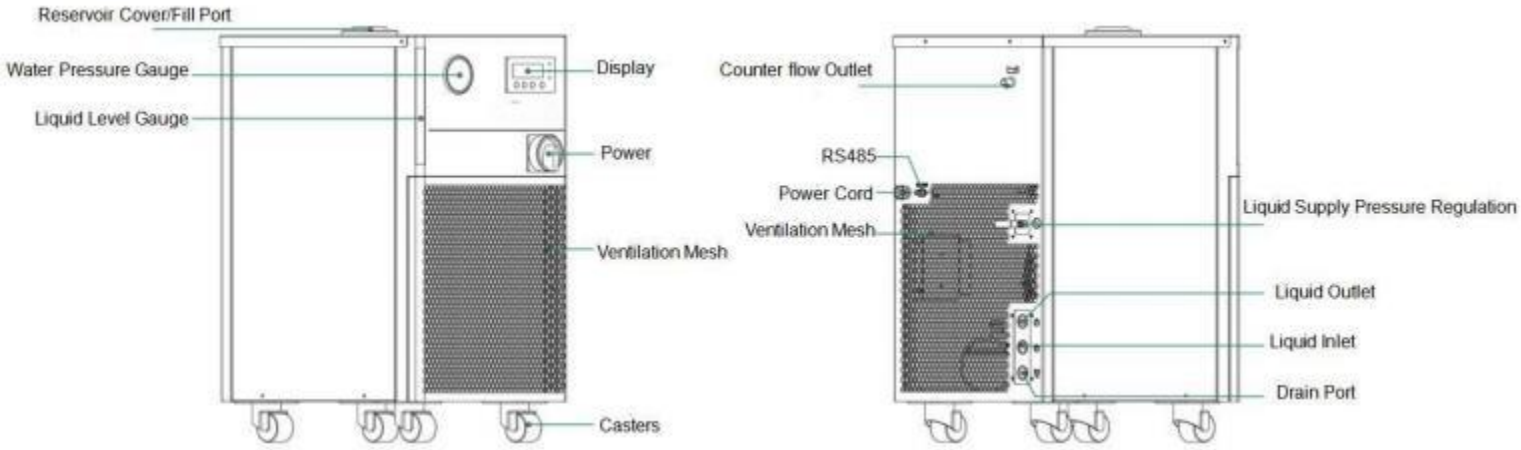
Specification

Recirculating Chiller: Midicool-2032

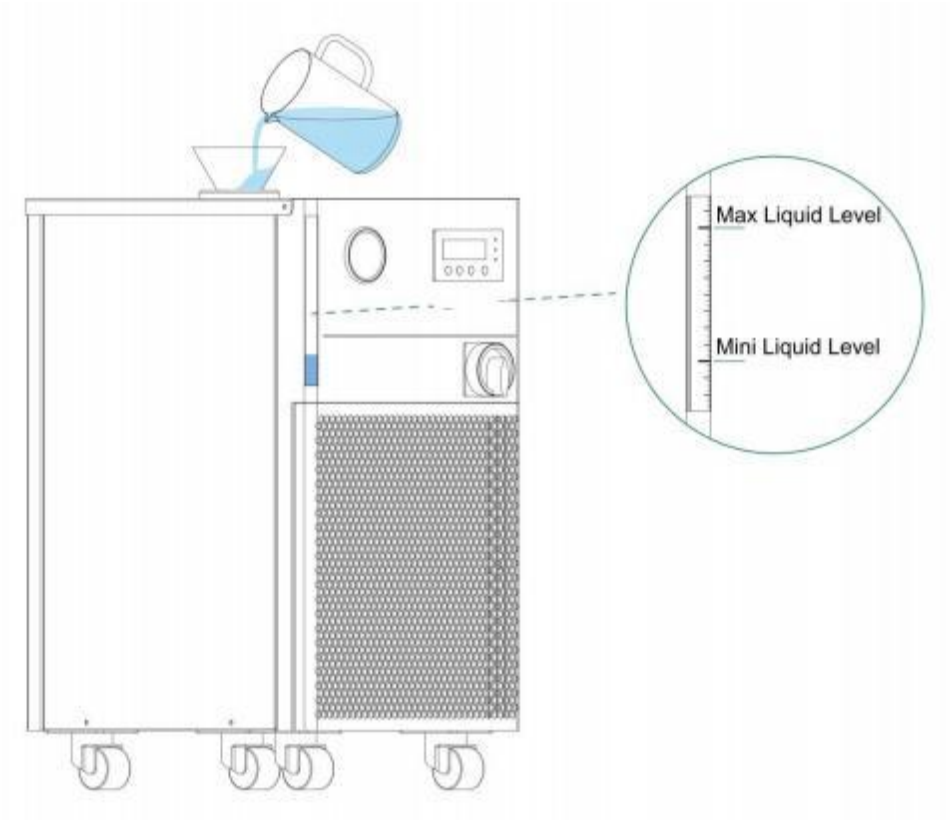
1. Specification

Product	Recirculating Chiller	
Model Number	RG-Midicool-2032	
Operating Ambient Temperature Range	-20℃~40℃	
Cooling Capacity	20℃	3.2KW
	0℃	2.3KW
	-10℃	1.8KW
	-20℃	1.0KW
Temperature Display	LED	
Display Accuracy	0.1℃	
Temperature Sensor	NTC10K	
Pump Type	Pressure Pump	
Max. Pump Pressure	1.2 bar	
Max. Flow Rate	20L/min	
Pump Connection	G1/2 internal thread	
