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1 MODELS LIST

Model	Refrigerant	Nominal Capacity (kW/RT)	Power Supply	Appearance
SSD750(L)W-M SSD750DW-M	R22	75/21	380V 3N ~ 50Hz	
SSD1100(L)W-M SSD1100DW-M	R22	110/31		
SSD1500(L)W-M SSD1500DW-M	R22	150/43		

2 NOMENCLATURE

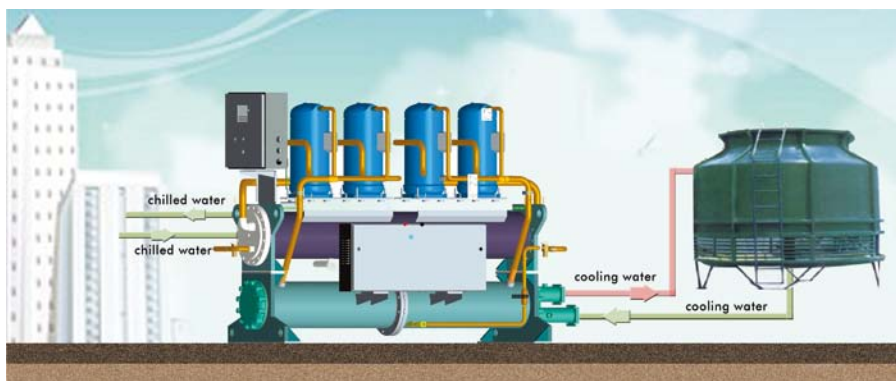
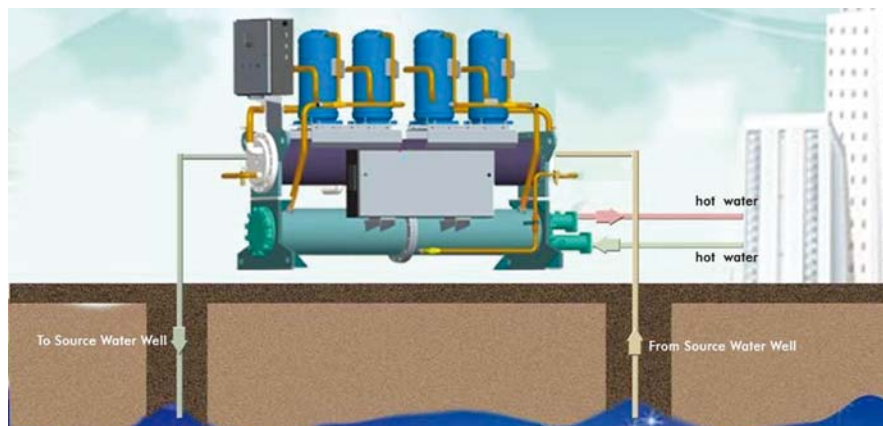
SSD 1500 L D W T R / B M

Model	Description	Options
SSD	Water Source Heat-Pump	Basic function code
1500	Nominal Cooling Capacity	750=75kW=21.3RT 1100=110kW=31.3RT 1500=150kW=42.6RT
L	Function code	Default - heat pump L-chiller
D	Water source code	Default-ground water or surface-water D-ground-coupled water
W	Compressor type	Default: Screw Compressor W: Scroll Compressor Z: Rotary Compressor
T	Evaporator type	Default:Dried shell and tube T:Casing tube H:Liquid filled shell and tube
R	Heat Reclaim Function	Default:General unit R:Heat Reclaim Unit
B	Development Series Number	A、 B、 C.....
M	Voltage	M-380V 3N ~ 50Hz

3 FEATURES

➔ 3.1 Description

MS series water-source heat pump scroll chiller uses the ground water as the cold/heat source to make chilled/hot water. As the temperature of the ground water maintains relatively steady, it is possible in winter to draw heat from it to make hot water for the air conditioning system located in the building or for other purpose; while it is also possible in summer to release the heat from indoor air to perform cooling.



It is not only the water (ground) source that can be used as the cold/heat source for the water-source heat pump scroll chiller, and the drain water with excessive heat also can be taken as an alternative. Moreover, the cooling tower can be applied for the cooling only unit.

➔ 3.2 Standard Features

◆ Interchangeable Master/Slave Module

There is no need of the boiler for heating, so certainly there is no smoke pollution generated during the combustion of the boiler. Additionally, the unit is able to perform cooling without the cooling tower, avoiding the trouble of the noise and the fungus brought on by the cooling tower.

◆ Free Combination

The part load energy efficiency is greatly enhanced through the automatic capacity adjustment of multiple compressors and full-load running of the single compressor.



◆ Environment Protection

There is no need of the boiler for heating, so certainly there is no smoke pollution generated during the combustion of the boiler. Additionally, the unit is able to perform cooling without the cooling tower, avoiding the trouble of the noise and the fungus brought on by the cooling tower.

◆ Energy Saving

The part load energy efficiency is greatly enhanced through the automatic capacity adjustment of multiple compressors and full-load running of the single compressor.

◆ High Energy Efficiency

The evaporator equipped with the Gree patented built-in flow equalizer can improve dramatically the evaporating temperature and the performance.

◆ Flexible Scroll Compressor

The new flexible scroll compressor features the floating seal, low tear and wear, low leakage, low noise, reliable and stable running. The compressor starts one after one and runs evenly helpful to extend the service life of the air conditioning unit.

◆ Wide Application

Used with the electronic control throttling device, the unit is able to realize the full range adjustment and quick response, meeting the wide range of the working conditions of the unit. Meanwhile, the system also takes several optimization measures to expand the application range to the utmost. Water source temperature ranges from -7 to 42 °C and the leaving liquid temperature can be up to 55 °C .

◆ Reliable Oil Return Design

To ensure the reliable oil return, the high-efficiency dry shell-and-tube evaporator is applied. The lubricant oil mixed with refrigerant will flow into the compressor along with the refrigerant, in this manner no oil will remain inside the evaporator so as to realize the reliable oil return and meanwhile the lubricant oil attached on the tube wall of the evaporator is beneficial to optimize the heat exchange effect.

◆ Stringent Test

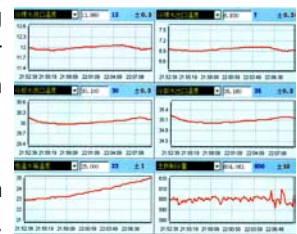
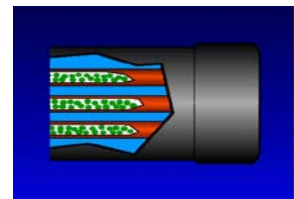
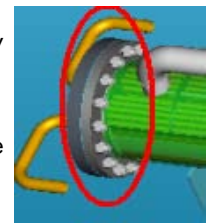
Every single unit shall pass a series of stringent tests under both typical testing conditions and harsh testing conditions, like, ultra-high heating, low water temperature frequent startup etc., so as to guarantee that each unit can operate much reliably.

◆ Multiple Functions

To guarantee the safe and reliable operation, the unit is equipped with multiple protections, such as high pressure shutdown protection, relief valve, phase loss protection, low pressure protection, overload protection, high discharge temperature protection etc.

◆ Non-Attendant Machine Room

The unit control system is integrated with the water pump interlock control. Upon the shutdown and startup, the water pump can be automatically turned on/off. Meanwhile, it is also available to set the time for shutdown/startup of the unit as a 7-day schedule, that is, the unit will be controlled to start/stop as the timed schedule, which suitably meets the need of the modernization building control.



◆ Modular Combination, Convenient for Installation and Maintenance

The modular design with small volume and compact structure can ease the transportation and simplify the installation and reduce the maintenance cost. As each module is an independent cooling system, other modules will not be affected even if one of them is in maintenance.

4 SPECIFICATION



4.1 Parameter of surface-water

Model			SSD750(L)W-M	SSD1100(L)W-M	SSD1500(L)W-M
Cooling Capacity	kW		75.2	111	152
	RT		21.4	31.6	43.2
Power Input	kW		14.9	21.9	29.9
Heating Capacity	kW		92.2	134.7	185
	RT		26.2	38.3	52.6
Power Input	kW		19.5	28.8	39.2
Power Supply	—		380V 3N ~ 50Hz		
Safety Devices	—		High & low pressure protection, over load protection, Phase missing/reverse protection, exhaust temperature sensor, Anti-freeze protection, safety valve, oil heater, low flux protection, current switch protection, oil level protection, pressure dispersion protection.		
Compressor	Type	—	Hermetic scroll type compressor		
Refrigerant	Type	—	R22		
	Control	—	Capillary/electrical inflated valve		
Refrigerant Oil	Type	—	3GS		
	Charge	L	3.25×2	3.25×3	3.25×4
Evaporator	Heat Exchanger	—	Dry shell and tube		
	Water Flow (m ³ /h)	Cooling	13	19	26
		Heating	16	23	32
	Loss of Pressure (kPa)	Cooling	35	45	45
		Heating	45	55	55
	Max. Pressure	MPa	1.0	1.0	1.0
Pipe Connection	mm	DN65 clip hoop	DN65 clip hoop	DN80 clip hoop	
Condenser	Heat Exchanger	—	Horizontal Shell and Tube Condenser		
	Water Flow (m ³ /h)	Cooling	16	23	32
		Heating	13	19	26
	Loss of Pressure (kPa)	Cooling	45	55	55
		Heating	35	45	45
	Max. Pressure	MPa	1.0	1.0	1.0
Pipe Connection	mm	DN65 clip hoop	DN65 clip hoop	DN80 clip hoop	
Dimension	H×W×D	mm	1400×700×1900	1400×670×1900	1560×740×2300
Net Weight	Kg		650	850	1150
Operation Weight	Kg		750	1000	1350



