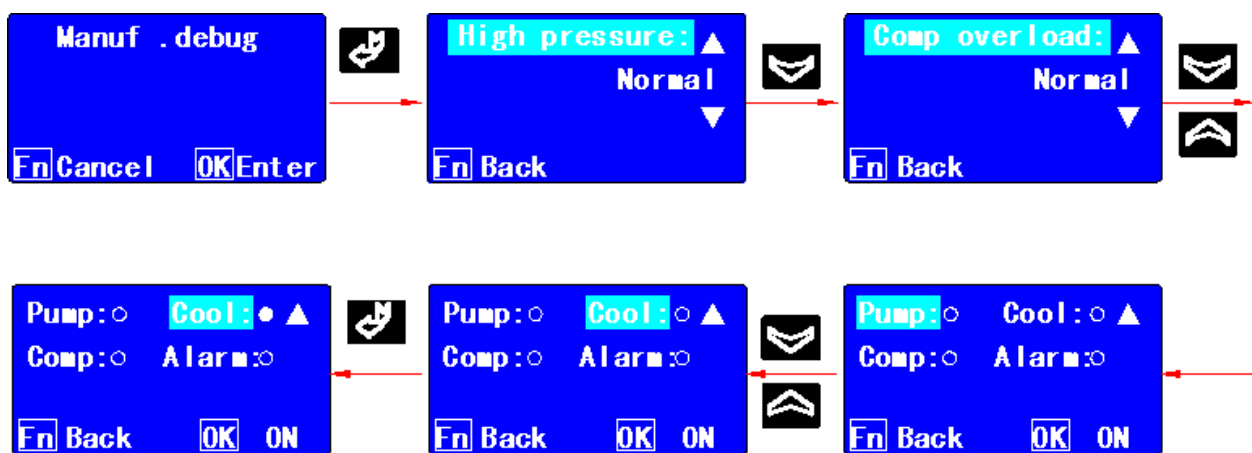


- Parameter setting for the Manufacturer



- Manufacturer debugging

The manufacturer debugging can test the working status of three phase, seven alarm outputs and four relay outputs. If the above item is ok, it presents good line connection and correct setting. If it have a alarm, means there is a fault or bad line connection and incoordinate setting. Debugging steps show as below:



- Configuration guidance.

It can be done to the parameter setting of some common used customer. Details can refer to the Manufacturer setting table.

- Fault illustration

Fault code	Detect items	Result from fault	Illustration
Comp.P high	Check the running condition	Comp. stop, then delay and stop to cool	Check the input whether accordance with the setting of the switching value.
Comp.P low			
Comp overload			



Comp.I high	of comp.		Check the rated current of comp.setting is reasonable .
Comp.I low			Check the circuit connection of comp. is normal .
Temp.low AL	Running detecting		Outlet water temp. is lower than the setting data of low temp. protect.
T.high warn			Outlet water temp. is higher than the setting data of overheat alarm
Temp.high AL			Only alarm
Anti-freez.AL	Power on detection	Comp.stop then delay and stop cool	Check the input is accordance with the setting of switching value or not.
Probe break			Check the wire connection of the temp. prob.
Probe short			
Cool overload	Detecting for cooling running	Comp. and cold fan stop to run	Check the input is accordance with the setting of switching value or not.
Cool.I high			Check the rated current of cooling is reasonable or not.
Cool.I low			Check the wire connection of the cooling motor is normal .



Pump overload	Detecting for the running cold water pump.	Chiller unit power off	Check if the cold pump overload input is consistent with the switch setting.
Pump.I high			Check if the rated current of cold water pump input is reasonable.
Pump.I low			Check the wire connection of the cold water pump is normal or not
Phase AL	Power on detecting	Chiller unit power off	Check if there is default phase or



			anti-phase in the three-phase power input and if the switch is correct.
Cold W.flow AL	Detec ting for the runnin g cold water p u m p.	Chiller unit power off	Check if the water level input is consistent with the switch setting
Water level AL	Detec ting for the runnin g cold water p u m p.	Chiller unit power off, refer to “water pump stop for the low water level ”	
Need Maintain	Runnin g detecti ng	Power off and stop to run	The running time of comp. are over setting used time of comp.
Paramet er abnorm al	Power on detectin g	Unit stop to run	Reset the parameters or contact the manufacturer

