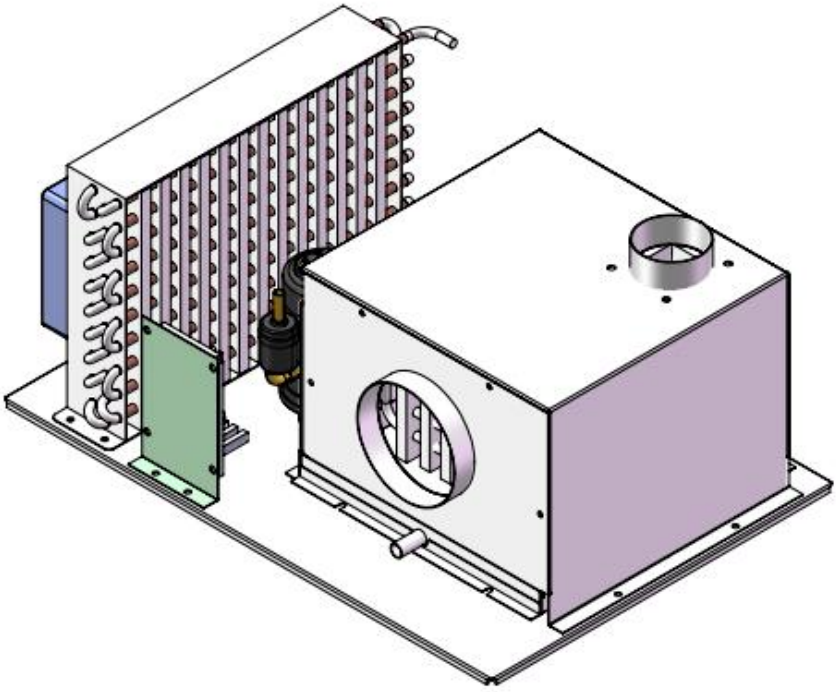
Specification

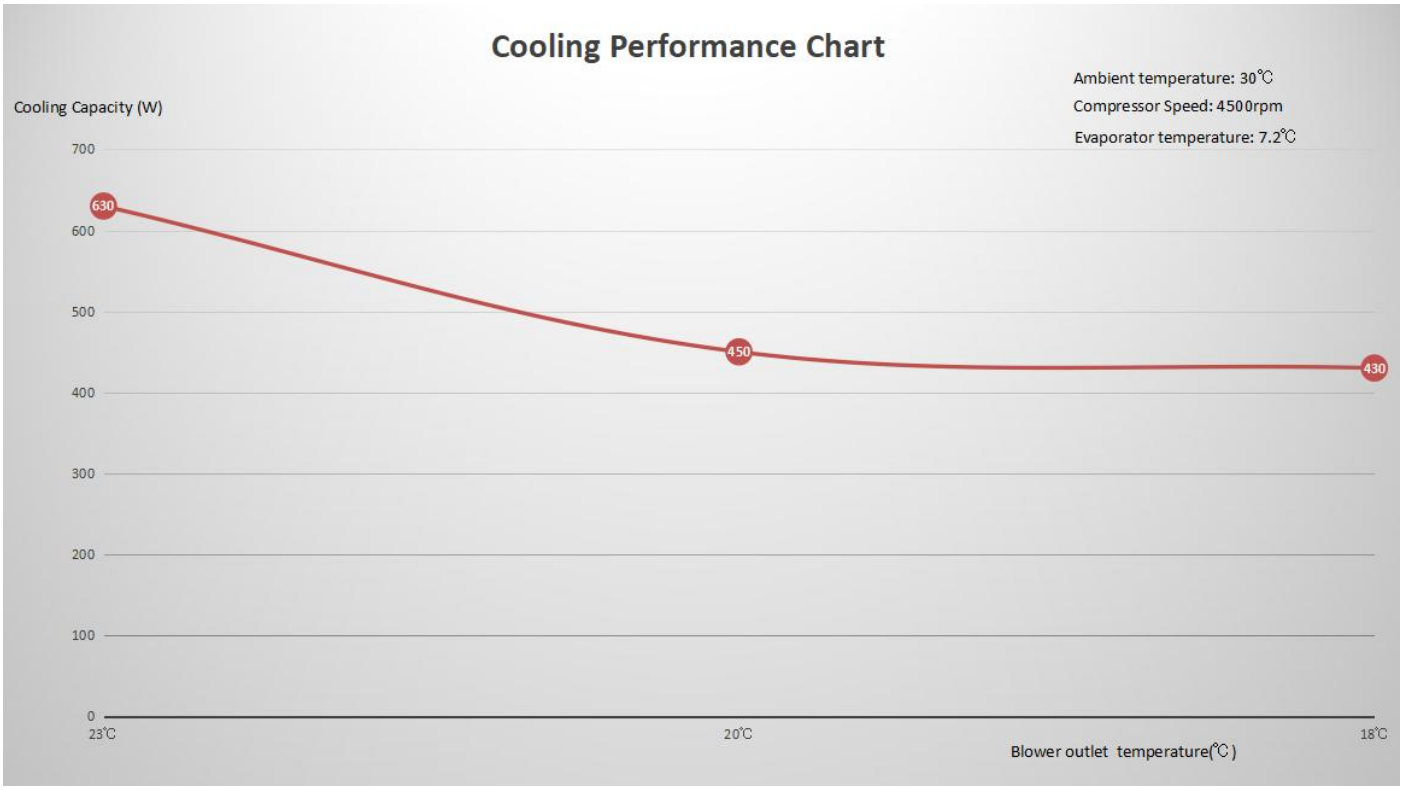
Micro Air Conditioner Unit
DV3830E-AC (Pro 48V)