Tank Volume	25L	
Dimensions (W×D×H)	600 × 425 × 880mm / 23.62×16.73×34.65inch	
Packing Dimensions (W×D×H)	780× 525 × 1000mm/ 30.71×20.67×39.37inch	
Continuous Operation	100%	
Max. Relative Humidity	80%	
Power Supply	220V/50Hz	
Weight	55Kg	
Communication Interface	RS485	
Protection Class	IP20	
Power Consumption	1.4KW	

2. Configuration



3. Liquid Addition Demonstration



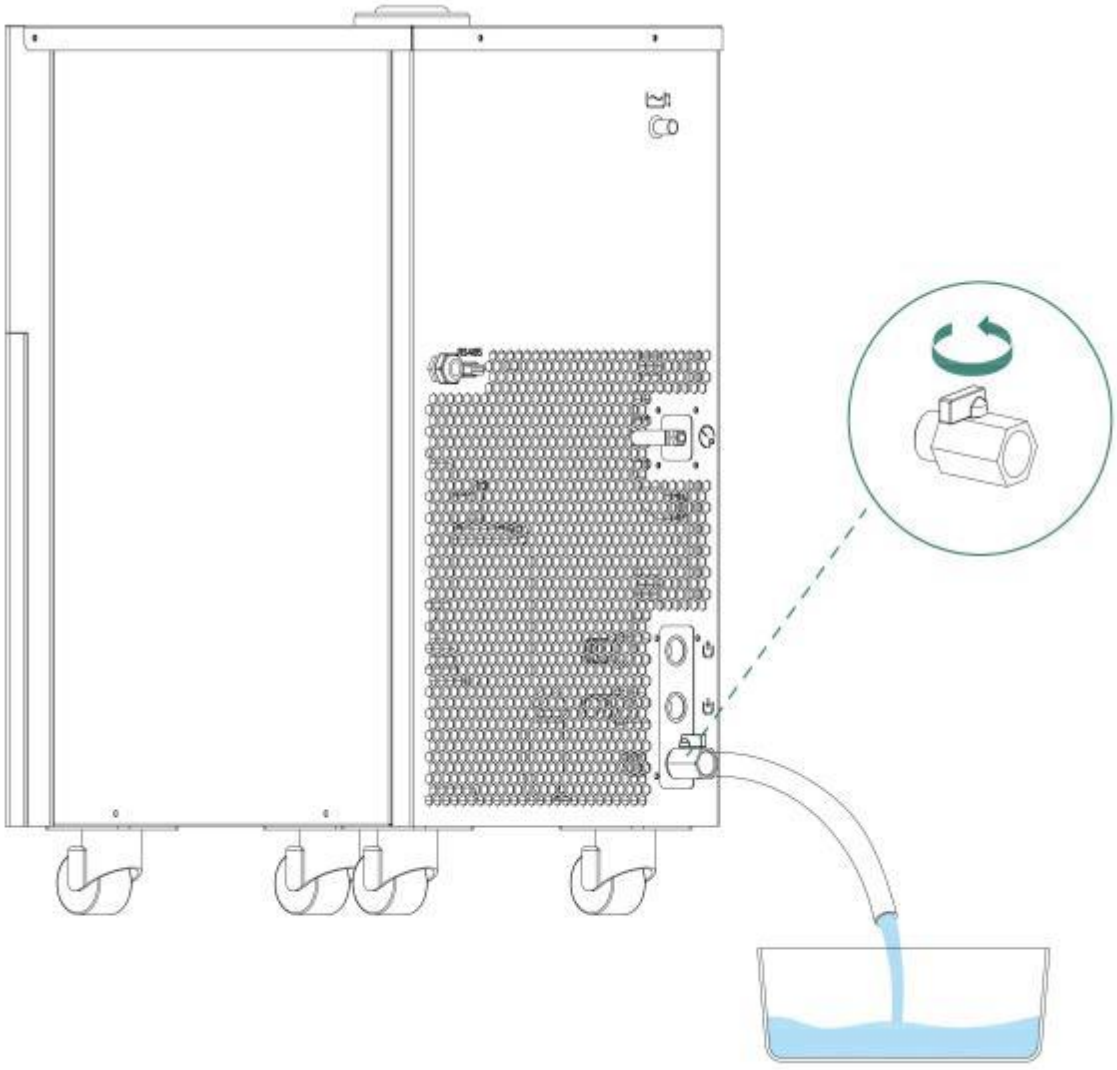
* Caution: Before adding liquid, check to make sure if the drain port is plugged.