● Trouble removal

State	R e a s	S o l u
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	o n	t i o n
Power supply normal, unit can not be operated	①temperature controller is broken	①change the temperature controller.
Power switch trip out	①short circuit ②main circuit overload ③Breaker fault	①check the short circuit reason , solve it. ②check the overload reason and remove the overload operation like the rated current of breaker is too low, it can change the breaker., ③change the breaker
Three phase fault	①anti-phase: The	①Exchange any two phases of the power supply; ②Test the three-phase status with a multimeter for

	<p>pump, the compressor or the fan is running reversed</p> <p>②default phase: The pump, the compressor or the fan can't normally work</p> <p>③the three phase input detecting is abnormal</p>	<p>checking that the power supply is in good condition;</p> <p>③ check the three phase detecting input whether can remove the fault and correct , if not, pls change a new one.</p>
High pressure alarm	<p>①bad heat dissipation</p> <p>②Switch of the high pressure is damaged;</p> <p>③line fault of input quantity</p>	<p>① pls follow the footnote(1)to solve the problem</p> <p>②change for a new pressure switch</p> <p>③check the input quantity and remove the line fault</p>



<p>Low pressure alarm</p>	<p>① short of refrigerant, low pressure is too low and protection switch is trip out ②the temp of outlet water and evaporator is too low. ③line fault of input quantity.</p>	<p>① Follow the footnote (2)to solve the problem ②Check whether the water tank is lacking water and the circulating pump is running or not; While everything goes well, the chiller should be restarted or reset the low-pressure switch by hand, if evaporator freezed , pls drain out the iced water and added some hot water . ③check the input quantity and remove the line fault Note: Don't take the hard objects to knock the ice, otherwise the copper pipe will be damaged and lack of refrigerant or water will enter into the refrigerating system and damage to compressor.</p>
<p>Overload alarm</p>	<p>①The voltage is abnormal; ②bad heat dissipation ③pressure and water flow of water pump or</p>	<p>①The voltage of the three-phase source is decreasing or the voltage is not stable. Please adjust the voltage and check the reason of the missing phase, pls adjust the pressure and find the reason ②pls follow the footnote (1)to solve this problem</p>

	<p>is too high ④The bearing of compressor, the motor, or the pump is damaged; ; ⑤The overload relay is too small or its regulating value is too low;</p>	<p>③Check the water system, adjust the water flow to the scope of the rated water flow. ④change the new bearing. ⑤change a big new thermal overload relay or adjust higher than normal data. ⑥Lock the joint point of line circuit</p>
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	⑥The joint of the circuit is not good or flexible;	
fault indicator not on and comp. can't run	The protection device is shut off by itself	Please deal with the problem according to Footnote(4)
water in the water sink is not cold or trip out for low pressure	<p>①The capacity is not enough;</p> <p>②The refrigerant is not enough;</p> <p>③The water tank is choked by the refrigerating medium;</p> <p>④The valve block is</p>	<p>①Expanding the capacity of the major machine;</p> <p>②Deal with the problem according to the Footnote(3);</p> <p>③Change the choked part, and fill refrigerating medium after dealt with the problem with drying agent or expansion valve in the state of vacuum;</p> <p>④Change the compressor, confirm it according to Footnote(3)</p> <p>⑤Adjust the temperature more lower;</p>

	<p>broken;</p> <p>⑤The temperature setting data is too high;</p> <p>⑥The temperature switch does not work;</p> <p>⑦Bad heat dissipation</p> <p>⑧The sensor does not work;</p>	<p>⑥Change for a new switch;</p> <p>⑦If the efficiency is low, it can be dealt according to Footnote(1);</p> <p>⑧Change for a new sensor;</p>
<p>Short of water and short age of water flow</p>	<p>①Water is not enough in the water tank;</p> <p>②little water flow;</p>	<p>①Add water into the water tank;</p> <p>②Check that whether each valve is fully open;</p>

Note (1): (Take the standard Refrigerant R22)

Bad heat dissipation and the solution

While the condenser cooling bad, the compressor will be inefficient, the operating current creased; While high pressure of the air cooled chiller reaches 24kg/cm², and high pressure of the water cooled chiller is up to 20 kg/cm², the compressor can be trip-out under the protection of the high pressure switch, it will stop running because of bad cooling, high pressure overload, and it will display fault code or fault indication, then pls check that the circulating water in the cooling tower is running well, the temperature of cooling water is not overhigh, the fan of the cooling tower and the water pump are running, and the cooling water valve is fully



open (If it is an air cooled chiller, pls confirm that the radiator is not dirty or choked.). All the stated come back to normal, the chiller can be running well after restarting by pressing “REST”. If the high pressure overload state is a frequent problem, pls clean the condenser as soon as possible.