4.2 Parameter of ground water

Model			SSD750(L)W-M	SSD1100(L)W-M	SSD1500(L)W-M
Cooling Capacity		kW	78.8	118.2	157.7
		RT	22.4	33.6	44.8
Power Input		kW	14	21	28
Heating Capacity		kW	82.5	124	165
		RT	23.5	35.3	46.9
Power Input		kW	19.1	28.4	38
Power Supply		—	380V 3N ~ 50Hz		
Safety Devices		—	High & low pressure protection, over load protection, Phase missing/reverse protection, exhaust temperature sensor, Anti-freeze protection, safety valve, oil heater, low flux protection, current switch protection, oil level protection, pressure dispersion protection.		
Compressor	Type	—	Hermetic scroll type compressor		
Refrigerant	Type	—	R22		
	Control	—	Capillary/electrical inflated valve		
Refrigerant Oil	Type	—	3GS		
	Charge	L	3.25×2	3.25×3	3.25×4
Evaporator	Heat Exchanger	—	Dry shell and tube		
	Water Flow (m ³ /h)	Cooling	13	19	26
		Heating	7.5	11	15
	Loss of Pressure (kPa)	Cooling	35	45	45
		Heating	20	30	40
	Max. Pressure	MPa	1.0	1.0	1.0
Pipe Connection	mm	DN65 clip hoop	DN65 clip hoop	DN80 clip hoop	
Condenser	Heat Exchanger	—	Horizontal Shell and Tube Condenser		
	Water Flow (m ³ /h)	Cooling	7.5	11	15
		Heating	13	19	26
	Loss of Pressure (kPa)	Cooling	20	30	40
		Heating	35	45	45
	Max. Pressure	MPa	1.0	1.0	1.0
Pipe Connection	mm	DN65 clip hoop	DN65 clip hoop	DN80 clip hoop	
Dimension	H×W×D	mm	1400×700×1900	1400×670×1900	1560×740×2300
Net Weight		Kg	650	850	1150
Operation Weight		Kg	750	1000	1350

Water-Source Heat Pump Scroll Chiller



4.3 Parameter of ground-coupled water

Model			SSD750DW-M	SSD1100DW-M	SSD1500DW-M
Cooling Capacity		kW	77.7	116.3	155.8
		RT	22.1	33.1	44.3
Power Input		kW	14.4	21.9	29.1
Heating Capacity		kW	84.7	126.7	168.6
		RT	24.1	36.0	47.9
Power Input		kW	20.4	30.4	40.7
Power Supply		—	380V 3N ~ 50Hz		
Safety Devices		—	High & low pressure protection, over load protection, Phase missing/reverse protection, exhaust temperature sensor, Anti-freeze protection, safety valve, oil heater, low flux protection, current switch protection, oil level protection, pressure dispersion protection.		
Compressor	Type	—	Hermetic scroll type compressor		
Refrigerant	Type	—	R22		
	Control	—	Capillary/electrical inflated valve		
Refrigerant Oil	Type	—	3GS		
	Charge	L	3.25×2	3.25×3	3.25×4
Evaporator	Heat Exchanger	—	Dry shell and tube		
	Water Flow (m ³ /h)	Cooling	13	19	26
		Heating	16	23	32
	Loss of Pressure (kPa)	Cooling	35	45	45
		Heating	45	55	55
	Max. Pressure	MPa	1.0	1.0	1.0
Pipe Connection	mm	DN65 clip hoop	DN65 clip hoop	DN80 clip hoop	
Condenser	Heat Exchanger	—	Horizontal Shell and Tube Condenser		
	Water Flow (m ³ /h)	Cooling	16	23	32
		Heating	13	19	26
	Loss of Pressure (kPa)	Cooling	45	55	55
		Heating	35	45	45
	Max. Pressure	MPa	1.0	1.0	1.0
Pipe Connection	mm	DN65 clip hoop	DN65 clip hoop	DN80 clip hoop	
Dimension	H×W×D	mm	1400×700×1900	1400×670×1900	1560×740×2300
Net Weight		Kg	650	850	1150
Operation Weight		Kg	750	1000	1350

4.4 Performance Correction

4.4.1 Surface-water working condition

◆ Surface-water cooling capacity correction

Model	Leaving Chilled Water Temp. (°C)	Leaving Water Temp. (°C)									
		20		25		30		32		35	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
SSD750W-M	5	71.4	12.2	68.4	13.4	65.4	14.6	63.9	15.1	61.7	15.9
	6	79.0	12.4	76.0	13.6	72.2	14.8	71.0	15.4	69.2	16.2
	7	82.0	12.5	79.0	13.6	75.2	14.9	73.7	15.5	71.4	16.3
	8	85.0	12.6	81.2	13.7	78.2	15.0	76.7	15.5	74.4	16.4
	9	88.0	12.7	84.2	13.8	80.5	15.0	79.0	15.6	76.7	16.4
SSD1100W-M	5	105.5	18.0	101.0	19.7	96.6	21.5	94.4	22.3	91.0	23.4
	6	116.6	18.2	112.1	19.9	106.6	21.8	104.8	22.6	102.1	23.9
	7	121.0	18.4	116.6	20.1	111.0	21.9	108.8	22.7	105.5	23.9
	8	125.4	18.5	119.9	20.1	115.4	22.0	113.2	22.8	109.9	24.1
	9	129.9	18.6	124.3	20.3	118.8	22.1	116.6	22.9	113.2	24.2
SSD1500W-M	5	144.4	24.5	138.3	26.9	132.2	29.3	129.2	30.4	124.6	32.0
	6	159.6	24.8	153.5	27.2	145.9	29.8	143.5	30.9	139.8	32.6
	7	165.7	25.1	159.6	27.4	152.0	29.9	149.0	31.0	144.4	32.7
	8	171.8	25.3	164.2	27.5	158.1	30.0	155.0	31.2	150.5	32.9
	9	177.8	25.4	170.2	27.7	162.6	30.2	159.6	31.3	155.0	33.0

◆ Surface-water heating capacity correction

Model	Leaving Hot Water Temp. (°C)	Entering Water Temp. (°C)									
		15.0		18.0		20.0		22.0		25.0	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
SSD750W-M	40.0	83.0	17.4	90.7	17.6	95.9	17.7	101.8	17.9	110.6	18.1
	43.0	81.1	18.5	88.0	18.8	93.1	18.9	99.0	19.1	107.9	19.3
	45.0	80.2	19.1	87.0	19.3	92.2	19.5	98.1	19.7	107.0	19.9
	48.0	78.4	20.3	85.2	20.5	90.4	20.7	96.3	20.8	105.1	21.1
	50.0	77.4	20.9	84.3	21.1	89.4	21.3	95.3	21.4	104.2	21.6
	55.0	74.7	22.6	81.5	22.9	86.7	23.0	92.6	23.2	101.4	23.4
SSD1100W-M	40.0	121.2	25.6	132.5	26.0	140.1	26.2	148.7	26.4	161.6	26.8
	43.0	118.5	27.4	128.5	27.7	136.0	27.9	144.7	28.2	157.6	28.5
	45.0	117.2	28.2	127.2	28.6	134.7	28.8	143.3	29.0	156.3	29.4
	48.0	114.5	30.0	124.5	30.3	132.0	30.5	140.6	30.8	153.6	31.1
	50.0	113.1	30.8	123.1	31.2	130.7	31.4	139.3	31.6	152.2	32.0
	55.0	109.1	33.4	119.1	33.8	126.6	34.0	135.2	34.2	148.2	34.6
SSD1500W-M	40.0	166.5	34.9	182.0	35.4	192.4	35.7	204.2	36.0	222.0	36.5
	43.0	162.8	37.2	176.5	37.7	186.9	38.0	198.7	38.3	216.5	38.8
	45.0	161.0	38.4	174.6	38.9	185.0	39.2	196.8	39.5	214.6	40.0
	48.0	157.3	40.8	170.9	41.2	181.3	41.6	193.1	41.9	210.9	42.3
	50.0	155.4	41.9	169.1	42.4	179.5	42.7	191.3	43.0	209.1	43.5
	55.0	149.9	45.5	163.5	45.9	173.9	46.3	185.7	46.6	203.5	47.0

4.4.2 Ground water working condition

◆ Ground water cooling capacity correction

Model	Leaving Chilled Water Temp. (°C)	Entering Water Temp. (°C)									
		12		15		18		21		24	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
SSD750W-M	5	75.0	12.4	73.9	13.1	72.9	13.8	71.8	14.6	70.7	15.3
	6	79.3	12.5	77.6	13.2	75.9	13.9	74.8	14.7	73.6	15.4
	7	82.3	12.6	80.5	13.3	78.8	14.0	77.6	14.8	76.3	15.5
	8	85.2	12.6	83.4	13.3	81.7	14.1	80.4	14.9	79.0	15.6
	9	88.2	12.7	86.4	13.4	84.6	14.2	83.2	15.0	81.8	15.7
SSD1100W-M	5	112.5	18.5	110.9	19.6	109.3	20.7	107.8	21.9	106.1	23.0
	6	118.9	18.7	116.4	19.8	113.8	20.9	112.2	22.1	110.3	23.1
	7	123.5	18.8	120.8	19.9	118.2	21.0	116.4	22.2	114.4	23.2
	8	127.8	18.9	125.2	20.0	122.6	21.1	120.6	22.3	118.6	23.4
	9	132.3	19.0	129.7	20.1	126.8	21.2	124.8	22.4	122.7	23.5
SSD1500W-M	5	150.1	24.7	147.9	26.2	145.9	27.6	143.8	29.3	141.5	30.6
	6	158.6	25.0	155.3	26.4	151.9	27.8	149.7	29.4	147.2	30.8
	7	164.7	25.1	161.2	26.5	157.7	28.0	155.3	29.6	152.7	31.0
	8	170.6	25.2	167.0	26.7	163.5	28.2	160.9	29.8	158.2	31.1
	9	176.5	25.4	173.0	26.8	169.2	28.3	166.5	29.9	163.7	31.3