4. Chiller Liquid Drainage Instructions

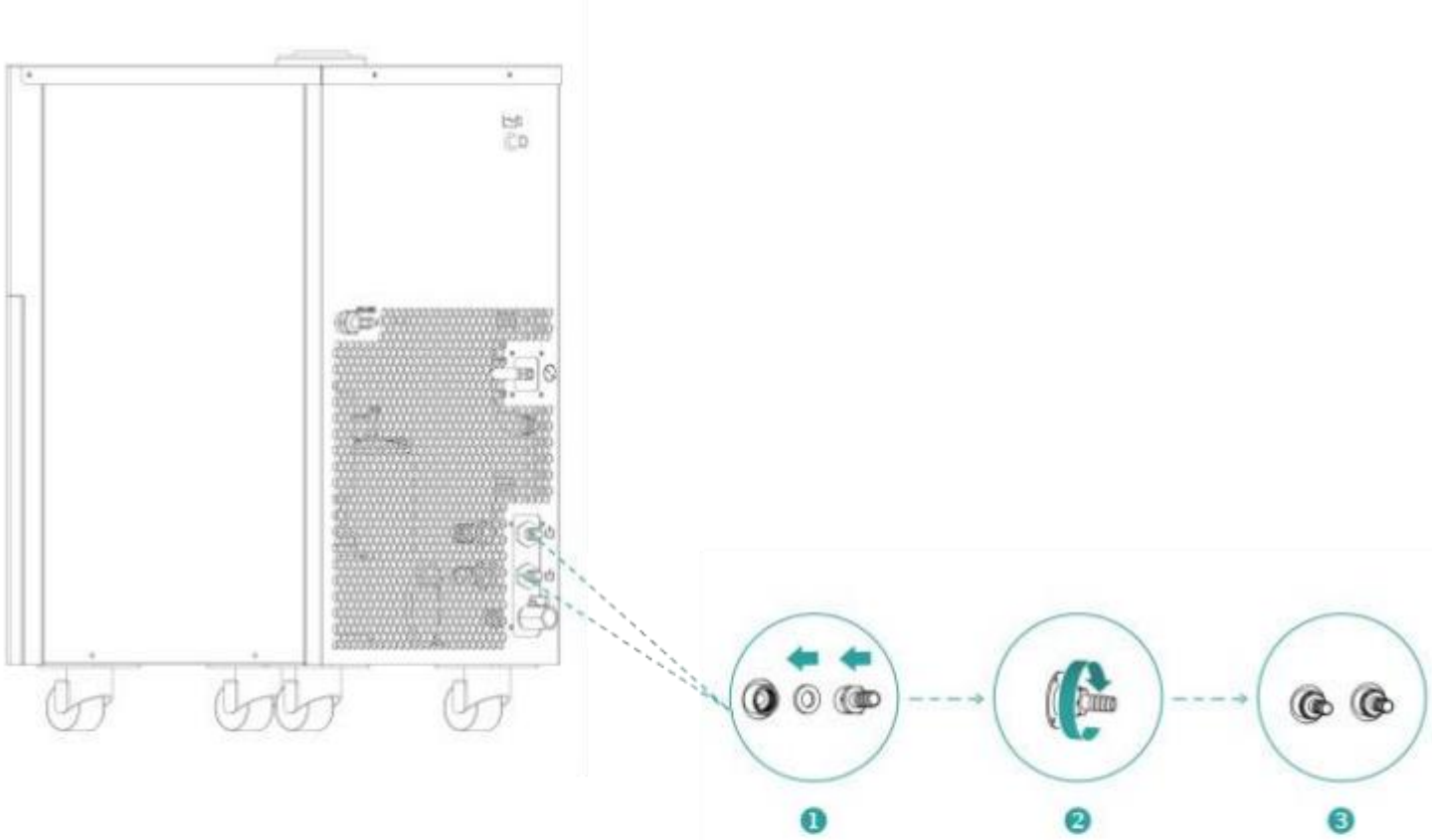
When the chiller is **not used for an extended period** or when the cooling liquid needs to be replaced, the liquid in the reservoir must be drained properly.