Note (2)

Solution to low pressure for the shortage of refrigerant:

1. While water temperature is over 5°C and the pressure displays by the low pressure gauge is below 2 kg/cm², indicates shortage of refrigerant, firstly the leak should be filled, the dryer filter should be changed, and it should be drawing vacuum again, and in charge refrigerant with proper volume.
2. While found the leaking part of refrigerant sink in the water, pls stop the chiller immediately, and discharge water of the water tank quickly. In order to avoid that the chiller is damaged badly for the compressor suck water, please notify the after-sale service for dealing with the problem.

Note (3)

Check the condition of low and high pressure:

If the compressor of the water cooled chiller is running well, it is the best state while it displays high pressure within the scope of 12.5 kg/cm² to 15 kg/cm² (while for the air cooled chiller, it is best within the scope of 14~17 kg/cm²), but it should not be above 19.5 kg/cm². If the pressure of the water cooled chiller is above

19.5 kg/cm², or the pressure of the air cooled chiller is above 24 kg/cm², the high pressure switch will turn off by itself, then please deal with it according to Footnote(1). It is the best state when the low pressure is within the scope of 3.1

kg/cm² to 4.5 kg/cm², but it could not be lower than 2 kg/cm². If the low pressure is below 2 kg/cm², the switch of the low pressure will turn off by itself, please deal with it according to Footnote (2).

If the difference between high pressure and low pressure is little or they are equal, while the compressor is running, that means the valve of the compressor damaged or broken up, then the machine should be stopped immediately and notify the company to deal with the problem. Please be aware that the stated conditions would happen when the compressor is running. If the compressor is not operating, it is in normal state while the high pressure and the low pressure come into equilibrium.

Note (4)

If the fault indicator and the protecting switch are both normal, but the compressor can not start, please check in the following steps:

1. The set temperature is too high or the temperature switch is damaged;
2. The trigger is damaged;
3. The anti-freezing switch is damaged;
4. The pressure switch is tripping or damaged;
5. The overload protector of the compressor is damaged or tripping;

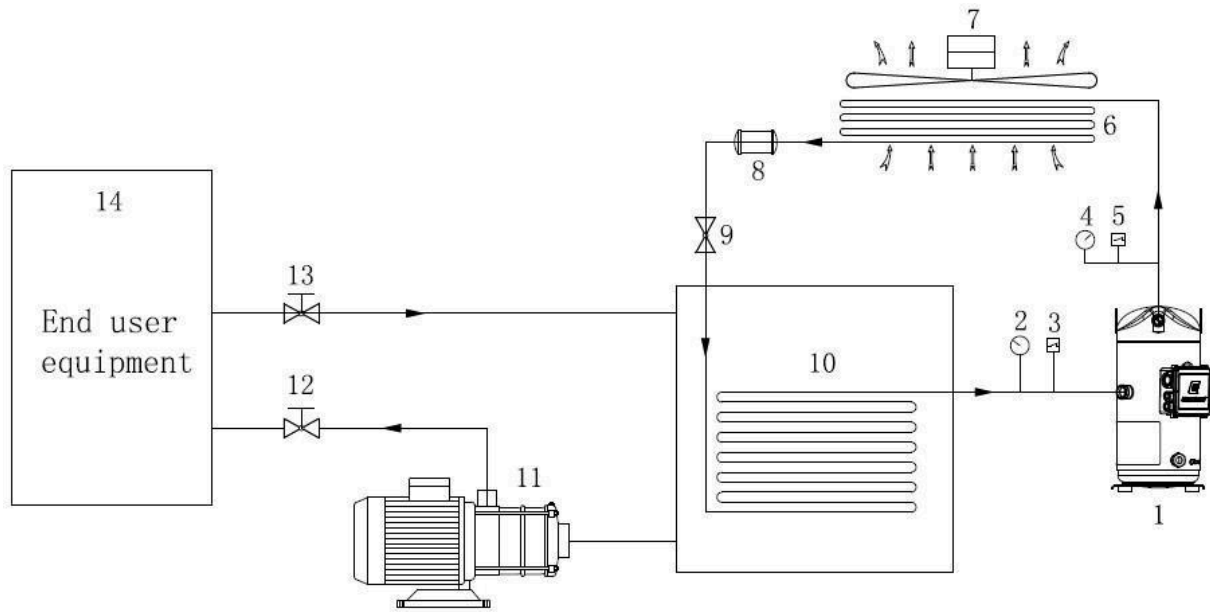
1282591072. The electromagnetic relay is damaged or the overload protector is damaged;