◆ Ground water heating capacity correction

Model	Leaving Hot Water Temp. (°C)	Entering Water Temp. (°C)									
		10		12		15		18		20	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
SSD750W-M	40	72.5	16.8	77.7	17.0	85.2	17.5	93.1	17.8	98.4	18.0
	43	71.4	17.5	76.6	17.8	83.9	18.3	91.7	18.6	97.0	18.9
	45	70.2	18.3	75.2	18.6	82.5	19.1	90.3	19.5	95.5	19.8
	48	68.9	19.1	73.8	19.4	81.0	20.0	88.7	20.5	93.8	20.8
	50	67.6	19.9	72.4	20.2	79.5	20.8	87.0	21.4	92.0	21.8
	55	64.8	21.5	69.5	22.0	76.3	22.6	83.6	23.3	88.4	23.7
SSD1100W-M	40	109.0	24.9	116.8	25.3	128.1	26.0	140.0	26.4	147.9	26.8
	43	107.4	26.1	115.1	26.5	126.1	27.2	137.9	27.7	145.8	28.1
	45	105.5	27.2	113.1	27.6	124.0	28.4	135.7	29.0	143.5	29.4
	48	103.5	28.3	111.0	28.9	121.8	29.7	133.3	30.4	141.0	30.9
	50	101.6	29.5	108.9	30.1	119.5	31.0	130.8	31.8	138.3	32.4
	55	97.5	32.0	104.5	32.7	114.7	33.7	125.6	34.6	132.9	35.3
SSD1500W-M	40	145.0	33.4	155.4	33.9	170.4	34.7	186.3	35.4	196.8	35.8
	43	142.9	34.9	153.1	35.5	167.8	36.4	183.5	37.1	194.0	37.5
	45	140.4	36.4	150.5	37.0	165.0	38.0	180.5	38.8	190.9	39.3
	48	137.8	37.9	147.7	38.6	162.0	39.7	177.4	40.7	187.6	41.3
	50	135.1	39.5	144.9	40.2	159.1	41.5	174.1	42.6	184.0	43.3
	55	129.7	42.9	139.1	43.7	152.6	45.0	167.1	46.3	176.9	47.2

4.4.3 Ground-coupled water working condition

◆ Ground-coupled water cooling capacity correction

Model	Leaving Chilled Water Temp. (°C)	Entering Water Temp. (°C)									
		15		20		25		30		35	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
SSD750DW-M	5	75.4	11.8	73.9	12.9	72.4	14.3	70.6	15.9	68.5	17.6
	6	78.1	11.8	76.6	13.0	75.1	14.4	73.1	15.9	70.9	17.7
	7	80.8	11.9	79.4	13.0	77.7	14.4	75.7	16.0	73.3	17.7
	8	83.9	11.9	82.2	13.0	80.4	14.4	78.2	16.0	76.0	17.8
	9	87.0	11.9	85.1	13.1	83.3	14.5	81.1	16.1	78.6	17.9
SSD1100DW-M	5	112.8	17.9	110.6	19.6	108.4	21.7	105.6	24.1	102.5	26.8
	6	116.9	18.0	114.7	19.7	112.3	21.8	109.4	24.2	106.1	26.8
	7	121.0	18.0	118.9	19.8	116.3	21.9	113.3	24.3	109.8	27.0
	8	125.6	18.1	123.0	19.8	120.4	22.0	117.1	24.4	113.7	27.1
	9	130.3	18.2	127.3	19.9	124.7	22.1	121.4	24.4	117.7	27.2
SSD1500DW-M	5	151.1	23.8	148.2	26.1	145.2	28.9	141.5	32.0	137.3	35.6
	6	156.6	23.9	153.6	26.2	150.5	29.0	146.6	32.2	142.1	35.7
	7	162.0	23.9	159.2	26.2	155.8	29.1	151.7	32.3	147.1	35.9
	8	168.3	24.0	164.8	26.3	161.3	29.2	156.9	32.4	152.4	36.0
	9	174.5	24.1	170.6	26.4	167.0	29.3	162.7	32.4	157.7	36.1

◆ Ground-coupled water heating capacity correction

Model	Leaving Hot Water Temp. (°C)	Leaving Water Temp. (°C)									
		0		5		10		15		20	
		Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)	Cooling Capacity (kW)	Power Input (kW)
SSD750DW-M	40	66.5	17.0	76.8	17.5	86.8	18.0	94.6	18.4	103.1	18.9
	43	66.1	17.9	76.0	18.4	86.0	19.0	93.8	19.4	102.2	19.8
	45	65.5	19.2	74.9	19.7	84.7	20.4	92.5	20.7	100.9	21.2
	48	64.0	20.3	73.0	20.8	82.7	21.4	90.7	21.8	98.6	22.3
	50	63.0	21.0	71.7	21.5	81.3	22.0	89.5	22.5	97.1	23.0
	55	58.4	23.1	69.5	23.6	79.4	24.2	87.5	24.9	93.6	25.3
SSD1100DW-M	40	99.5	25.4	114.9	26.1	129.9	26.8	141.6	27.5	154.3	28.1
	43	98.9	26.7	113.8	27.4	128.6	28.3	140.3	28.8	153.0	29.5
	45	98.0	28.6	112.0	29.3	126.7	30.4	138.4	30.9	151.0	31.6
	48	95.7	30.2	109.2	30.9	123.7	31.8	135.7	32.5	147.6	33.2
	50	94.2	31.3	107.3	32.0	121.7	32.8	133.8	33.5	145.3	34.2
	55	87.4	34.5	104.1	35.2	118.8	36.1	130.9	37.0	140.1	37.7
SSD1500DW-M	40	132.4	34.0	152.9	35.0	172.9	35.9	188.4	36.8	205.2	37.7
	43	131.6	35.7	151.4	36.7	171.1	37.8	186.7	38.6	203.5	39.6
	45	130.4	38.3	149.0	39.3	168.6	40.7	184.1	41.4	200.9	42.3
	48	127.4	40.5	145.3	41.4	164.6	42.6	180.5	43.5	196.3	44.4
	50	125.3	41.9	142.8	42.9	161.9	43.9	178.1	44.9	193.3	45.8
	55	116.3	46.2	138.5	47.2	158.0	48.3	174.2	49.6	186.4	50.4

5 ANTIFREEZE

Under the working conditions for the ground-loop type, the water temperature may be or lower than 0°C , therefore it is necessary to add glycol to water to prevent freezing up. See the following table for the minimum glycol concentration.

Leaving Glycol Temp	2	0	-2	-4	-6	-8
Min. Glycol Concentration%	10	20	20	30	30	30

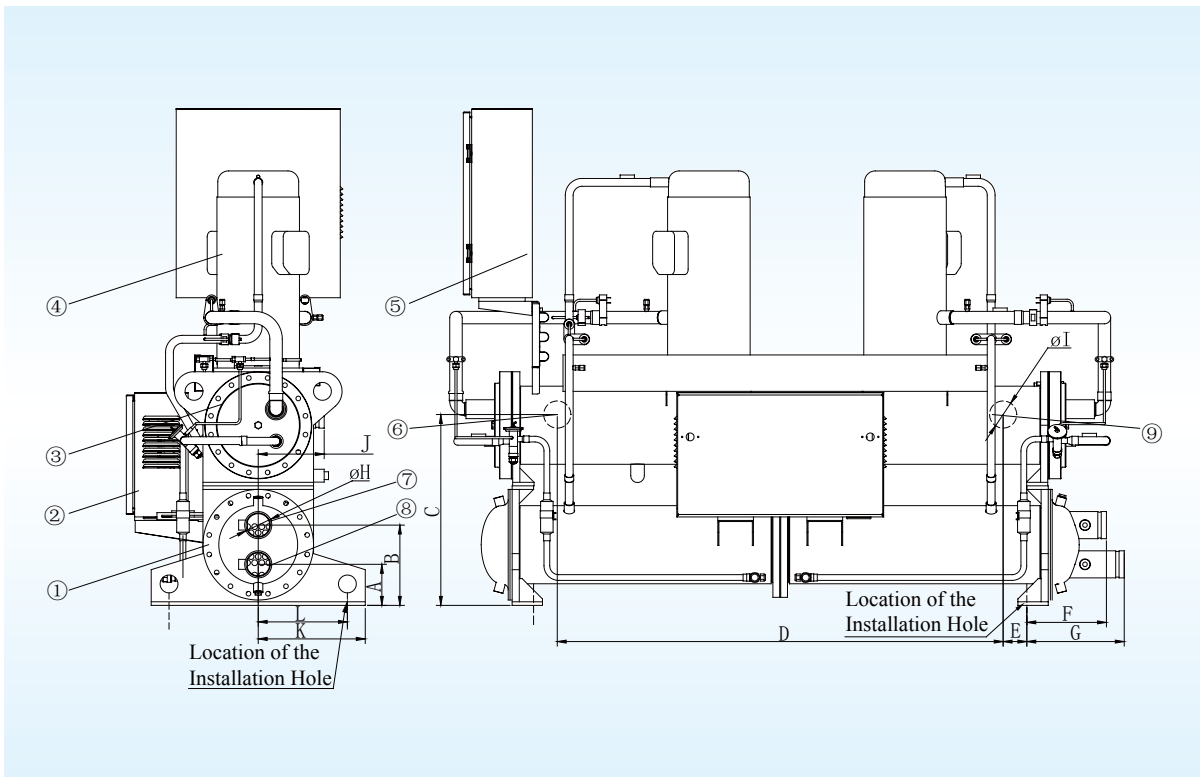
With adding the glycol solution, the performance and water flow and the pressure drop passing through the water system will change. See the following table for the correction factors.

