

Water source heat pump heating & cooling

Nominal cooling capacity: 19,450BTU/H to 112,255BTU/H
Nominal heating capacity: 22,550BTU/H to 115,667BTU/H

Clitech CWW series heat pump



Can cool or heat space
Connect to fan coil
R-410A refrigerant
Stable frame support
COP up to 4.7

- 2 Base frame is designed specially for enduring unit, stable and secure.
- 2 External panels are made of polyester powder coated steel.
- 2 Extremely compact structure, lock door well designed and easy demountable for access.
- 2 High efficiency scroll compressor, like American Copeland..
- 2 Reverse cycle valve.
- 2 Intelligent panel controller, and equipped with much quick mind micro-processor, easy to control.
- 2 Careful protections such as high pressure, low pressure, overheating, overload, overcooling, antifreeze, phase order, etc.
- 2 Water side equipped with efficient tube in tube heat exchanger or shell tube heat exchanger.
- 2 Thermostatic expansion valve.
- 2 Full range testing and operational test carried out before each delivery.



1 Clitech product features

High efficiency and energy saving

In the application of geothermal heat pump air conditioner, a reliable and stable running condition as water-water system for unit is more beneficial to effect good performance; Also in the application of geothermal heat pump water heater, it also has its relative advantages, at the same condition of whole year air conditioning charge, compared with air source heat pump, it can reduce consumed electricity about 30%; compared with electricity heating system, it can save 70% running cost. When at the same time for air cooling and sanitary hot water, it will be with much more higher efficiency.

Pick world famous components, reliable quality

Clitech heat pump adopted international famous branded whole sealing scroll compressor, it has the advantages of low vibration, low noise, high heating efficiency, energy saving, long running life, stable and reliable working compared with screw compressor.

Special for medium and small engineering project

Clitech CWW series model CWW-10 to CWW-35 is special designed for medium and small engineering project which usage requirement centralized for water source heat pump application system. However, it also can be used for super scale distributing water source heat pump needed area.

Advanced all-direction control

The Clitech CWW series equipped with control panel of microcomputer control system and colorful backlight LCD display, can receive command of panel button and remote via infrared, can satisfy you best comfortable and willing requirement. Central control panel is optional device. It is with standard RS485 connection interface, very easy for network.

Widely application

Clitech CWW series has different models from small to big, can meet wide demands of ordinary families, factories, schools, hotels, restaurants, hospitals,, superstore, entertainment center, healthy center, villas and so on the buildings centralized or distributing need of heating supply in winter and cooling supply in summer.



2. Parameter list

Clitech model CWW-08, CWW-10, CWW-14, CWW-16, CWW-20

Clitech CWW-			CWW-08	CWW-10	CWW-14	CWW-16	CWW-20
Rated cooling	Cooling capacity	kw	5.7	8.5	11.5	14.1	17.5
		BTU/h	19450	29010	39249	48123	59727
	Input power	kw	1.3	1.9	2.4	2.95	3.7
	Input current	A	7.2	9.5	9.5	5.9	7.4
	COP		4.4	4.5	4.8	4.8	4.7
Rated heating	Heating capacity	kw	6.6	9.5	12.5	15.9	19.2
		BTU/h	22520	32414	42650	54251	65510
	Input power	kw	1.8	2.6	3.2	4.2	5
	Input current	A	8	12.8	16	8.6	10.2
	COP		3.7	3.7	3.9	3.8	3.8
Maximum running current		A	12	17.1	22	12	16
Power source		V/Ph/Hz	220V/1N/50Hz			380V/3N/50Hz	
Noise level		dB(A)	42	45	48	48	52
Dimension	Width	mm	620	620	680	680	680
	Depth	mm	725	725	800	800	800
	Height	mm	595	595	720	720	720
Weight		kg	100	135	150	170	190
Water control precision		°C	±1°C				
Control panel	Type	Colorful backlight LCD display control panel, can receive command of panel button and remote via infrared					
	Functions	Working mode control, temperature setting, working status setting, timing on/off setting, button lock and backlight display...					
Cooling circulation quantity			1	1	1	1	1
Throttle type		external equalizer thermostatic expansion valve					
Refrigeration	Type	R417A/ R407C/R410A					
	Quantity		1.35	1.7	2	2	2.5
Compressor	Type	Hermetically sealed scroll compressor					
	Quantity	piece	1	1	1	1	2
Water source side heat exchange	Type	Efficient tube in tube heat exchanger					
	Water flow	m ³ /h	0.55	0.81	1.2	1.33	1.66
	Water pressure drop	kPa	10	10	12	12	12
	Pipe size	DN	20	20	25	25	25
	Water side max working pressure	kPa	1000	1000	1000	1000	1000
Water chiller heat exchanger	Type	Efficient tube in tube heat exchanger					
	Water flow	m ³ /h	1	1.46	2	2.42	3.01
	Water pressure drop	kPa	10	10	12	12	12
	Ripe size	DN	20	20	25	25	25
	Water side max working pressure	kPa	1000	1000	1000	1000	1000