1282591073. The level of the water tank is too low;

1282591074. The refrigerating water protecting switch is damaged;

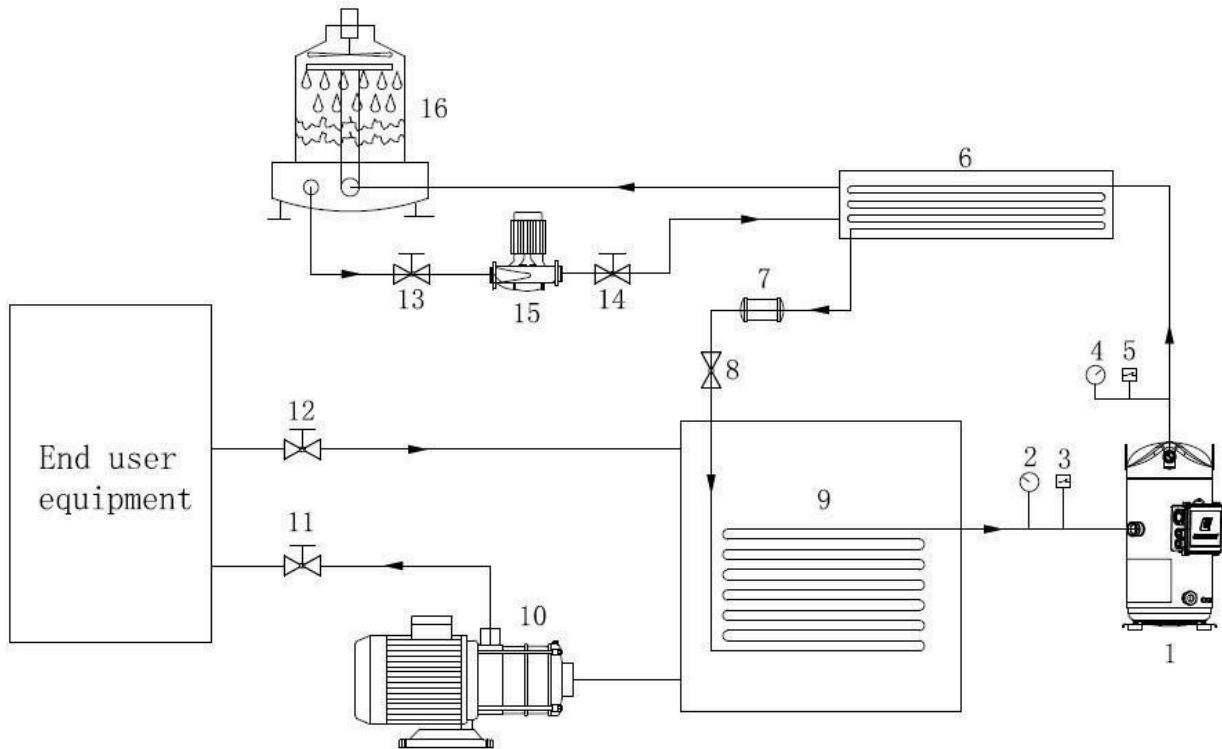
Note: The compressor can not be operated if the stated controlling switch or the circuit is faulty;