Steps:
1. Prepare a **sufficiently large container** to collect the drained liquid.
2. Pull out the **drain pipe** and remove the **drain plug**.
3. Allow the liquid to flow into the container.

▲Tip: To remove any residual liquid more easily, it is recommended to **attach a drain hose to the drain port**.
Proper drainage helps maintain the chiller's performance and prolongs its lifespan.



5. Chiller Connection Pipe Operation



6. Display Operation

7. Chiller Operation Guide

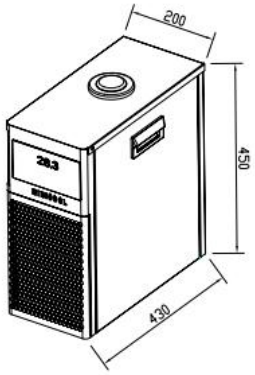
Power On / Off

* When the system is powered on, the **power indicator light** will illuminate.
* To turn on: Press the **On/Off** button when the system is off.
* To turn off: Press the **On/Off** button when the system is on.

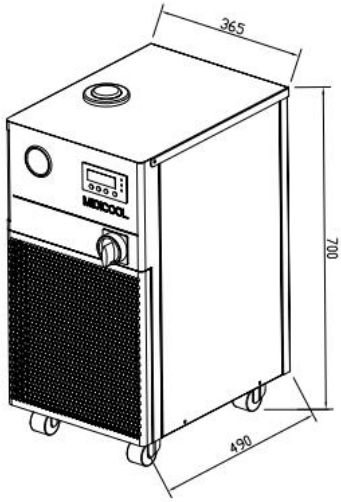
Parameter Settings

1. Press the **Menu** button on the main screen to enter the main menu.
2. Use the **Up** and **Down** buttons to navigate to a submenu.
3. Press the **Menu** button to enter the selected submenu.
4. Press the **On/Off** button to return to the previous menu.
5. In the root menu, use **Up** and **Down** to adjust parameter values.
6. Press **Menu** to save the settings.
7. If no button is pressed for **10 seconds** during the setting process, the system will automatically return to the main screen.

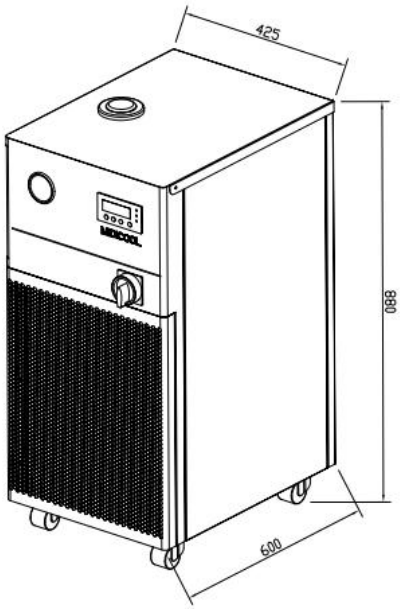
Administrator Parameter Password: 359



MiniCool Series



MidiCool Series



Large MidiCool

8. Parameters

Symbol	Meaning	Setting Range	Initial Value	Remark
1	Set Temperature	-20.0~70.0℃	25℃	
2	Set The Hysteresis Value	0.1~8.0	2	
3	Follow Temperature Difference	-30.0~30.0	0	
4	Incoming Power Start/stop Mode	0-3	2	1: Standby for incoming power 2: Power on for incoming power 3: Memory for incoming power
5	Temperature Alarm Upper Limit	25.0~80.0	50	
6	Temperature Alarm Lower Limit	-25.0~20.0℃	5	

System Parameters:

Symbol	Meaning	Setting Range	Initial Value	Remark
33	Local Host	1~125	1	
34	Backlight Delay	0~3000S	60S	
35	Lock Delay	0~300S	30	
36	Display Contrast	5~255	130	
37	Language	Chinese/English	0	0 ： Chinese 1 ： English

Chiller Communication Settings:

* The chiller hardware uses **RS485 half-duplex communication**, and the software protocol is **MODBUS-RTU**.
* **Data format**: 1 start bit, 8 data bits, 1 stop bit, no parity bit.
* **Baud rate**: 9.6 kb/s.
* **Default slave address**: 1 (configurable).