Test conditions:

1. Rated cooling: water source side inlet water temp 18°C, outlet water temp is 29°C, air-conditioner water side inlet water temp inlet temp is 12°C and outlet temp. is 7°C.
2. Rated heating: water source side water inlet temp is 15°C, air-conditioner water side inlet water temp is 40°C.

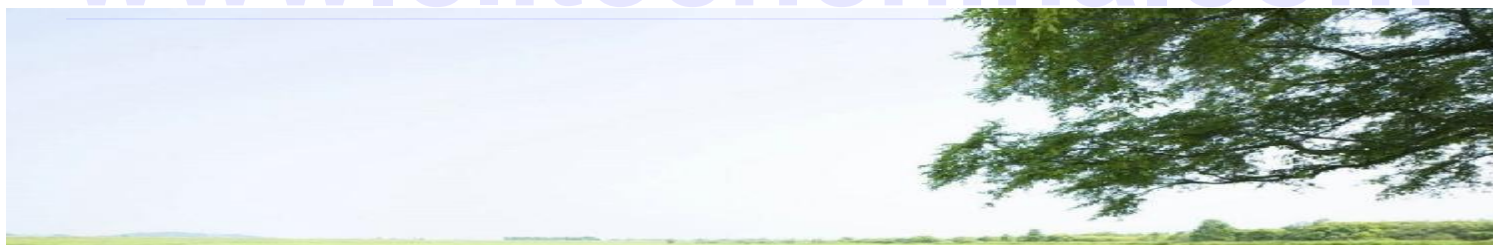


Clitech model CWW-28, CWW-30, CWW-35

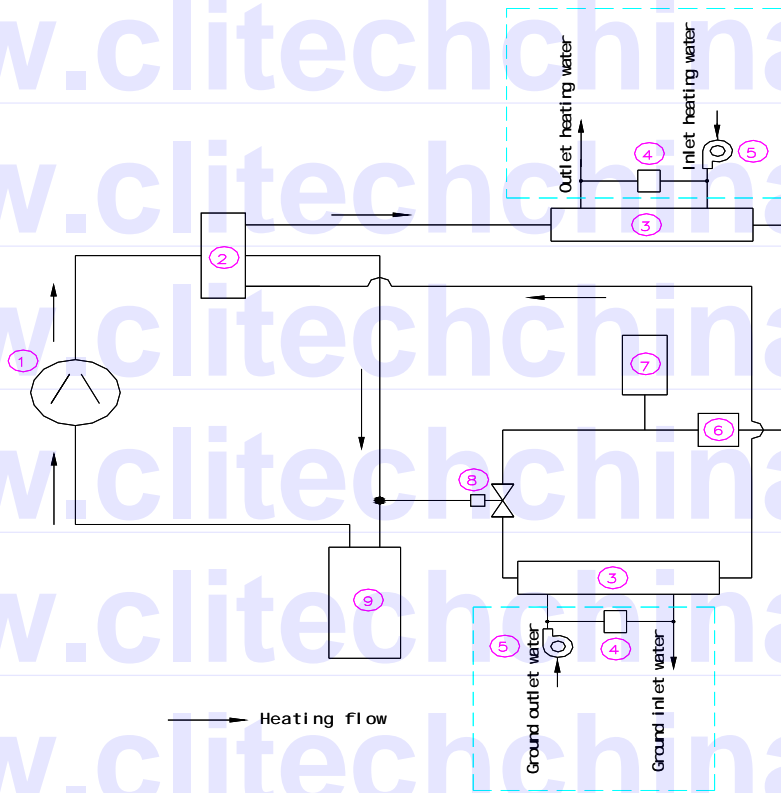
Clitech CWW-			CWW-28	CWW-30	CWW-35
Rated cooling	Cooling capacity	kw	23	27.1	32.9
		BTU/h	78498	92491	112255
	Input power	kw	4.8	5.8	7.1
	Input current	A	19	11.6	14.2
	COP		4.8	4.7	4.6
Rated heating	Heating capacity	kw	24.2	29.5	33.9
		BTU/h	82570	100654	115667
	Input power	kw	6.3	7.8	9.1
	Input current	A	32	15.8	18
	COP		3.8	3.8	3.7
Maximum running current		A	40	19	32
Power source		V/Ph/Hz	380V/3N/50Hz		
Noise level		dB(A)	53	53	66
Dimension	Width	mm	800	800	800
	Depth	mm	1080	1080	1080
	Height	mm	1050	1050	1050
Weight		kg	240	260	300
Water control precision		℃	±1℃		
Control panel	Type		Colorful backlight LCD display control panel, can receive command of panel button and remote via infrared		
	Functions		Working mode control, temperature setting, working status setting, timing on/off setting, button lock and backlight display...		
Cooling circulation quantity			2	2	2
Throttle type			external equalizer thermal expansion valve		
Refrigeration	Type		R417A/ R407C/R410A		
	Quantity		3.2	2*2	2*2.5
Compressor	Type		Hermetically sealed scroll compressor		
	Quantity	piece	2	2	2
Water source side heat exchange	Type		Efficient tube in tube heat exchanger		
	Water flow	m3/h	2.4	2.57	3.12
	Water pressure drop	kPa	14	14	18
	Pipe size	DN	32	32	32
	Water side max working pressure	kPa	1000	1000	1000
Water chiller heat exchanger	Type		Efficient tube in tube heat exchanger		
	Water flow	m3/h	4	4.66	5.65
	Water pressure drop	kPa	14	14	18
	Ripe size	DN	32	32	32
	Water side max working pressure	kPa	1000	1000	1000

Test conditions:

- Rated cooling: water source side inlet water temp 18℃,outlet water temp is 29℃,air-conditioner water side inlet water temp inlet temp is 12℃ and outlet temp. is 7℃.
- .Rated heating: water source side water inlet temp is 15℃,air-conditioner water side inlet water temp is 40℃.



