

Recirculating Chiller

-120°C / -80°C / -40°C

RT

How It Works

Add coolant (such as industrial alcohol or thermal oil) to the machine reservoir and cool it through the refrigeration system. The coolant is pumped to the equipment to be cooled, and returns to the reservoir after absorbing heat to achieve circulating cooling. In the refrigeration system, the liquid refrigerant absorbs heat and evaporates in the evaporator, is compressed by the compressor, dissipates heat through the condenser, and then returns to the evaporator after throttling and reducing pressure, completing the cycle.

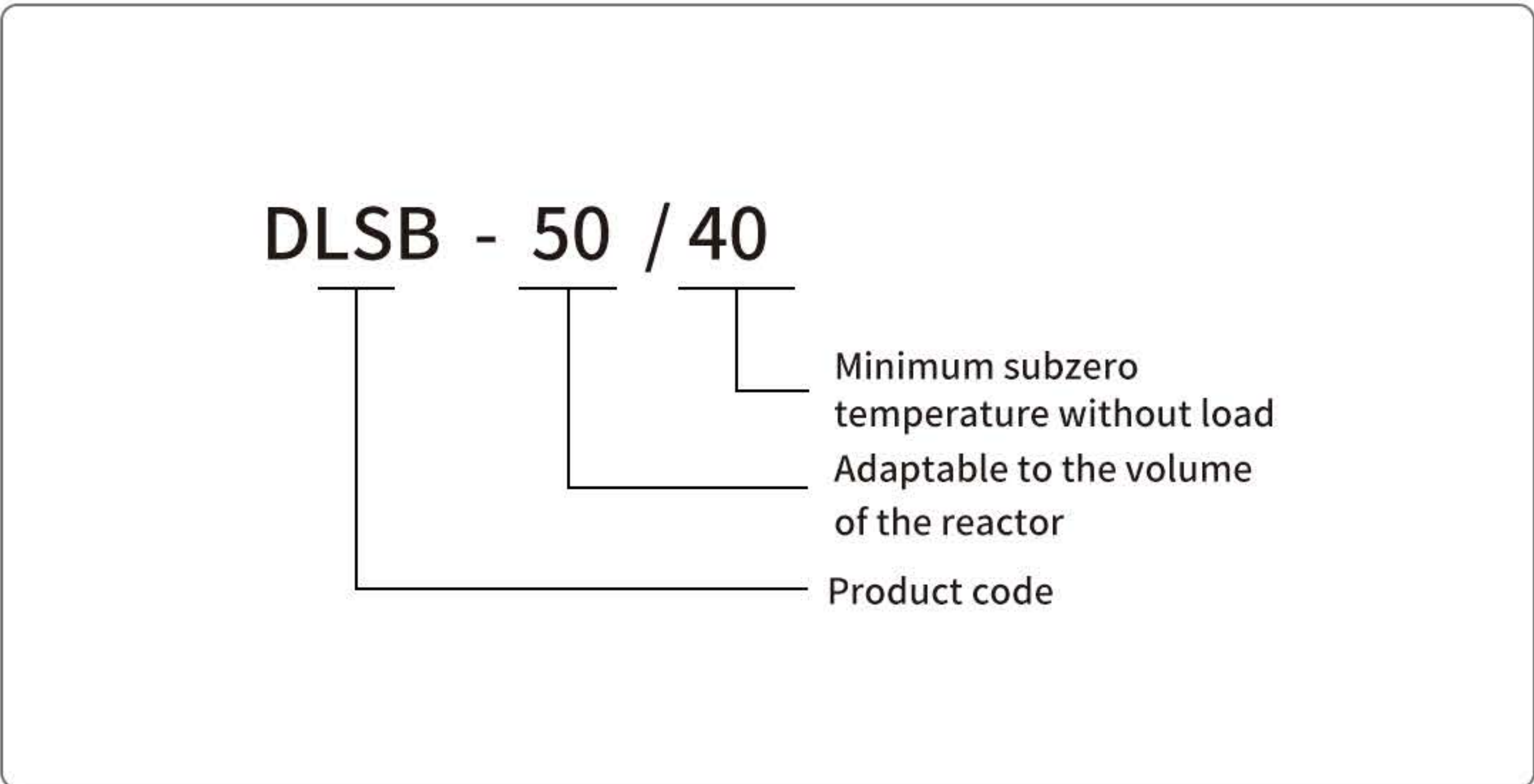


DLSB-50/80

Features

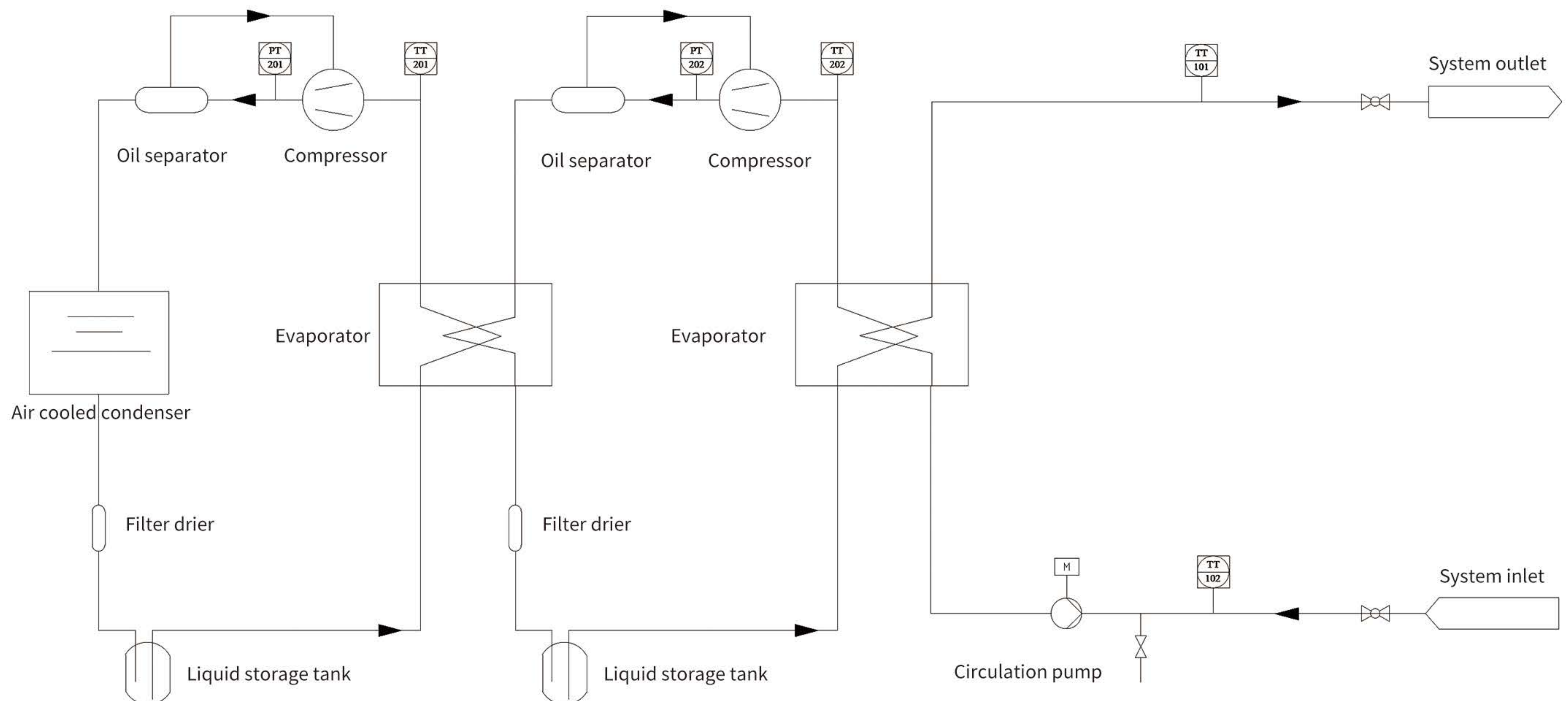
- Wide temperature control range: -40°C, -60°C, -80°C, -100°C, -120°C.
- The circulation system is closed and non-volatile.
- Optional **EXd II BT4 Gb** explosion-proof grade.
- The cooling type can be selected from air cooling/water cooling, and customized PLC control system is also supported.