Glycol Concentration %	10	20	30	40	50
Cooling Capacity Correction Factor	0.992	0.980	0.970	0.963	0.944
Power Input Correction Factor	0.994	0.991	0.984	0.925	0.967
Water Flow Correction Factor	1.012	1.03	1.073	1.120	1.175
Water Pressure Drop Correction Factor	1.06	1.128	1.180	1.261	1.306

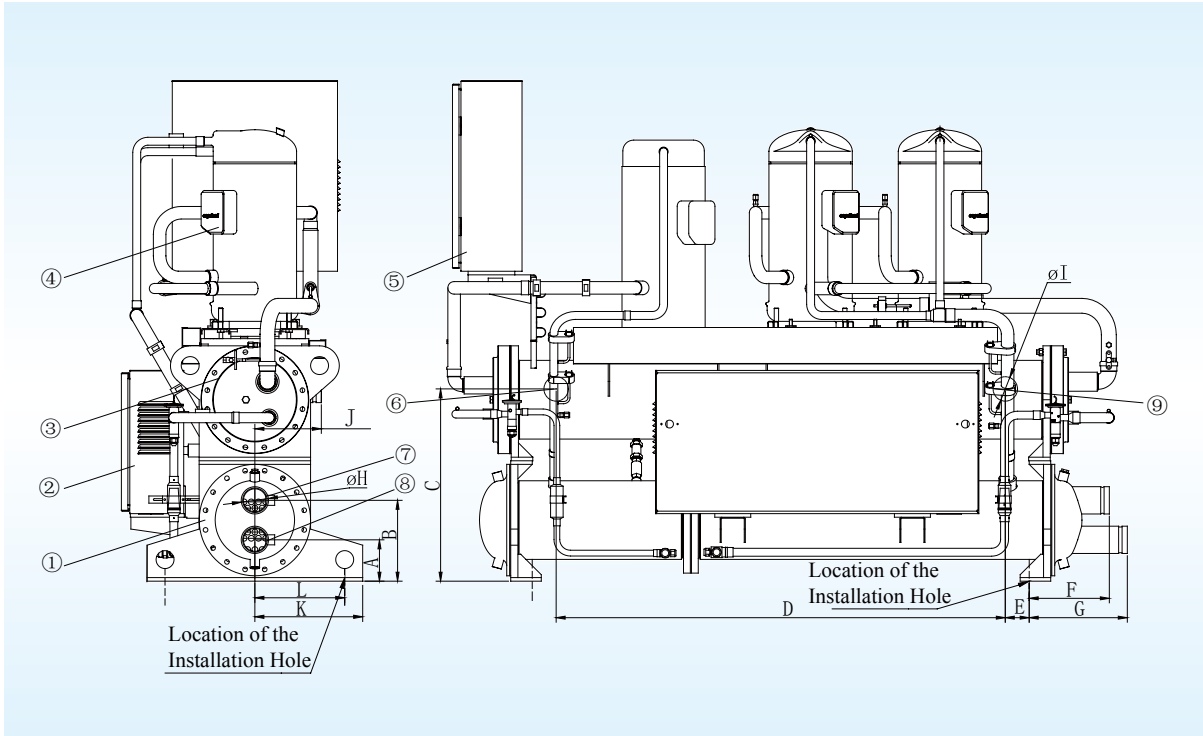
6 INSTALLATION



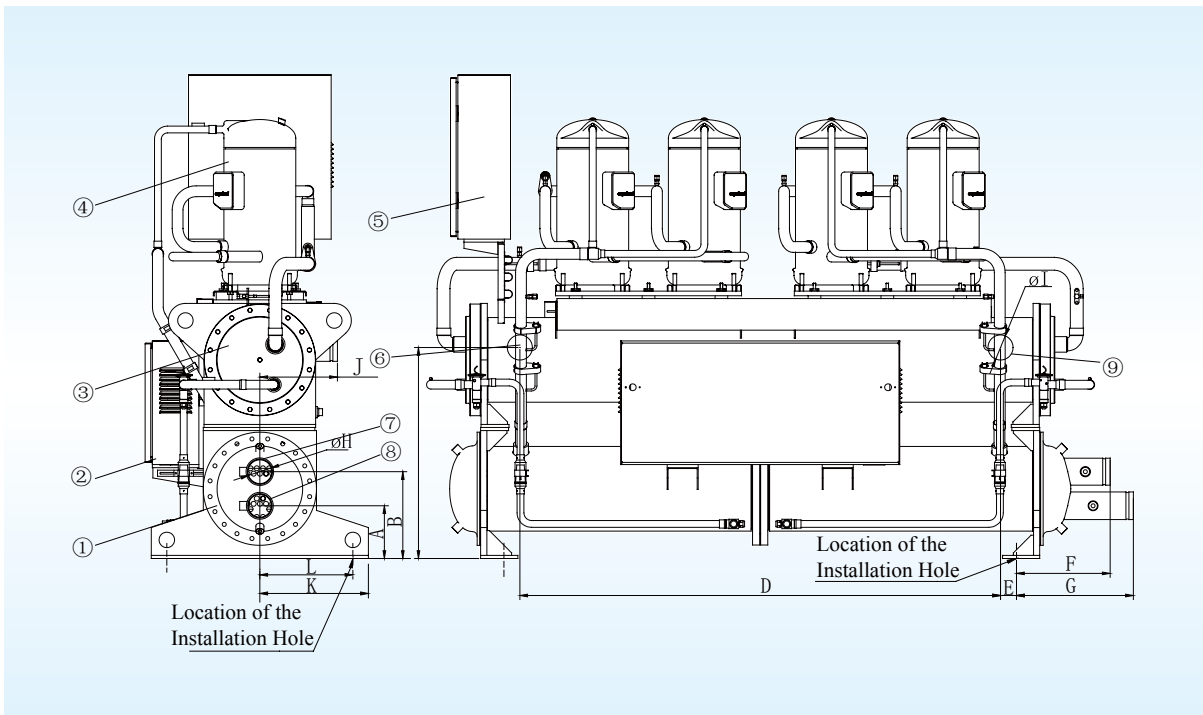
6.1 Dimensions Data



Outline and Connection Dimensions SSD750(L)W-M、SSD750DW-M



Outline and Connection Dimensions SSD1100(L)W-M、SSD1100DW-M



Outline and Connection Dimensions SSD1500(L)W-M、SSD1500DW-M

Water-Source Heat Pump Scroll Chiller

No.	Name	No.	Name
①	Horizontal Shell-and-Tube Condenser	⑤	Week-Current Control Box
②	Strong-Current Control Box	⑥	Leaving Chilled Water
③	Dry Evaporator	⑦	Leaving Cooling Water
④	Scroll Compressor	⑧	Entering Cooling Water
		⑨	Entering Chilled Water

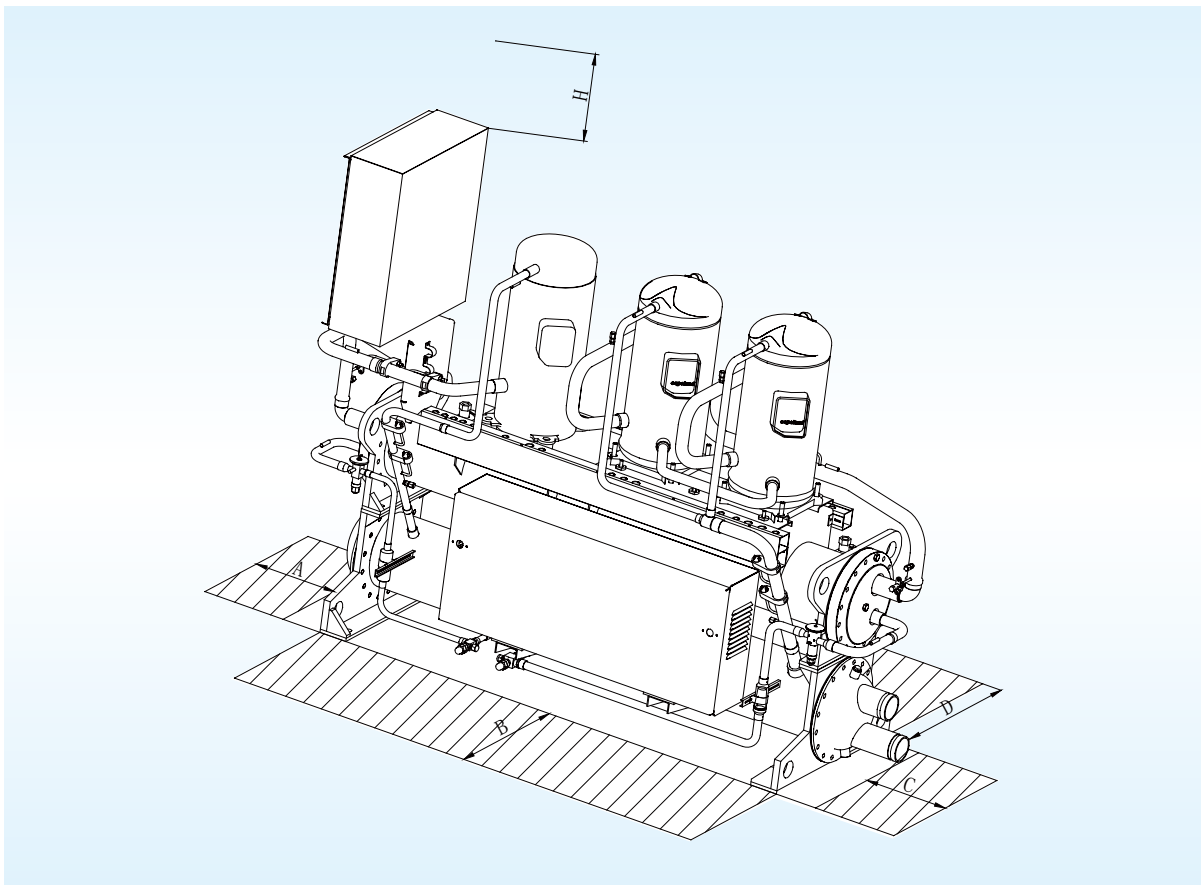
Size of the Water Pipes:

unit: mm

Model	A	B	C	D	E	F	G	ΦH	ΦI	J	K	L
SSD750(L)W-M SSD750DW-M	115	225	535	1315	34	283	233	DN65	DN65	275	300	250
SSD1100(L)W-M SSD1100DW-M	115	225	535	1315	34	283	233	DN65	DN65	275	300	250
SSD1500(L)W-M SSD1500DW-M	165	285	680	1600	26.5	338	258	DN80	DN80	315	350	300