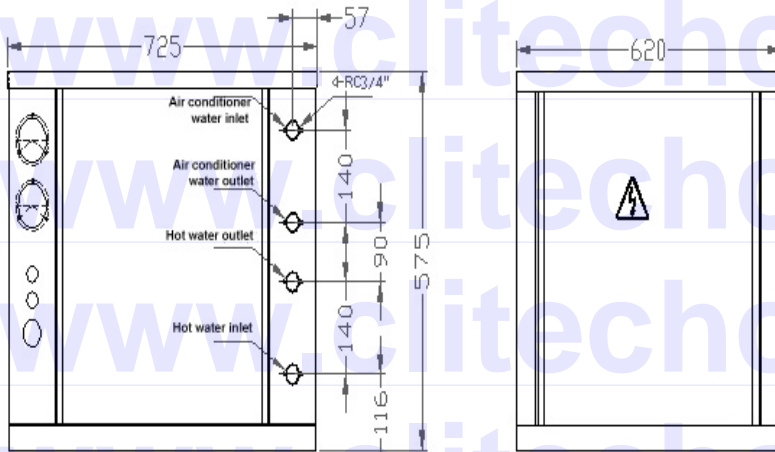
3. Working principle



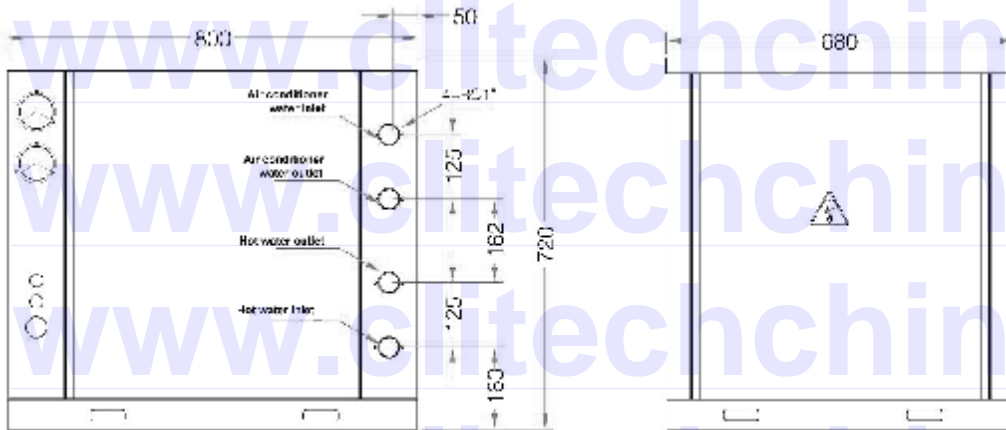
NOTE: The spare parts in dotted line area are not equipped with our heat pump, user need to connect the dotted area.

① Compressor	② Four-way valve	③ tube in tube heat exchanger
④ Pressure difference switch	⑤ Pump	⑥ Filter
⑦ liquid tank	⑧ Thermostatic expansion valve	⑨ gas-liquid segregator