Model Description



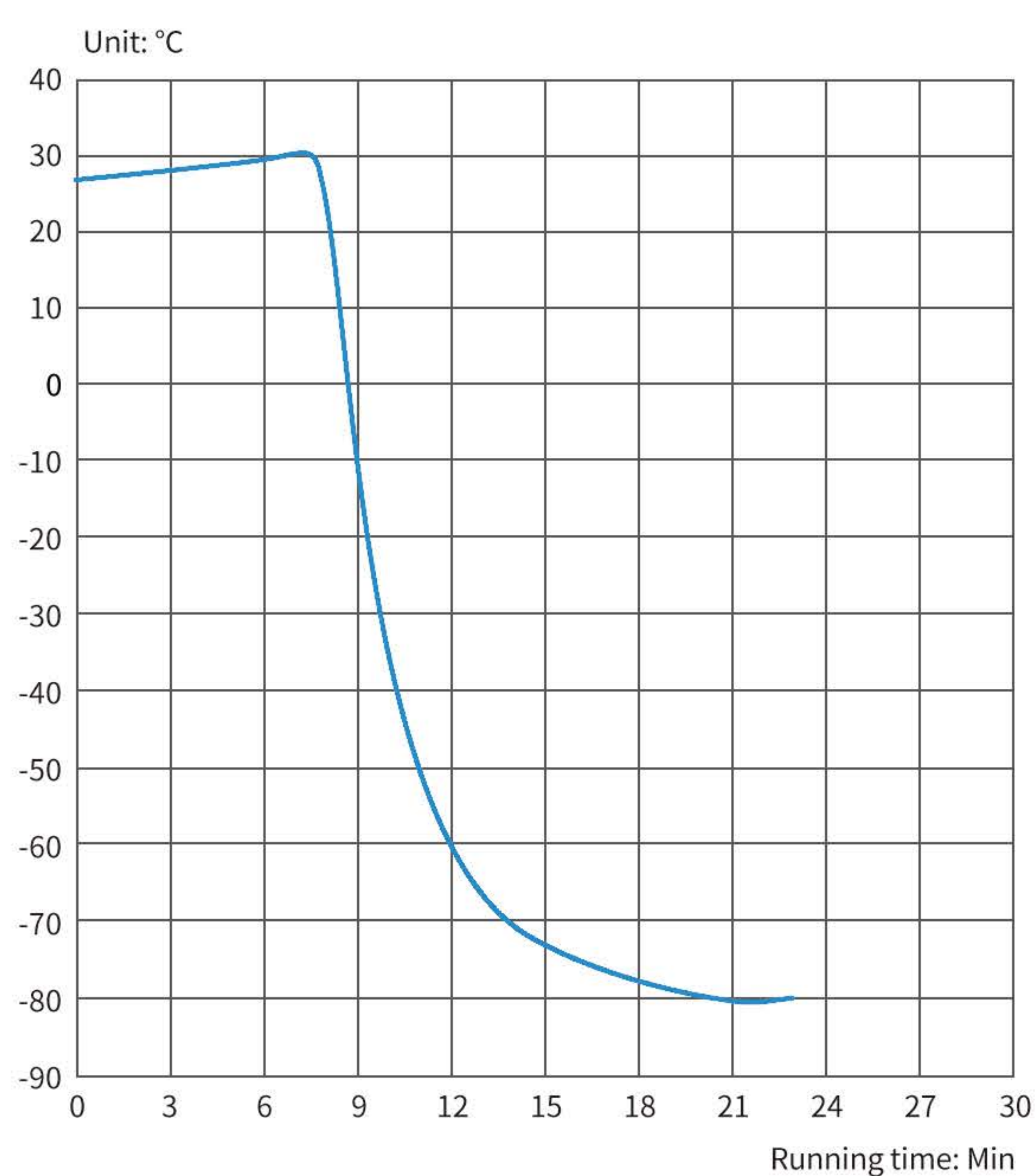
The lower the temperature, the smaller the cooling capacity. When you choose a refrigeration product, please calculate the required cooling capacity after the experiment according to the required temperature range, and then select the technical indicators of the Recirculating Chiller to fully meet the experimental requirements and maximize the energy efficiency of the equipment.