6.2 Installation Clearance Data



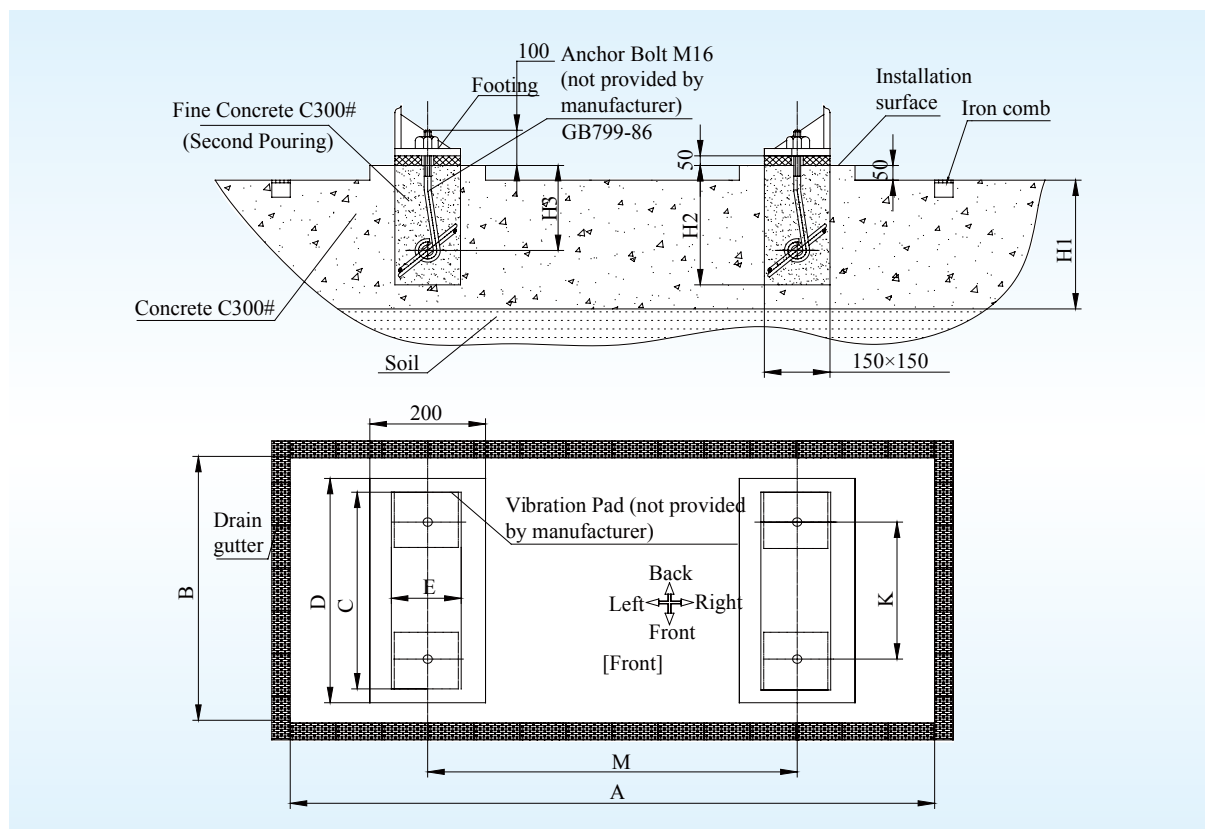
unit:mm

Model	A	B	C	D	H
SSD750(L)W-M SSD750DW-M	580	400	560	200	300
SSD1100(L)W-M SSD1100DW-M	580	400	560	200	300
SSD1500(L)W-M SSD1500DW-M	720	400	620	200	300



6.3 Matters need Attention

- ◆ The installation foundation shall be designed by the professional designer in accordance to the actual installation field.
- ◆ The installation foundation shall be concrete or steel constructed, capable of bearing the running weight of the unit. Beside, the upper surface of the foundation should be flat and it is quite recommended to leave the drain gutter.
- ◆ The steel plate and the vibration pad shall be put on it correctly and then take the second grouting after the unit and the anchor bolt are in place. See the installation foundation diagram for more details.
- ◆ Then it is time to correct the horizontality and verticality of the unit with a allowable tolerance 6mm/m. If it goes beyond the tolerance, it should adjust the unit slightly in the way of stuffing some filling pieces (they should be prepared by the user) among the footing and the vibration pad and then rechecking the horizontality and verticality and finally tightening the anchor screws properly.



Installation Foundation Diagram

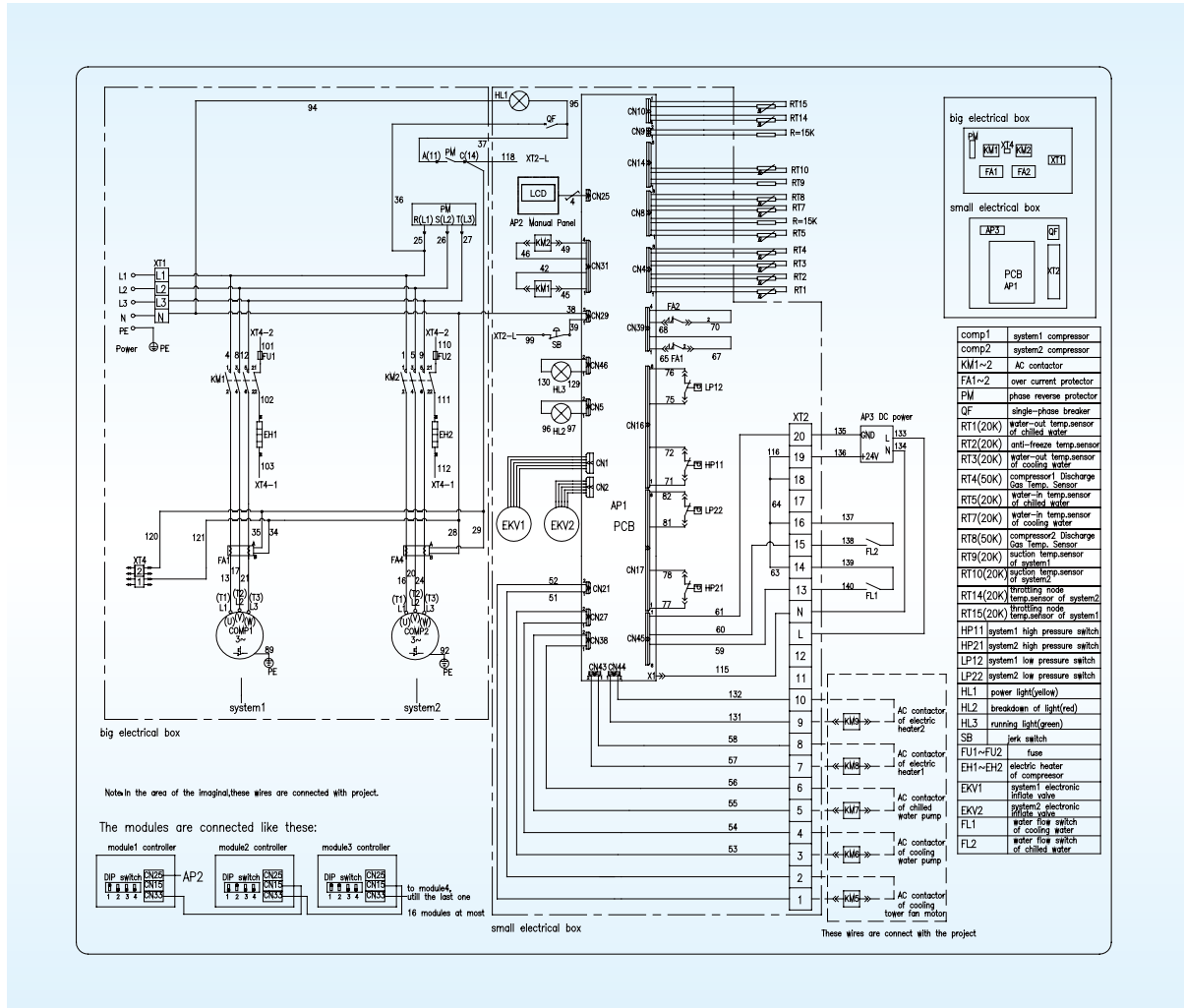
Installation Foundation Size:

