

Airtight Recirculating Chiller

-30°C

RT



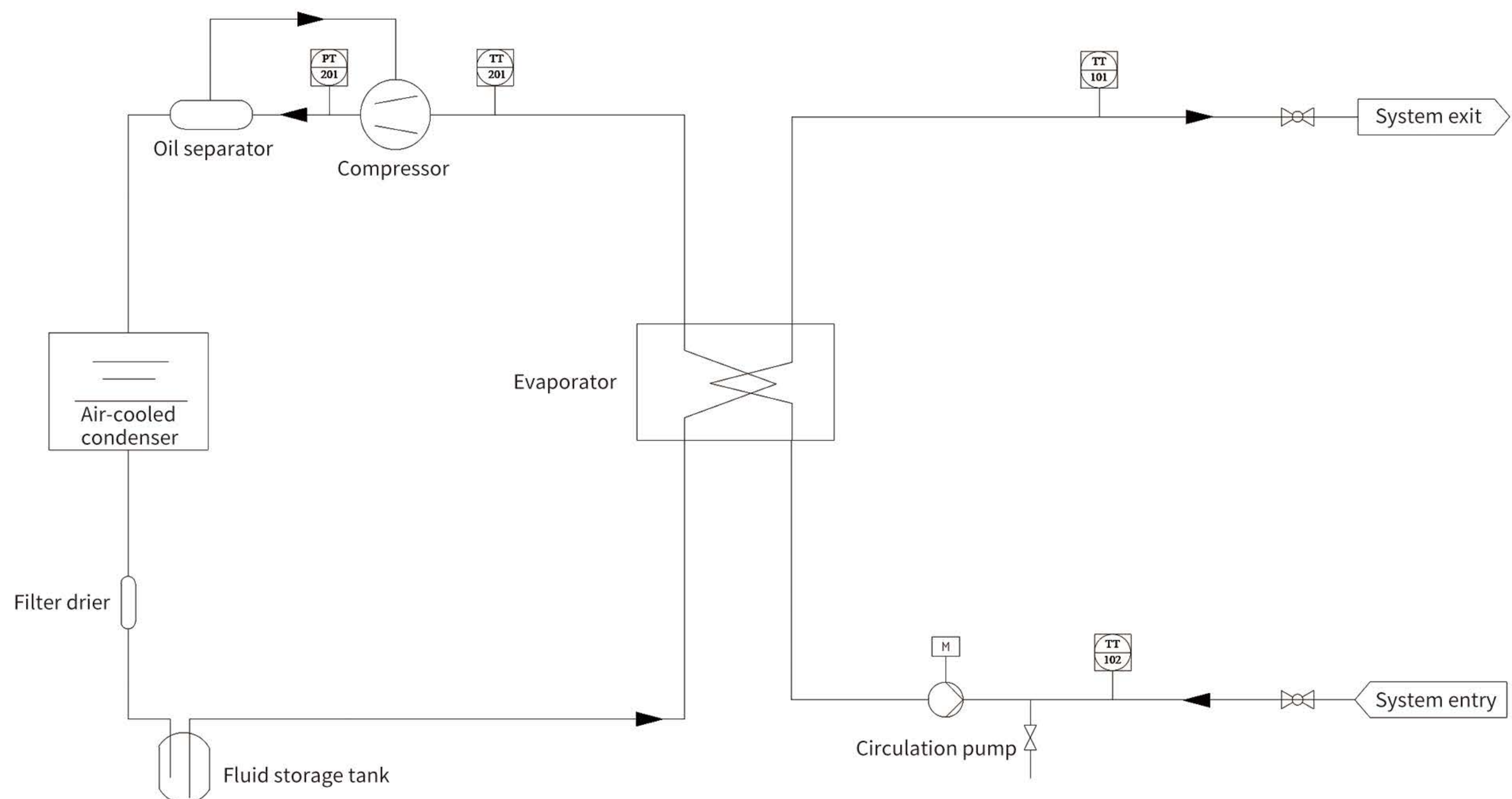
How It Works

The compressor compresses the refrigerant into high-temperature and high-pressure gas, which is condensed into high-pressure liquid by the condenser, and then enters the evaporator to absorb heat through throttling to reduce pressure and temp. The circulating pump pushes the low-temp. medium (such as alcohol) through the equipment to be cooled, takes away the heat and flows back to the evaporator to achieve continuous cooling. The control system adjusts the refrigeration and circulation according to the set temp. to ensure the stability of the medium temp., maintain cooling performance and system stability.