P.I.D. Cascade Unit

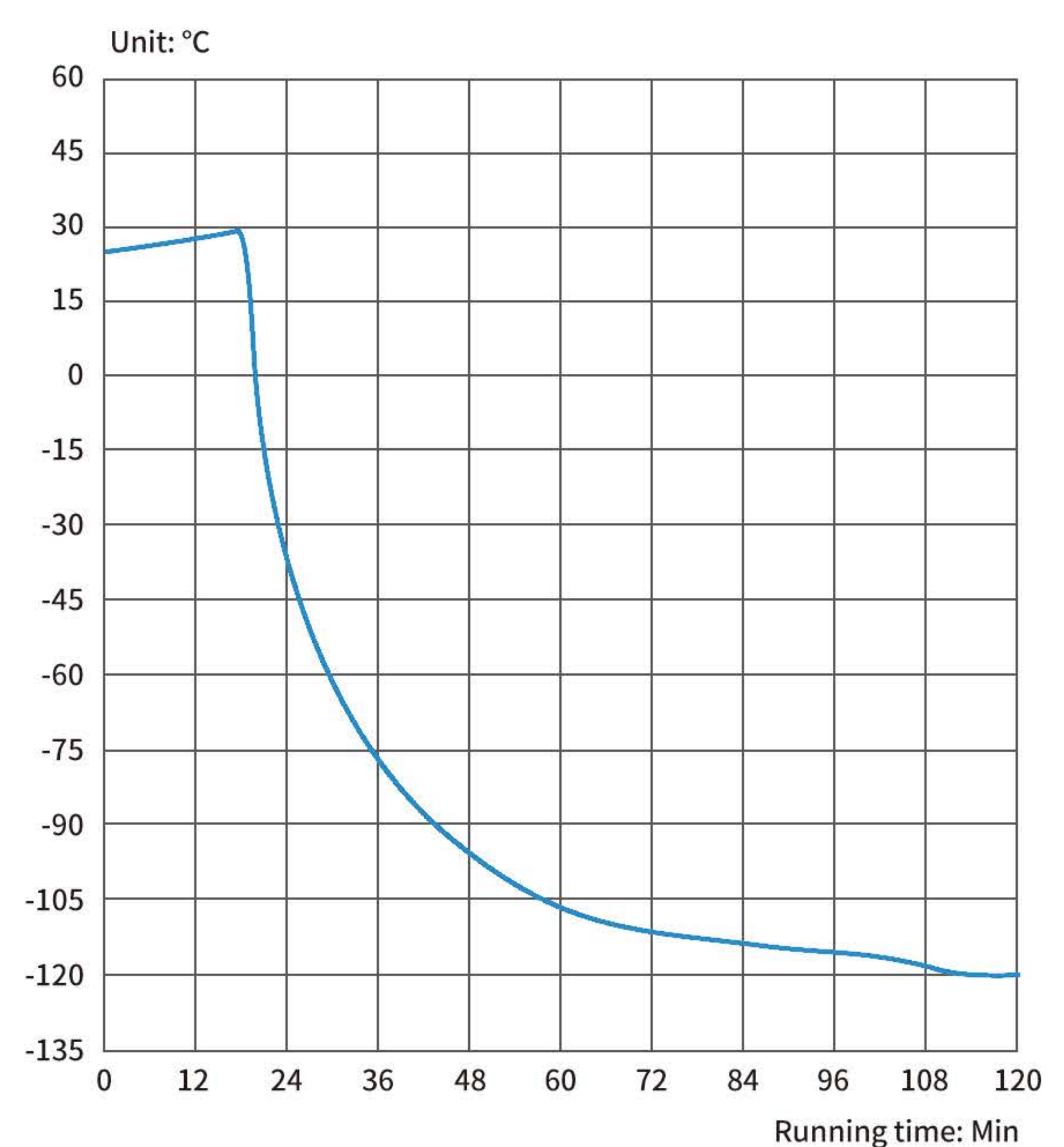


The heat transfer medium is in a closed system with an expander. The heat transfer medium in the expansion container does not participate in the circulation, which effectively reduces the risk of the heat transfer medium absorbing moisture and volatilizing during operation.

Test Curve



DLSB-30/80 cooling curve (no load / ambient temp. 30°C)



DLSB-10/120 cooling curve (no load / ambient temp. 30°C)

Suggested Match



Rotary Evaporator



Stainless Steel Tank



Recirculating Chiller



Glass Reactor



Spray Dryer

Circulation Tube

Project \ Product	Silicone Rubber Tube	Foam Silicone Insulation Hose	Stainless Steel Circulation Tube
Operating range	-100°C~120°C	-120°C~200°C	-120°C~300°C
Connection size	3/4"	3/4"	3/4"
Length	2.0m (length can be customized)		



Silicone Rubber Tube



Foam Silicone Insulation Hose



Stainless Steel Circulation Tube

Parameters

Product number		DLSB-10/40	DLSB-30/40	DLSB-50/40	DLSB-100/40	DLSB-200/40	DLSB-300/40
Temp.range		-40℃-RT					
Voltage		220V ~50/60Hz	380V（optional 3Phase 220V / 480V）~50/60Hz				
Power(kW)		1.3	3.0	5.0	6.5	8.0	13
Cooling capacity (w)	25℃	2800	6000	12000	14000	22000	28000
	-20℃	2060	4100	6200	8500	10000	14190