unit: mm

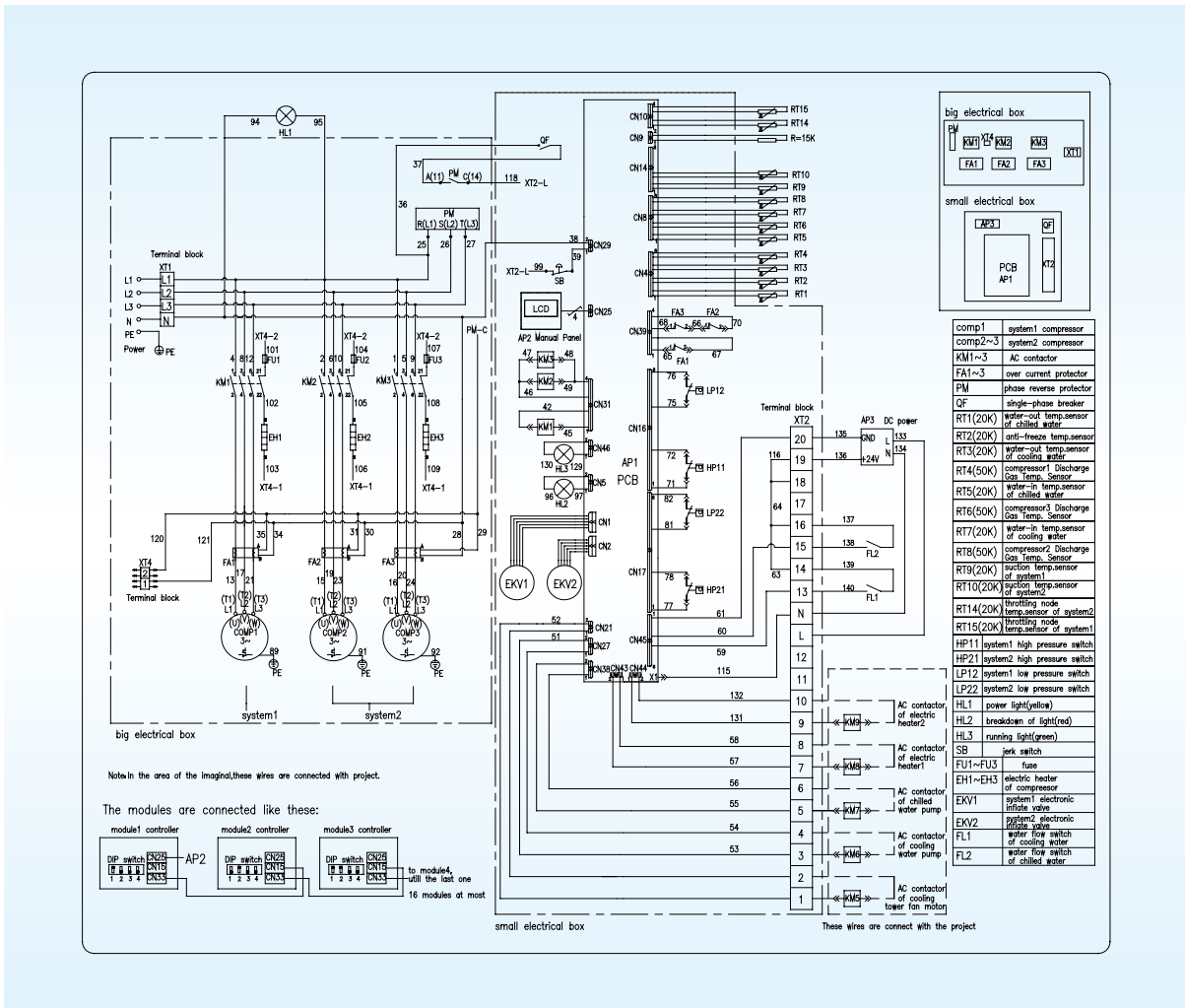
Model	SSD750(L)W-M SSD750DW-M	SSD1100(L)W-M SSD1100DW-M	SSD1500(L)W-M SSD1500DW-M
A	1950	1950	2400
B	750	750	750
C	620	620	750
E	120	120	150
D	650	650	750
M	1383	1383	1653
K	500	500	600
H1	150	150	150
H2	150	150	150
H3	100	100	100

7 ELECTRICAL DIAGRAMS

◆ SSD750(L)W-M、SSD750DW-M

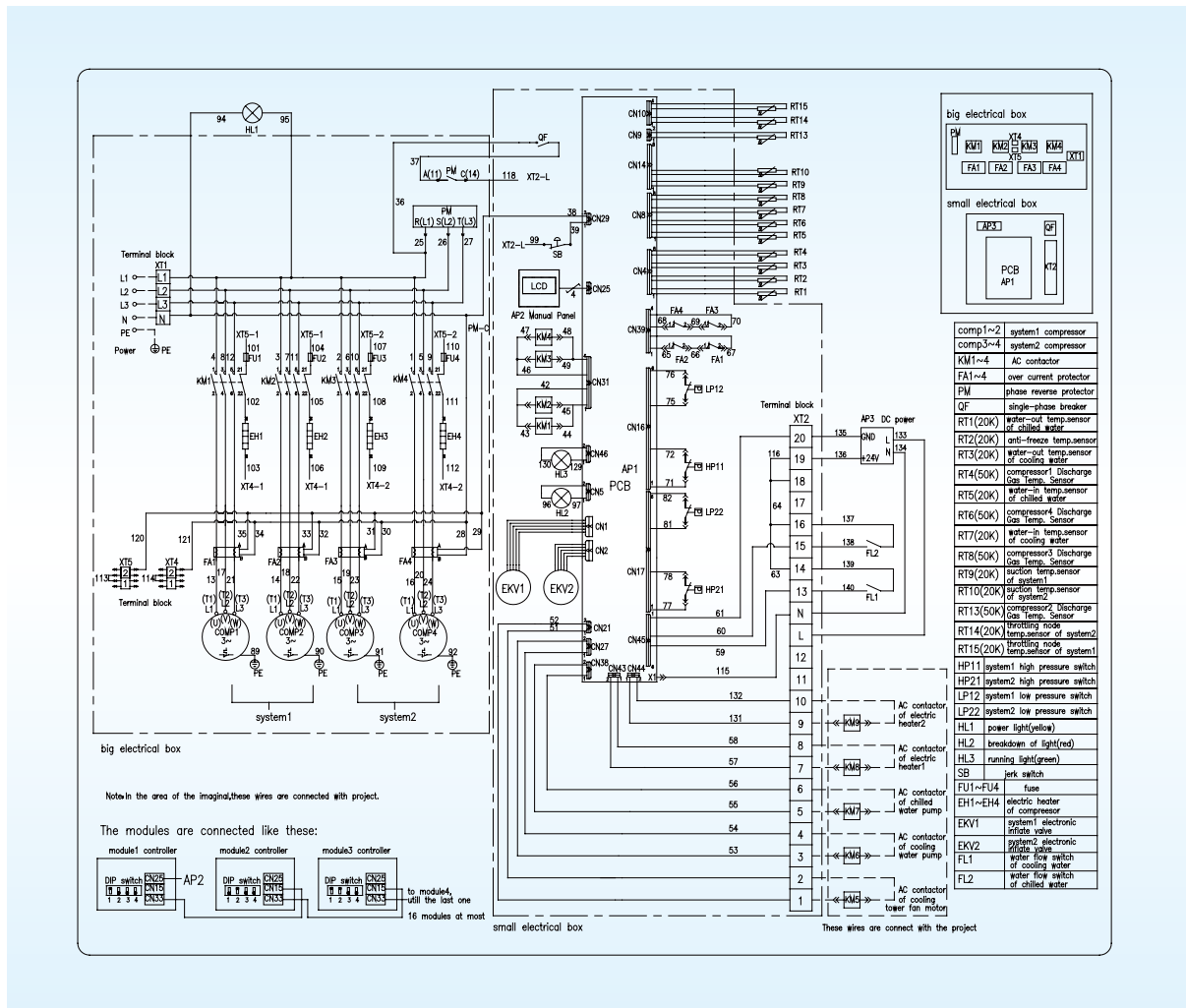


◆ SSD1100(L)W-M、SSD1100DW-M

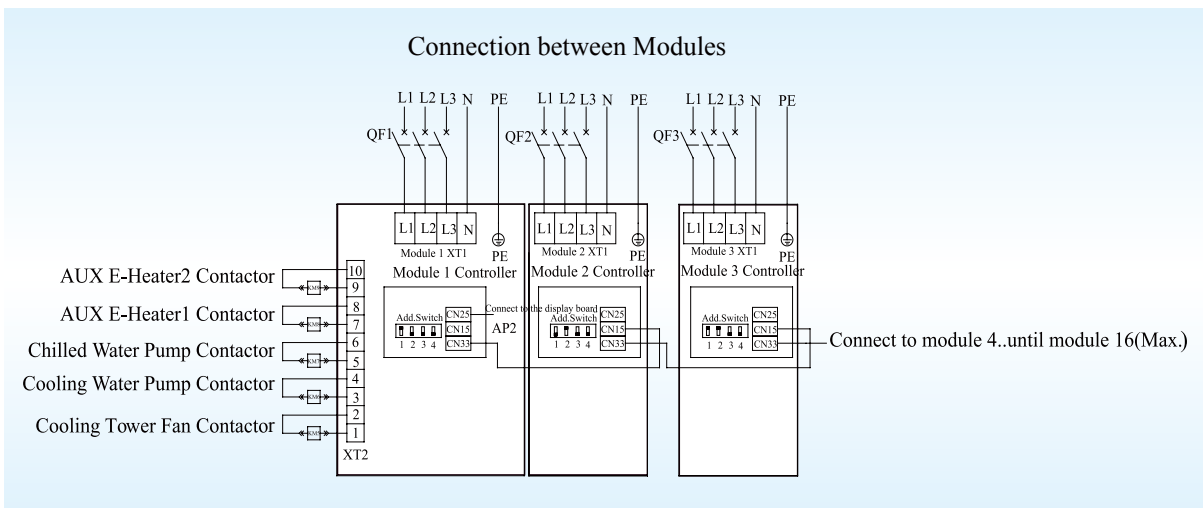
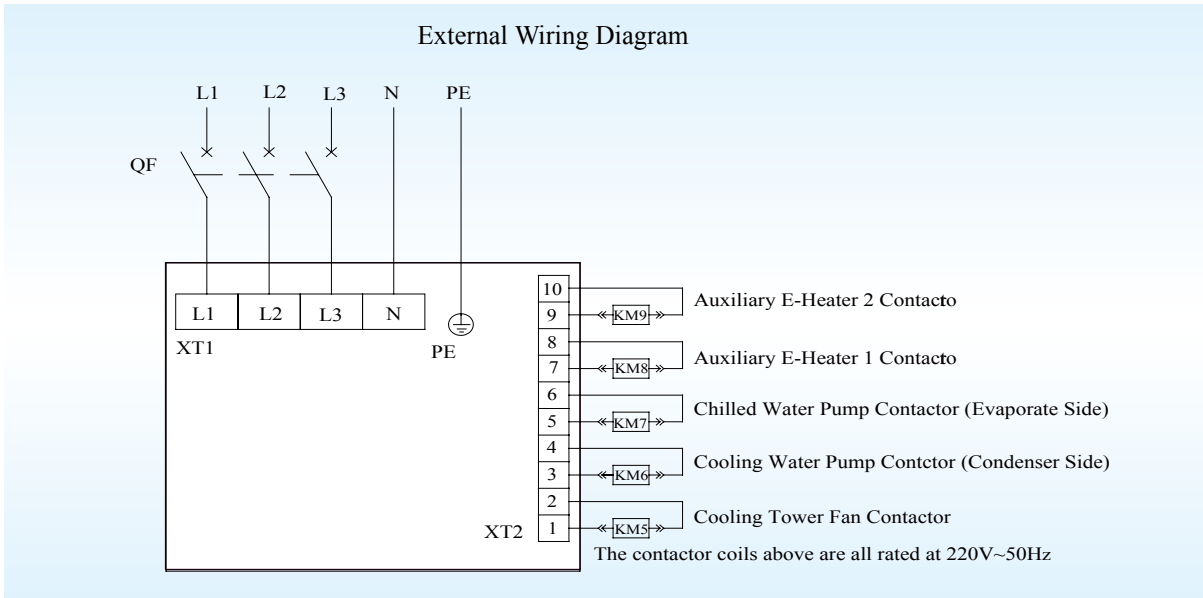