▲ Note: This device does not send data automatically. It only **receives commands from a master device** and responds accordingly.

Function Code (Decimal)	Parameters Address (Decimal)	Describe		Range	Remark	Attribute
01	0	Digital Output	Bit0：Alarm			R
			Bit1：Pump			
			Bit2：Compressor			
			Bit3：Reverse Valve			
			Bit4：Multi-purpose Output			
02	0	Digital Input	Bit0: Flow switch			R
			Bit1: Multi-purpose Input			
	15	Restore Factory Settings		1	*1	W
	25	System Status	0x01：Standby			R/W
			0x02：Power On			
			0x03：Fault			R
			0：Normal and trouble-free			
			1：Ambient temperature sensor failure			

03/06/16	29	Fault Code				R
			2：Media temperature sensor failure			
			8：Power failure			
			9：Power reverse phase protection			
			10：Liquid level protection			
			13：Flow protection			
			16：Pump overload			
			17：Flow lower limit protection			
			18：Compressor overload			
			33：System operation abnormality			
			45：Temperature upper limit alarm			
			54：Temperature lower limit alarm			
	30	System Running Time	Unsigned integer		*1	R
	34	Compressor Running Time	Unsigned integer		*1	R
	37	Local Host		1~125	*1	
	47	Setting Temp		-20.0~70.0	*10	
	48	Setting Hysteresis Value		0.1~8.0	*10	
	49	Follow Temperature Difference		-30.0~30.0	*10	
	50	Incoming Power On / Off Mode		0~2	*1	
	51	Temperature Alarm Upper Limit		25.0~80.0	*10	
	52	Temperature Alarm Upper Limit		-25.0~20.0	*10	
	53	Flow protection lower limit		0.0~90.0	*10	

9. Chiller Precautions and Daily Maintenance

9.1 Maintain Proper Liquid Level:
The heat transfer medium should always stay above the pump body, heating tube, and the “L” mark on the liquid level indicator. Refill immediately if it falls too low.

9.2 Avoid Operating Below Dew Point:
Extended operation below the dew point may cause condensation to mix with the liquid, which can prevent proper temperature reduction.

9.3 Check Liquid After Replacement:
Always verify the liquid level after changing or replacing the cooling liquid. When switching to a different liquid, fully drain the tank and connecting pipes before refilling.

9.4 End-of-Use Procedure:
After use, turn off all switches, unplug the power cord, drain the tank, and wipe away any remaining water.

9.5 Recommended Operating Time:
To ensure safe and reliable operation, do not run the chiller continuously for more than 72 hours.

Following these precautions helps maintain optimal performance, extends the lifespan of the chiller, and ensures safe operation.

10. Chiller Maintenance Guide

Safety First:
Always turn off the chiller and disconnect the power before performing any inspection or maintenance.

▲ Inspect the Power Cord
Check the power cord for damage, cracks, or wear. If any issues are found, stop using the device immediately and contact the manufacturer for a replacement.

▲ Inspect Hoses and Connectors
Visually check hoses and connectors for wear or deterioration. Replace them promptly if any damage is detected. It is recommended to inspect hoses every six months and replace worn components as needed.

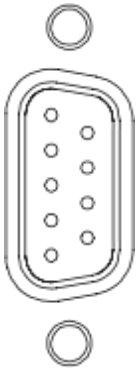
▲ Clean the Heat Sink and Filter
1. Wipe the heat sink grille with a damp cloth.
2. Remove the radiator air inlet and filter, then clean the filter with tap water or a vacuum cleaner.
3. Depending on the environment, clean the heat sink grille and air inlet every 2 – 4 weeks.

▲ Replace the Cooling Liquid
1. Water: Replace every 1 – 2 weeks.
2. Ethanol or Ethylene Glycol: Replace every 3 months.
3. Thermal Oil: Replace every 6 – 12 months.

Regular maintenance ensures stable performance, longer equipment life, and safe operation.

11. Device Interface and Communication Protocol

Commnication	RS485		
Type	DATA-	DATA+	GND
DB9 pin	1	2	5
Communication Distance	Theoretical distance ≤1200m Recommend distance≤400 ~ 1000m		
Protocol	Standard ModBus-RTU		



RS485 Communication Protocol(Optional Function):

Communication Configuration:
Baud Rate: 9600
Parity: Even
Data Bits: 8
Stop Bits: 1

Command Syntax:
1.A space (0x20) is used between each command and the following parameter, and between each parameter.

2.Each command is followed by a carriage return (0x0d and 0x0a; no space is required between them).