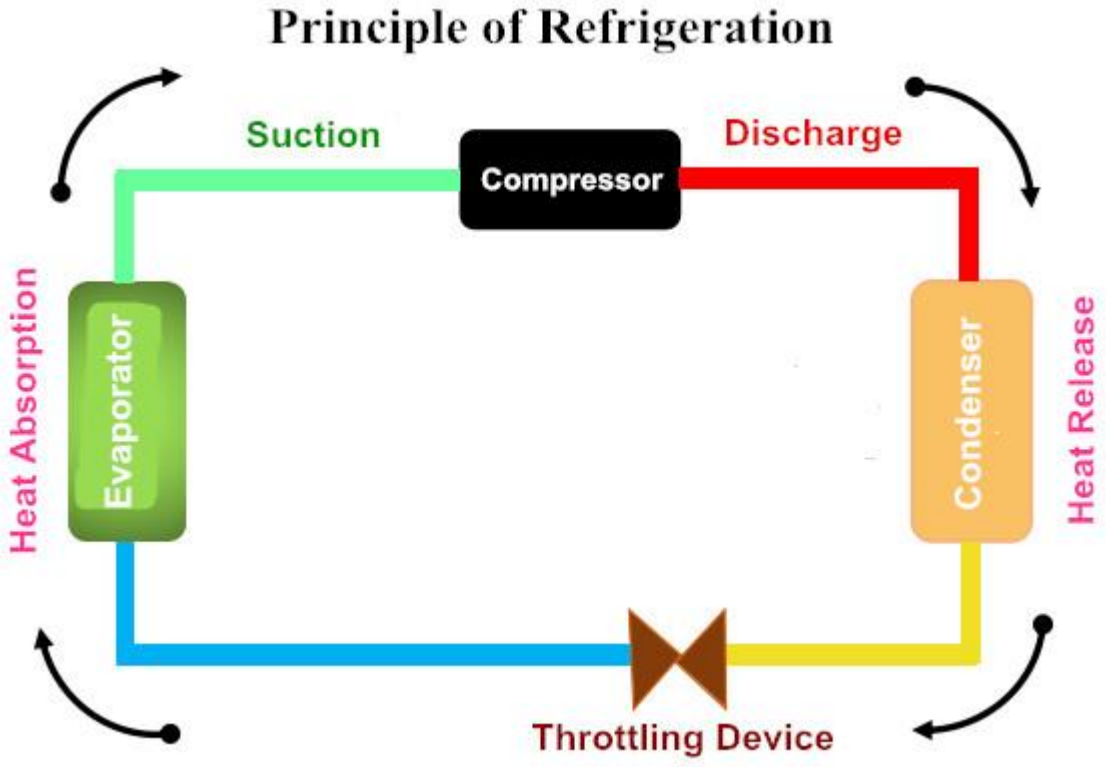
1-Specification:

Unit Model Name	DV3830E-AC (Pro Type)
Compressor Model	QX3803VDL
Compressor Type	Twin Cylinder Rotary DC Inverter Motor
Compressor Displacement	3.8cc
Cooling Capacity	＞650W (max 900W at 6300 rpm)
Rated Power Input	288W
Refrigerant	R134a
Rated Voltage	48V
Current	6A
Temperature control method	Not included
Oil Brand & Charge Amount	RL68H &50 ml
Condenser	335 x 60 x 220mm
Evaporator Dimension	240 x 45 x 180mm
Blower Air Speed	2,500rpm
Blower Air Flow	Centrifugal fan 87CFM
Throttle Device	Capillary
Operating Ambient Temperature	-5 ～ 43℃
External Dimension	500 x 350 x 230mm
N.W	11KG
Motor Speed	1,800 ~ 6,300rpm
Driver Board	Variable Frequency Controller
Air outlet outer diameter	60mm
Air inlet outer diameter	100mm

2-Cooling Performance Chart

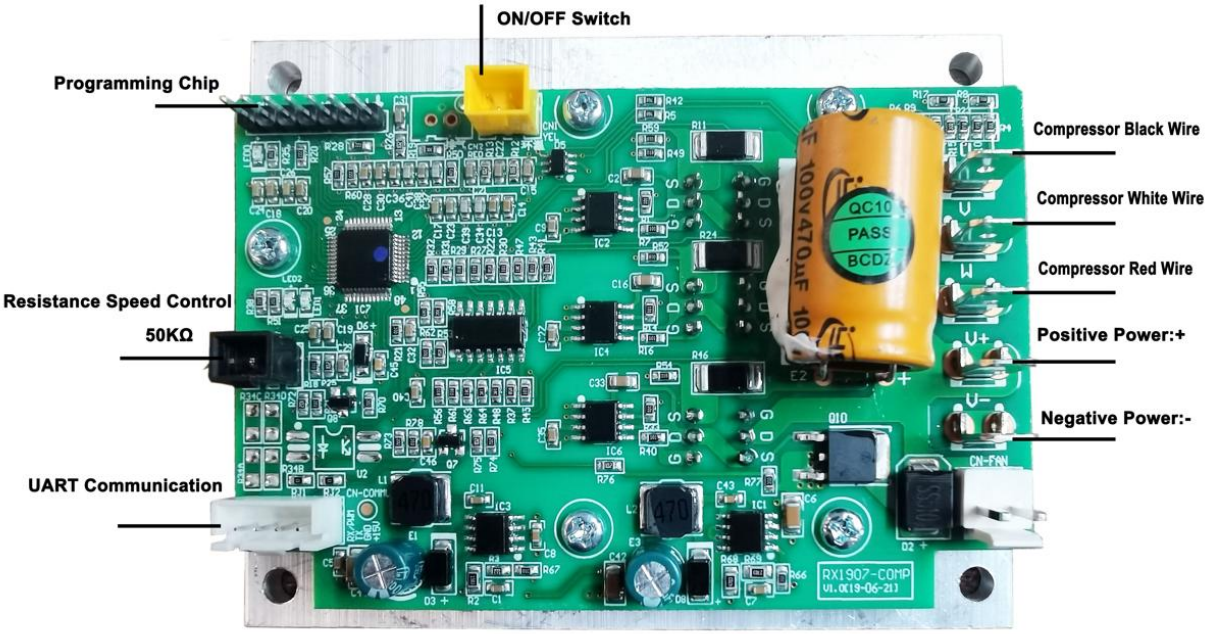


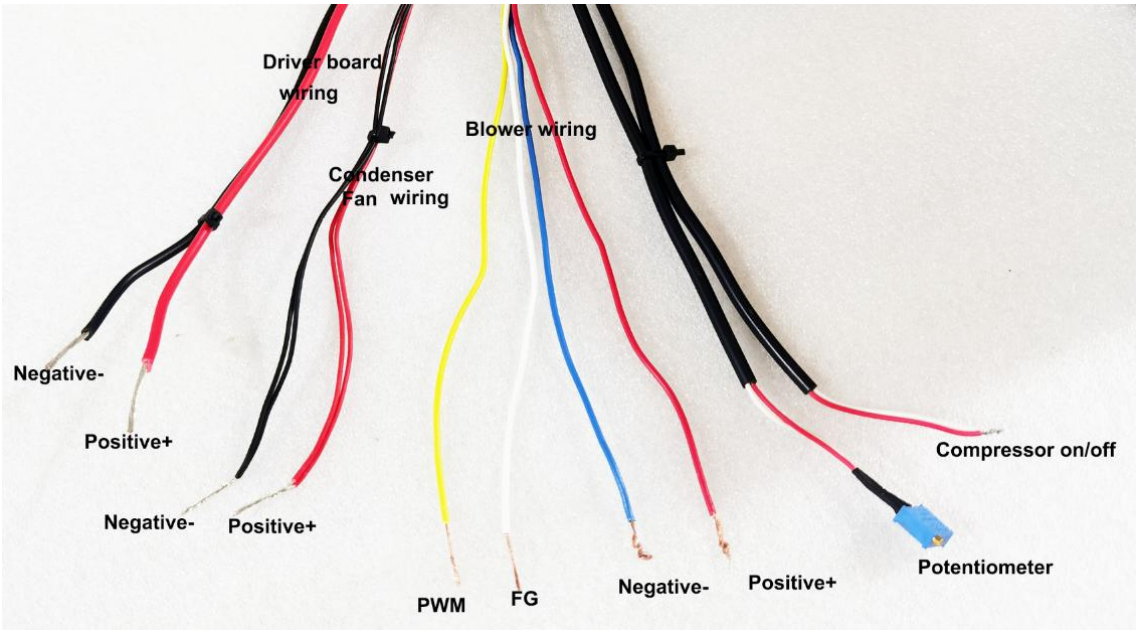
3-Working Principle



* The above schematic diagram above is for reference only.The structure of evaporator and condenser are optimized as needed. This diagram does not represent actual design use.