Water-Source Heat Pump Scroll Chiller

◆ SSD1500(L)W-M、SSD1500DW-M



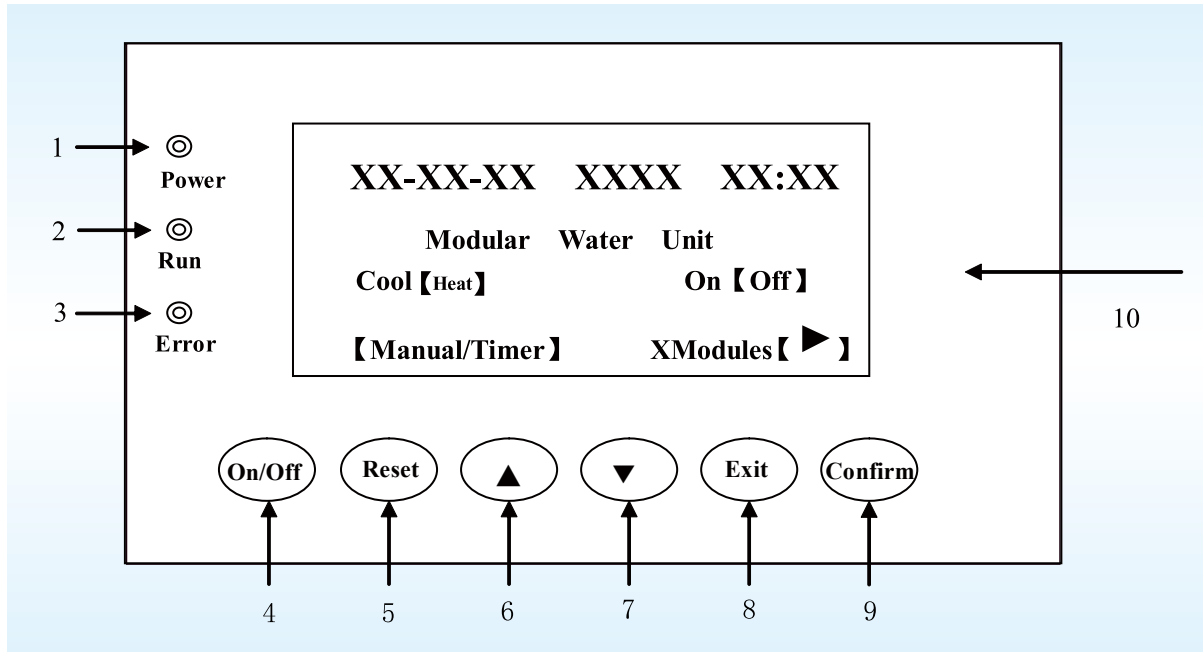
8 FIELD WIRING DIAGRAM



	SSD750(L)W-M SSD750DW-M	SSD1100(L)W-M SSD1100DW-M	SSD1500(L)W-M SSD1500DW-M
Size of the Live Wire(mm ²)	25	50	70
Size of the Neutral Wire (mm ²)	4	4	4
Size of the Ground Wire (mm ²)	16	25	35
Rated Capacity of the Air Switch(A)	63	100	125

- Notes:
- a. The power cord should be BV single-core cable with plastic bushing rating at 40°C .
 - b. The air switch should be applied at 40°C .
 - c. If the actual installation condition changes, please select and use the power cord and air witch referring to their specifications provided by the manufacturer.

9 WIRED CONTROLLER



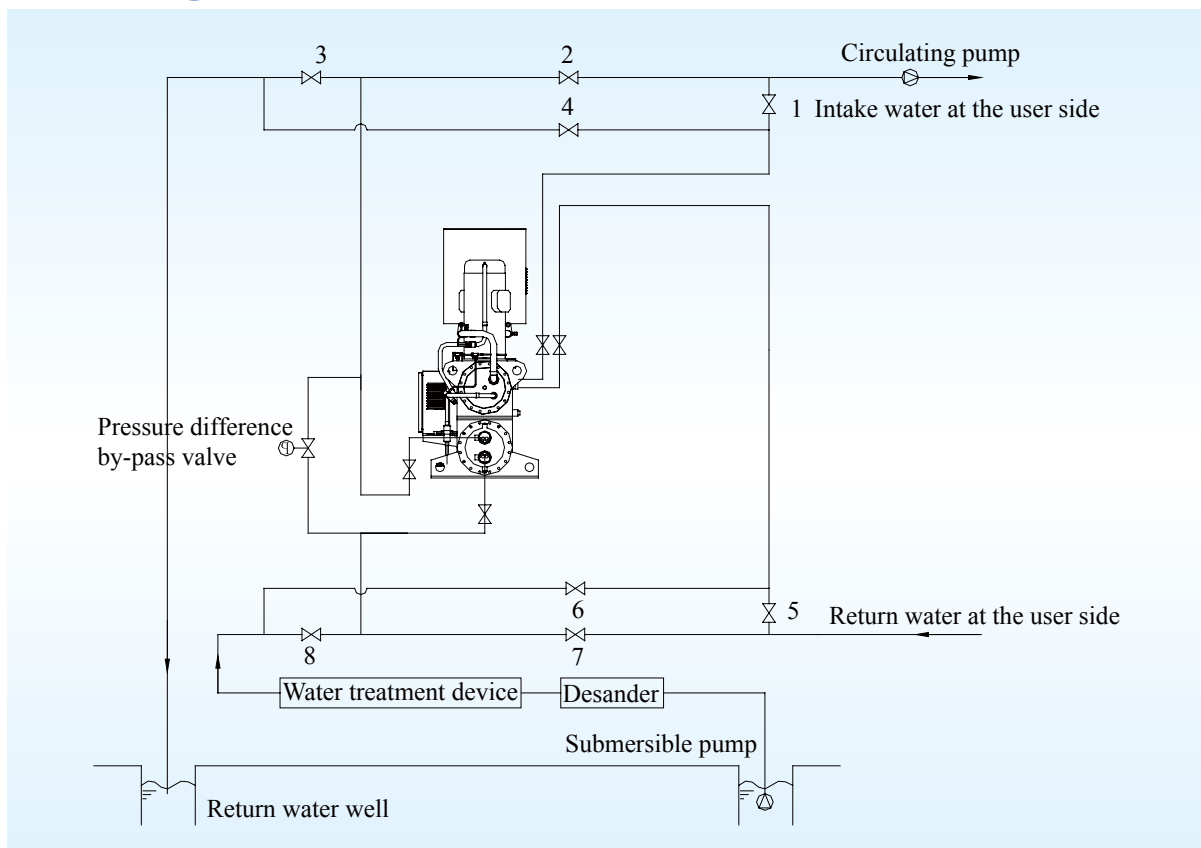
NO.	Display	Function description
1	Power LED (Red)	It will light on when the displayed board is energized; otherwise it lights off.
2	Run LED (Green)	It will light on when the displayed board is turned on; otherwise it lights off.
3	Error LED (Red)	It will light on when some error occurs; otherwise it lights off.
4	On/Off	It is used to start/stop the unit by pressing this button for three seconds
5	Reset	It is used to clear the error and unlock the discharge temperature sensor.
6	▲	It is used to move the cursor upward or leftward, or increase the parameter.
7	▼	It is used to move the cursor downward or rightward, or decrease the parameter
8	Exit	It is used to back to the previous menu.
9	Confirm	It is used to select and go to the desired menu. Additionally, it is also used to confirm the altered parameter and move the cursor
10	LED	It is used to display the related information.