	-40℃	650	1100	2200	2800	3500	4800
Temp.Sensor		PT100					
Safety protection		Overvoltage, time delay, overcurrent, overheating, leakage					
Refrigerant		R404A / R448					
Evaporator type		Plate heat exchange					
Circulation pipe size (DN)		15	15	20	20	25	25
Fan type		Outer Rotor Axial Fan					
Cooling type		Air cooling (water cooling is optional)					
Compressor power (kW)		1.125	2.25	4.5	5.25	7.5	9.75
Current (A)		5.1	6	9	11	15	20
Tank volume (L)		7	10	17	35	100	100
Lift (m)		20	20	20	25	9.7	9.7
Flow (L/min)		20	20	20	45	97	97
Dimensions(mm)		620*540*920	710*580*1050	770*670*1180	970*800*1350	1200*970*1600	1400*970*1680
Weight (Kg)		120	156	220	268	430	490
Optional PLC		Control System		Siemens S7-200smartPLC			
		Programming		Can write 5 programs, each with up to 40 steps			
		Control mode		Material temperature and equipment outlet temperature can be switched			
		Protocol		Modbus RTU protocol RS485 interface (optional RS232 Ethernet)			
		Operation panel		7-inch Siemens color touch screen (10-inch optional)			
		Data output		Support U disk data export, can export temperature data in TXT format			
Install list		2 sets of matching valves, a roll of raw material belt / 2 stainless steel insulation hoses / an operation manual					