- Internal structure schematic diagram of the air cooled chiller



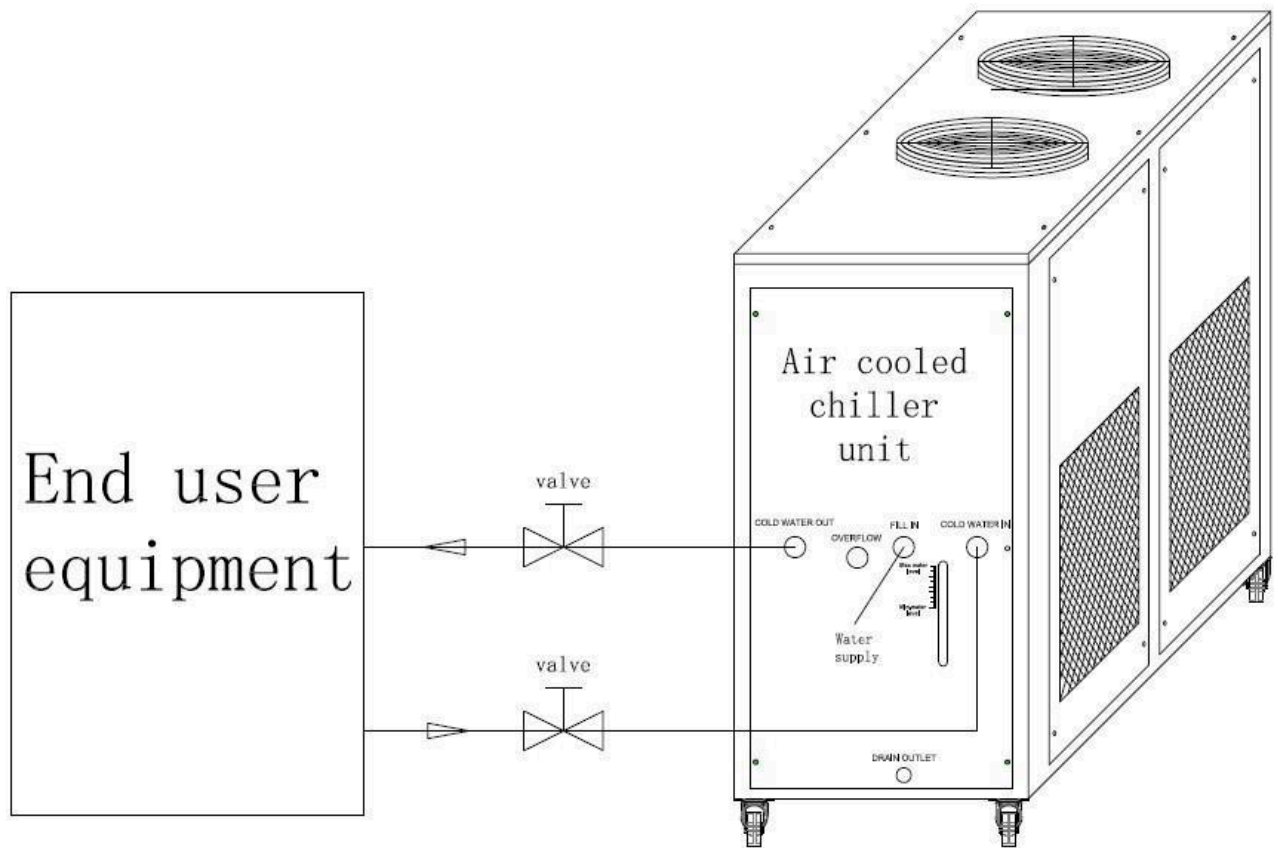
1. Compressor	7. Cooling fan
2. Low pressure gauge	8. Dry filter
3. Low pressure protector	9. Capillary (Expansion valve)
4. High pressure gauge	10. Evaporator
5. High pressure protector	11. Cold water pump
6. Condenser	12.13. Water flow switch