10 ACCESSORIES

Accessories name	Standard	Option	provided
Heat Pump Scroll Unit	√		
water-level switch		√	
Wired controller		√	
manometer			√
thermometer		√	
Soft tie-in		√	

11 BASIC SYSTEM CONFIGURATIONS

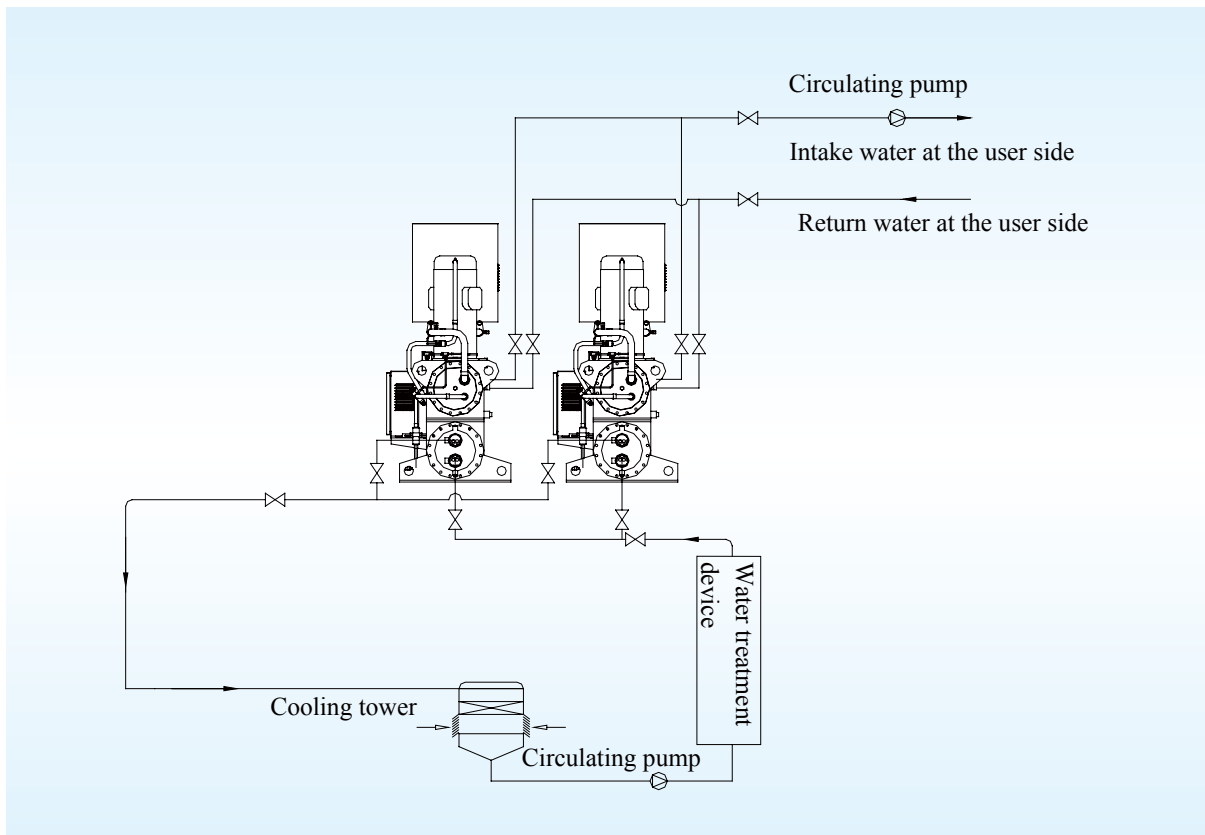
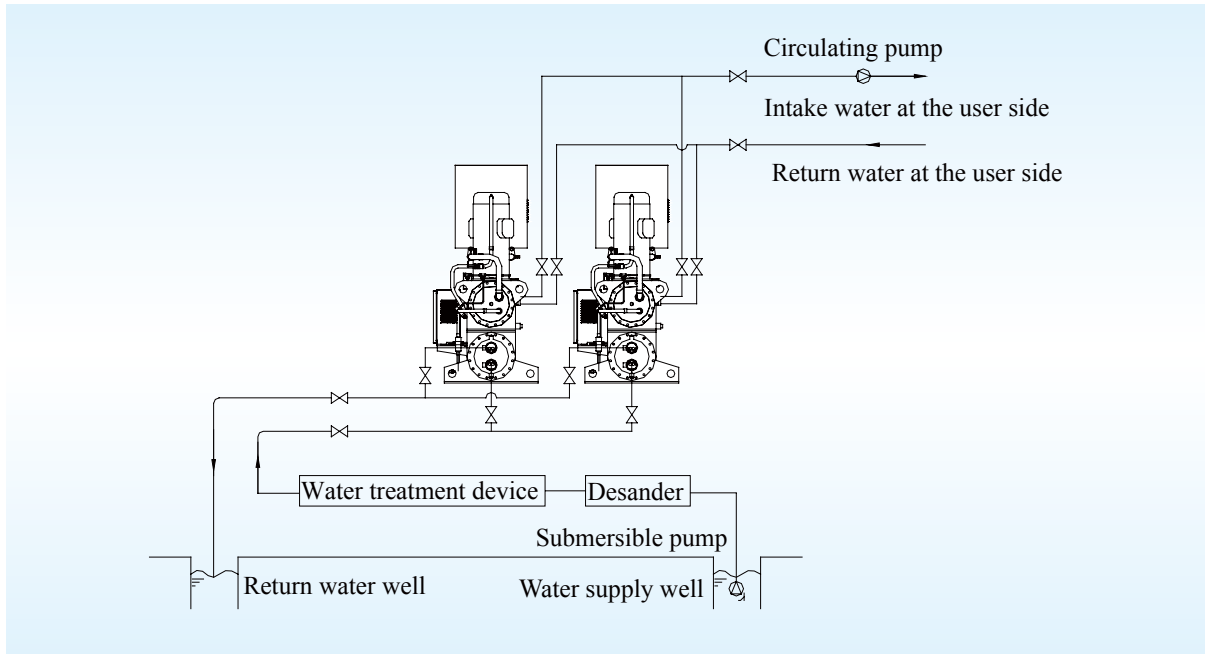
➔ **11.1** Please refer to the following diagram for the piping of the cooling and heating unit.



Under the cooling condition, the valves 8, 3, 5, 1 are opened and the valves 7, 2, 6, 4 are closed.
 Under the heating condition, the valves 7, 2, 6, 4 are opened and the valves 8, 3, 5, 1 are closed.

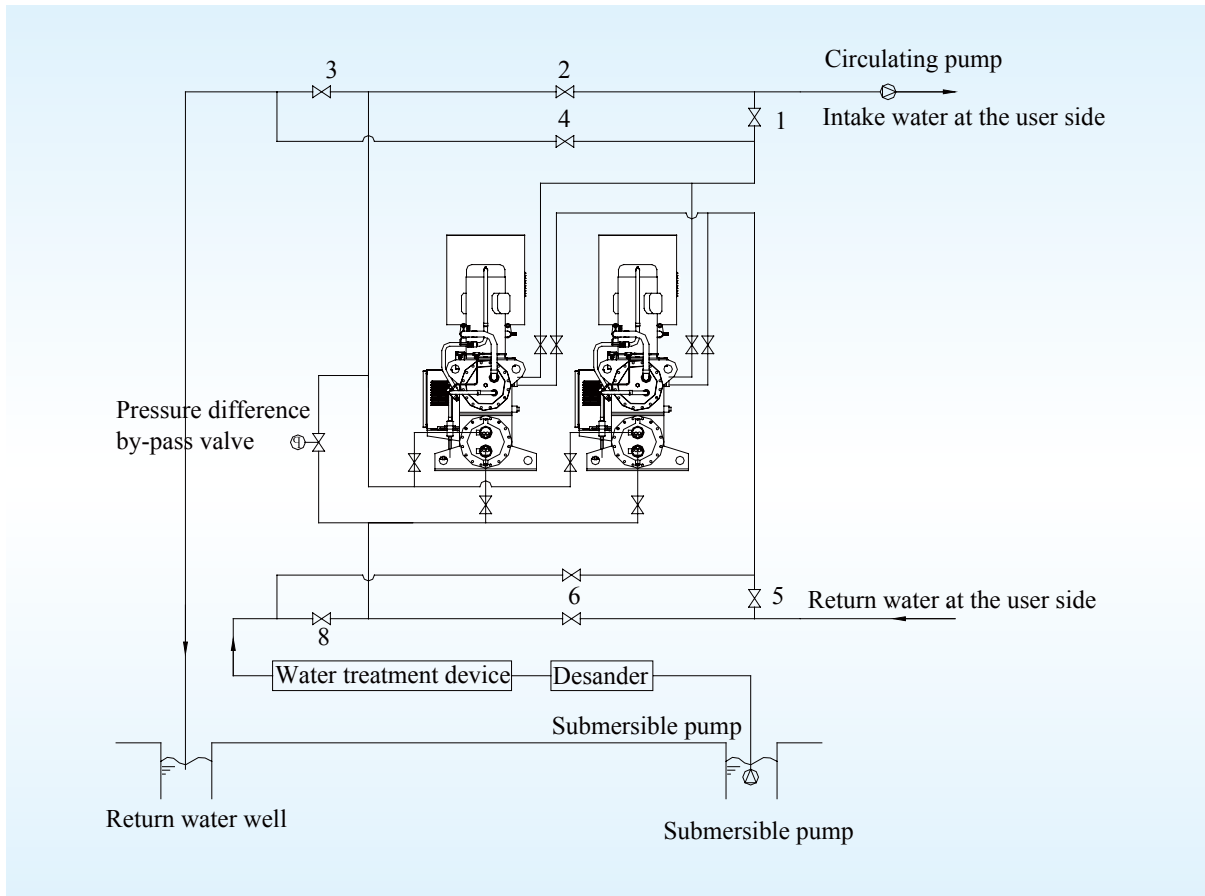


11.2 Please refer to the following diagram for the piping of the cooling unit





11.3 Please refer to the following diagram for the piping of the modular unit (capable for both cooling and heating)



Under the cooling condition, the valves 8, 3, 5, 1 are opened and the valves 7, 2, 6, 4 are closed.
 Under the heating condition, the valves 7, 2, 6, 4 are opened and the valves 8, 3, 5, 1 are closed.