4-Controller Wire Connection





1.UART Communication: Used for compressor communication circuit board and operation circuit board communication.

2.Chip program load interface: Chip simulation and program curing.

3.Positive pole: Connect to the positive pole of the power supply.

4.Negative pole: Connect to the negative pole of the power supply.

5.Compressor U phase、Compressor V phase、Compressor W phase: Connect compressor U V W phase.

6.Compressor ON/OFF switch: Merge is on, separate is off.

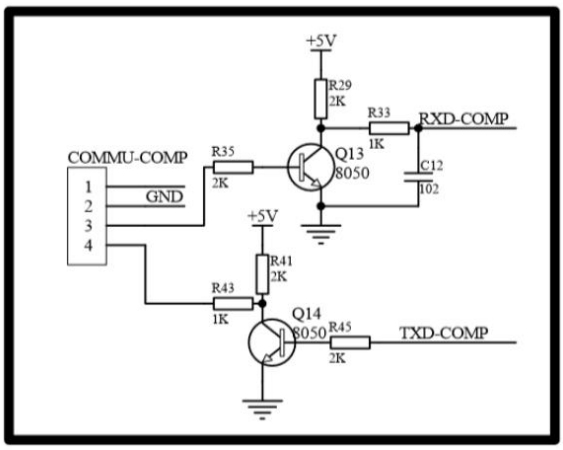
5-Attentions:

1. Please check evaporator & condenser installation properly, when compressor is failed or poor refrigerating. Make sure the system is complete vacuum and no water inside. Refrigerant oil lacking also leads to poor refrigerating capacity.

2. Notice, Refrigerant oil will be released when we are charging refrigerant gas. Make sure the compressor has enough refrigerant oil (50g). Or compressor motor will face possible jammed or stuck due to oil blockage.