Parameters

Product number		DLSB-5/80	DLSB-10/80	DLSB-20/80	DLSB-40/80	DLSB-50/80	DLSB-100/80	DLSB-200/80	DLSB-300/80
Temp.range		-80°C-RT							
Voltage		110V/220V ~50/60Hz		220V~50/60Hz	3Phase-220V/380V/460V ~50/60Hz				
Power(kW)		1.6	2.3	3.5	5.6	10	13	16	20
Cooling capacity (w)	25°C	1200	2000	3200	6000	12000	16000	22000	29000
	0°C	900	1700	2600	5200	10000	13000	20000	25000
	-40°C	700	1100	2064	4100	7300	9000	10000	14000
	-60°C	400	850	1400	2300	4000	5200	6200	8000
	-80°C	120	450	650	1200	2000	2800	3500	5000
Temp.Sensor		PT100							
Safety protection		Overvoltage, time delay, overcurrent, overheating, leakage							
Refrigerant		R404A / R23							
Circulation pipe size (DN)		15	15	15	20	20	20	25	25
Cooling type		Air cooling (water cooling is optional)							
Compressor power (kW)		1.5	3	4.5	5.25	9	9	15	19.5
Current (A)		7	13	20	23	30	30	30	38
Tank volume (L)		5	7	10	10	17	35	100	100
Lift (m)		6	6	6	11	11	12	15	15
Flow (L/min)		25	25	25	30	30	35	180	180
Dimensions(mm)		600*480*700	770*670*1180	810*710*1240	810*710*1240	970*800*1245	970*800*1345	1400*970*1580	1400*970*1780
Weight (Kg)		95	210	250	255	330	350	570	590
Optional PLC	Control System	Siemens S7-200smartPLC							
	Programming	Can write 5 programs, each with up to 40 steps							
	Control mode	Material temperature and equipment outlet temperature can be switched							
	Protocol	Modbus RTU protocol RS485 interface (optional RS232 Ethernet)							
	Operation panel	7-inch Siemens color touch screen (10-inch optional)							
	Data output	Support U disk data export, can export temperature data in TXT format							
Install list		2 sets of matching valves, a roll of raw material belt / 2 stainless steel insulation hoses / an operation manual							

Parameters

Product number		DLSB-10/120	DLSB-30/120	DLSB-50/120	DLSB-100/120	DLSB-200/120	DLSB-300/120	DLSB-500/120
Temp.range		-120°C-RT						
Voltage		220V~50/60Hz	380V（optional 3Phase 220V / 480V）~50/60Hz					
Power(kW)		3.6	7.1	14	15.2	24	30.5	36
Cooling capacity (w)	25°C	4380	7875	12750	18375	24500	40000	62000
	0°C	4100	7100	10600	17275	19500	32000	51400
	-40°C	3200	5596	7600	9100	10000	13000	22600
	-80°C	1200	2800	3542	4500	5500	6700	10070
	-120°C	250	450	600	900	1100	2300	3000
Temp.Sensor		PT100						
Safety protection		Overvoltage, time delay, overcurrent, overheating, leakage						
Refrigerant		R404A、R23、F14						
Evaporator type		Plate heat exchange						
Circulation pipe size (DN)		15	15	20	20	25	25	32
Fan type		Outer Rotor Axial Fan						
Cooling type		Air cooling (water cooling is optional)						
Compressor power (kW)		3.375	6.75	13.5	14.6	22.5	29.25	33.75
Current (A)		15	30	27	30	45	59	67.5
Tank volume (L)		7	10	17	35	100	100	150
Lift (m)		6	6	12	12	10	10	15
Flow (L/min)		25	25	35	35	60	60	180
Dimensions(mm)		970*800*1250	970*800*1250	1500*960*1300	1500*960*1500	1900*1040*1820	1900*1040*1820	3000*1300*2080
Weight (Kg)		330	350	560	600	830	830	1600
Optional PLC		Control System		Siemens S7-200smartPLC				
		Programming		Can write 5 programs, each with up to 40 steps				
		Control mode		Material temperature and equipment outlet temperature can be switched				
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