- Internal structure schematic diagram of the water cooled chiller

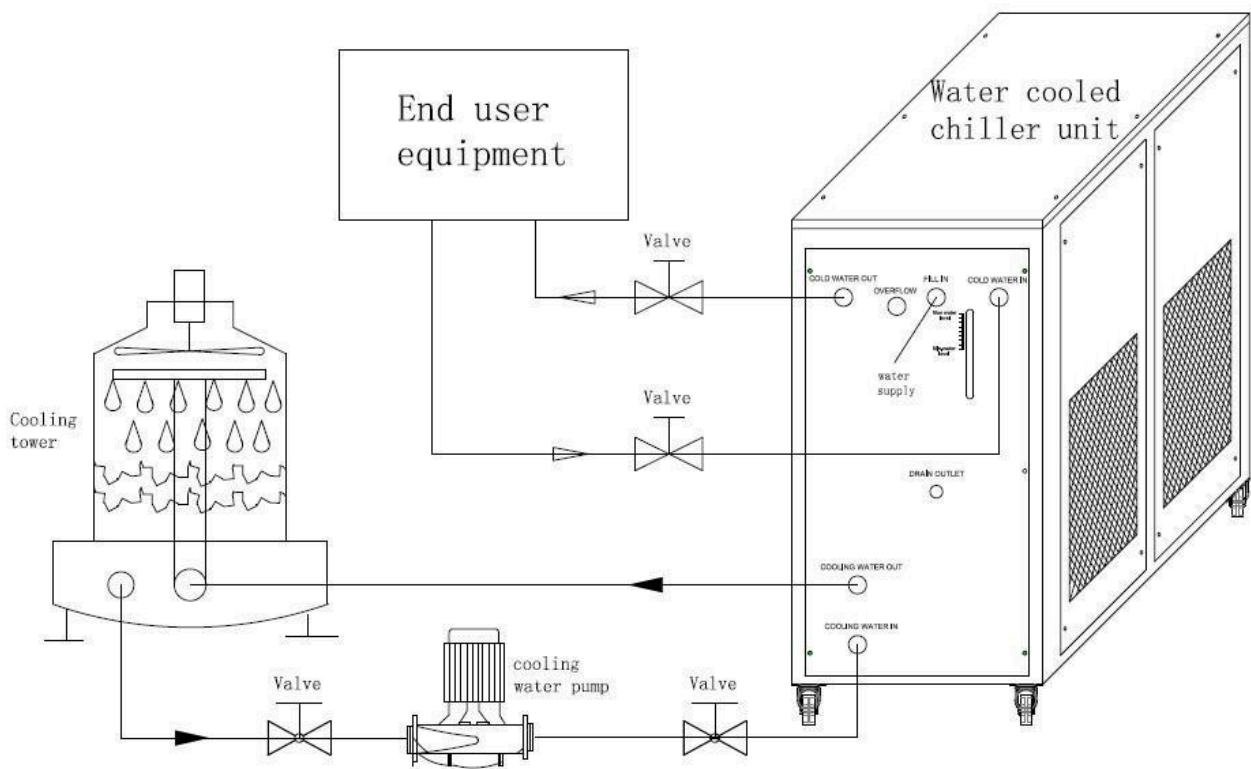


1. Compressor	8. Capillary (Expansion valve)
2. Low pressure gauge	9. Evaporator
3. Low pressure protector	10. Cold water pump
4. High pressure gauge	15. Cooling water pump
5. High pressure protector	16. Cooling tower
6. Condenser	11, 12, 13, 14. Water flow switch
7. Dry filter	

- Installation sketch map of Air cooled chiller



- Installation sketch map of Water cooled chiller



- Electrical circuit diagram. (pls check the attached documents)



WARRANTY SERVICE

Access Rosin will offer guidance for installation and testing after the customer bought the chiller unit. Warranty started from the date the chiller shipped out of the factory of Access Rosin. Under warranty, Access Rosin will provide one year (screw type chiller offer two years warranty) free service at the circumstances of normal installation, use, repair and maintenance (except human factor and force majeure).

Access Rosin will offer 24 hours customer service. If any problem of the chiller unit, you can make a call at any time, and we will offer the telephone guidance in time.

Under warranty, if any part of the chiller is broken on account of quality problem, after confirmed by both parties, customer can buy the replacement themselves, and Access Rosin will pay accordingly; or Access Rosin send a replacement after received the broken one.

If the problem is caused by human factor, or the chiller is not under warranty, Access Rosin will offer payable service.

Note: Customer should not do any change for the internal parts or the appearance of the machine without the permission of the Manufacturer. Otherwise Manufacturer will be irresponsible for the follow-up related matters of the sold machine.

Any question about the above content, welcome to consult with us.

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