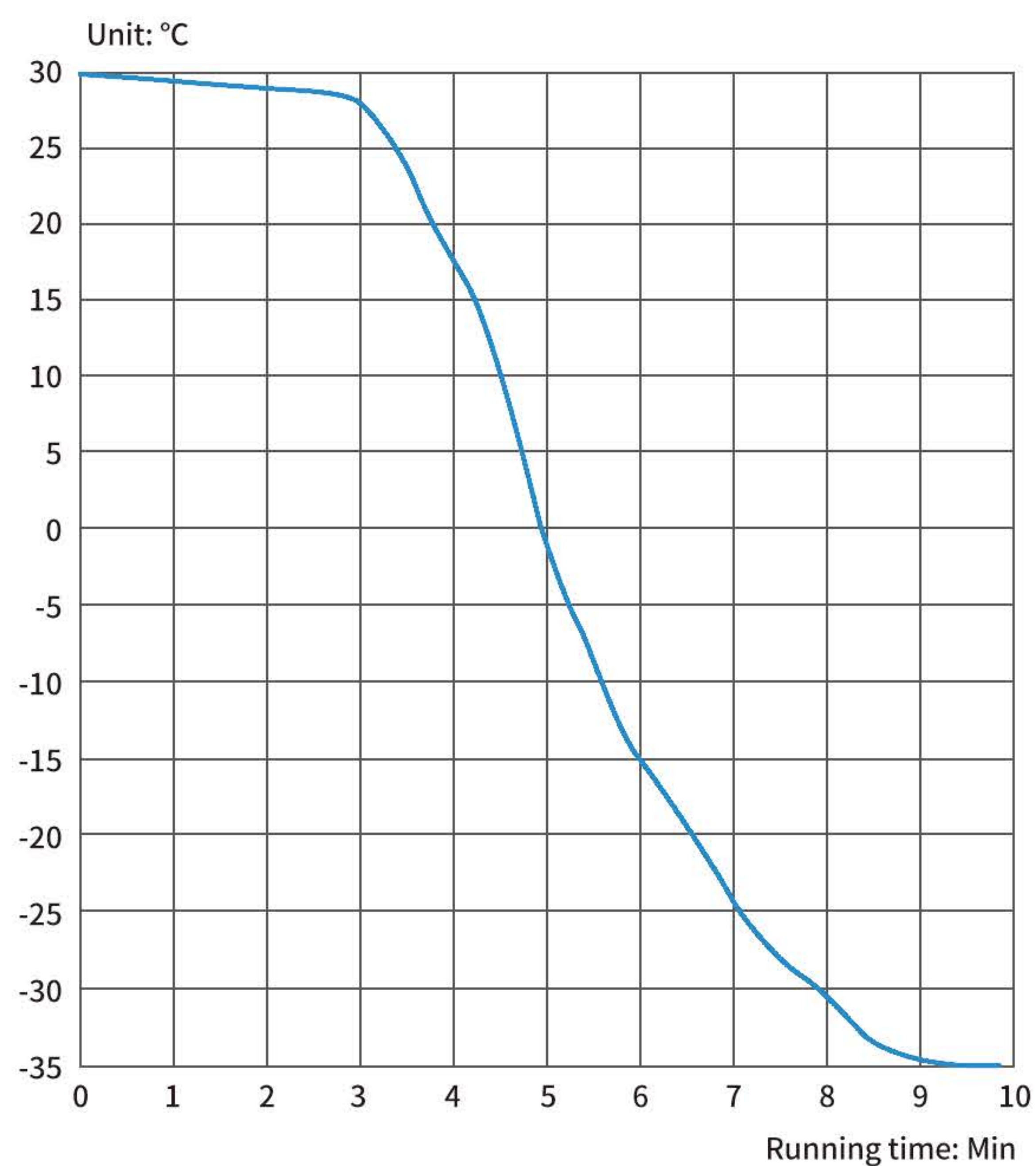
Features

- The circulation system is closed to avoid volatilization, moisture absorption or contamination of the medium due to contact with the outside air.
- For Class IIB explosive environments, the equipment can use EXd IIB T4 Gb / EXpeIICT4 Gb grade explosion-proof products.
- The cooling type can be selected from air cooling / water cooling, and customized PLC control systems are also supported.

P.I.D. Flowchart



Test Curve



ARC-30 cooling case (no load/ambient temp. 30°C)

The closed pipeline design and high-efficiency plate exchanger reduce the demand for thermal fluid while improving the heat utilization rate of the system to achieve rapid cooling. The thermal medium is in a closed system with an expander. The thermal medium in the expansion container does not participate in the circulation, effectively reducing the risk of the thermal medium absorbing moisture and volatilizing during operation.

Features

4.3-inch LED screen

P.I.D. intelligent knob temperature control, modbus RTU protocol RS485 interface



Circulation Pump

Low heat, head and flow can be customized



Security Protection

Leakage protection, overcurrent and over-heat protection, phase loss protection



Customizable System

Using Siemens PLC+HMI, 5 programs can be written, each with up to 40 segments



Optional Water Cooling Type

The default cooling type is air cooling, and water cooling system can be customized

Optional Explosion-proof Grade

Optional **EXd II BT4 Gb** / **EXpeIICT4 Gb** explosion-proof products

Suggested Match



Glass Reactor



Centrifuge



Airtight Recirculating Chiller



Rotary Evaporator



Stainless Steel Tank

Parameters

Product number		ARC-5	ARC-10	ARC-20	ARC-50
Temp.range		-30°C-RT; ±2°C			
Voltage		220V ~50/60Hz			
Power(kW)		1.2	1.7	2.5	4.5
Cooling capacity (w)	25°C	2000	3000	4000	7500
	-20°C	1200	1700	2000	5000
	-30°C	300	500	1000	2300
Temp.Sensor		PT100			
Safety protection		Overvoltage, time delay, overcurrent, overheating, leakage			
Refrigerant		R404A			
Evaporator type		Plate heat exchange			
Circulation pipe size (DN)		15	15	15	15
Fan type		Outer Rotor Axial Fan			
Cooling type		Air cooling (water cooling is optional)			
Compressor power (kW)		0.75	1.2	1.8	3.8
Tank volume (L)		4	7	10	17
Lift (m)		8	20	20	20
Flow (L/min)		15	20	20	20
Dimensions(mm)		430*610*750	530*720*930	530*720*1100	530*720*1100
Control System		P.I.D. Intelligent knob temperature control			
Protocol		Modbus RTU protocol RS485 interface			
Operation panel		4.3-inch LED screen			
Install list		2 sets of matching valves, a roll of raw material belt / 2 stainless steel insulation hoses / an operation manual			