3. Communication control mode.

3.1 The drive board UART communication circuit：



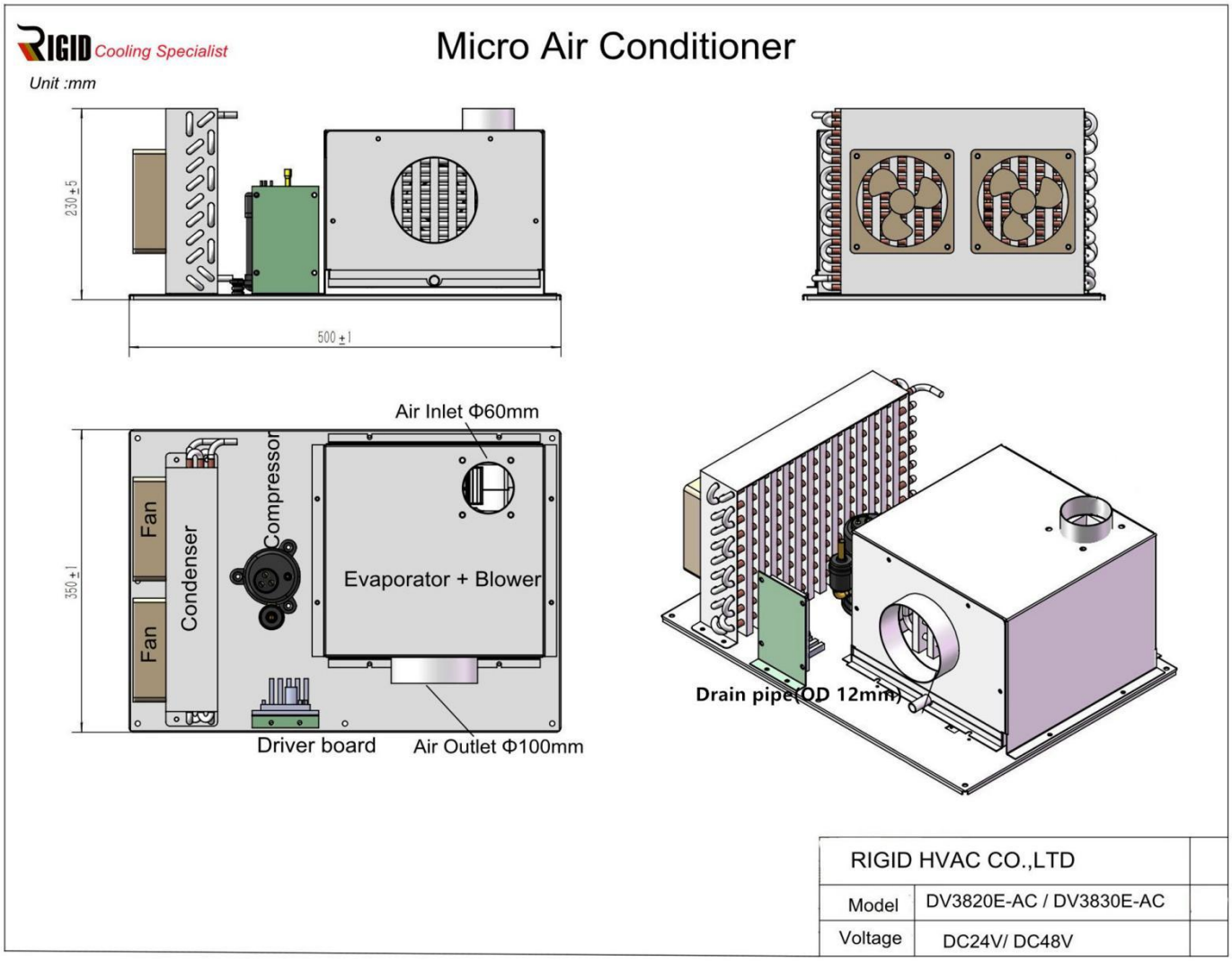
3.2 UART communication protocol：

The communication between the driver board and the main controller adopts the master-slave communication mode. The main controller is the initiator of the communication, and the communication adopts the UART mode.The main engine is the operating board, and the slave is the compressor driving board.

Baud rate: 600bps

Format: 1 starting bit，8 bits of data， 1 stop bit

The host emits 16 bytes per frame and replies 16 bytes from the machine.The host machine sends out one frame every 1000ms seconds, and the delay of 20ms after receiving one frame from the machine returns one frame.The host address is 0x00 and the slave address is 0x01.

6-External Dimensions:

500*350*230mm (19.6*13.7*9inch)