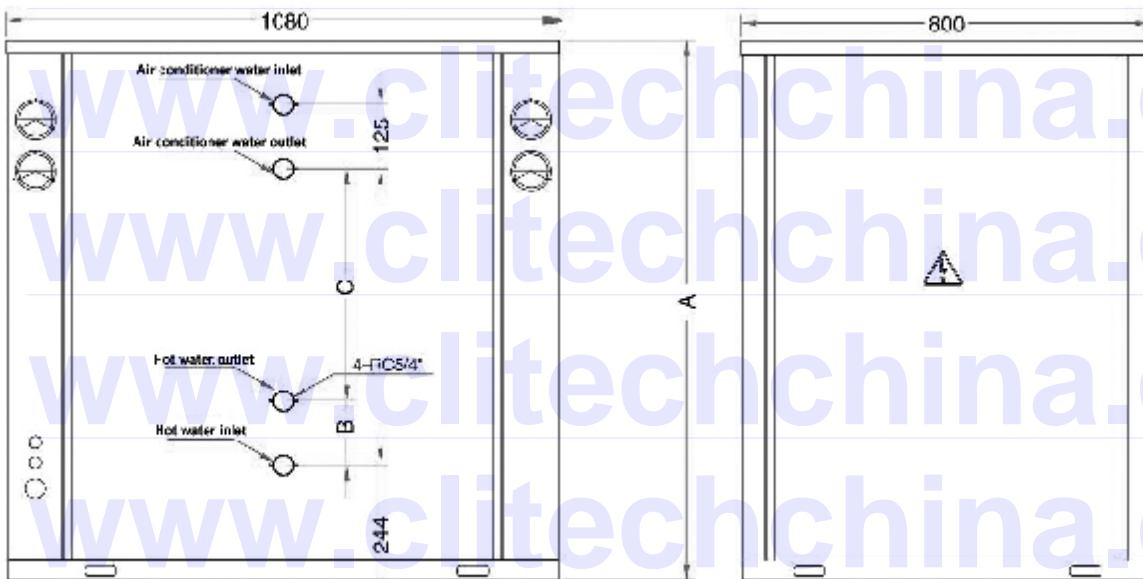
4. Unit dimension



CWW-08/10

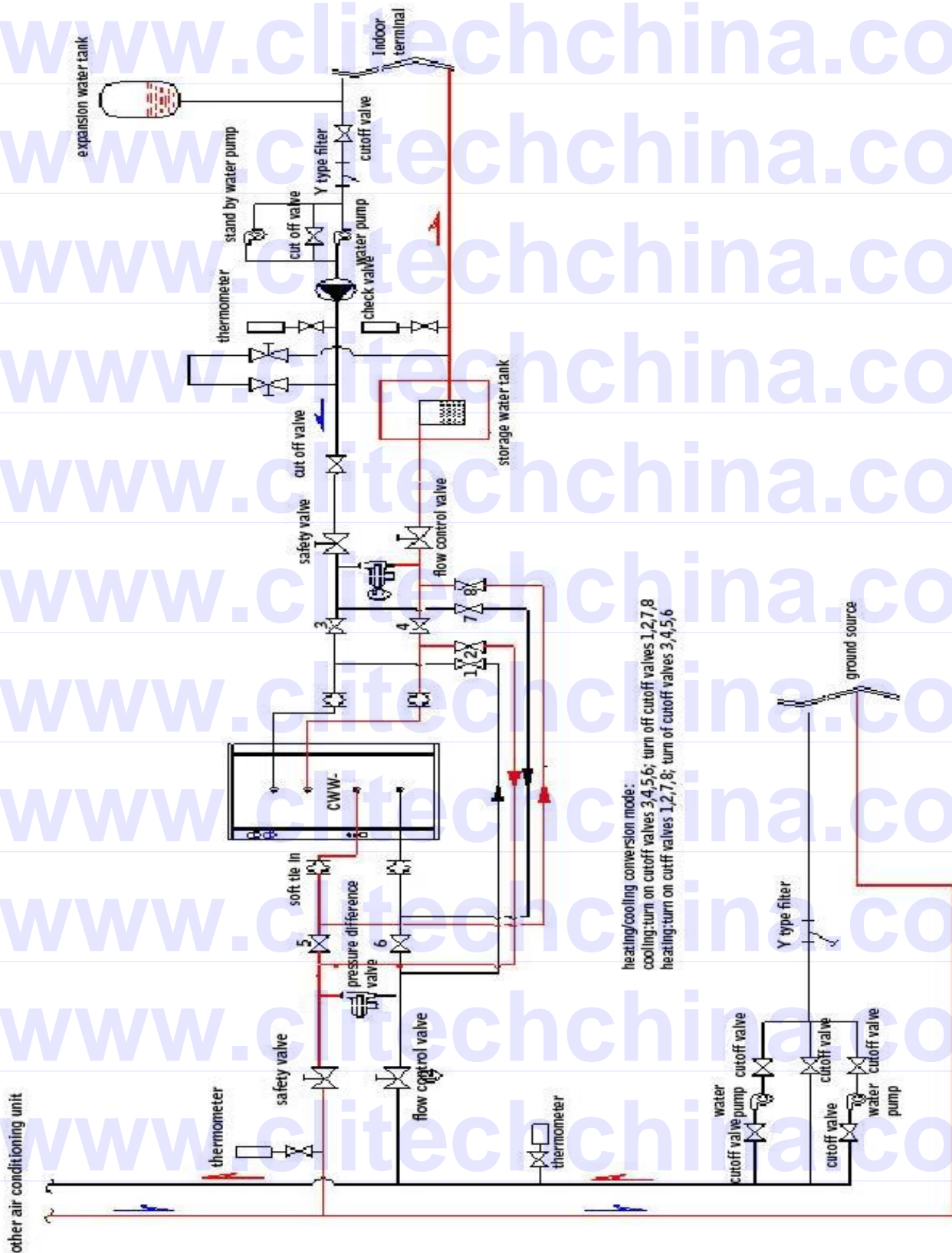


CWW-14/16/20



CWW-28/30/35

5. Water system Installation Chart















NOTES:

1. The unit is provided by the manufacturer, the other fittings are not equipped unless prior agreement with the manufacturer to purchase.
2. Hydraulic circle is recommended while installing Water Source Heat Pump. The installation of hydraulic circle can be finished according to above chart.

6. Appendix for water system spare parts

NOTE: The unit is provided by the manufacturer, the other fittings in this system are not equipped unless prior agreement with the manufacturer to purchase.

	Name	Picture	Function
1	Cutoff valve		To stop water flow
2	Y-type filter		Filter water
3	Flow switch		To check if water pass, it is the same with pressure difference switch
4	Check valve		Prevent water back flow
5	Pump		To circulate the water in pipes
6	Circulating valve		it is the same of cutoff valve
7	Supply valve		supply water for using side
8	Water replenishing valve		supply water for water tank
9	Backwater valve		No need for small units
11	Manometer		To test pressure of water pipes
12	Thermometer		To test water temperature of water pipes
13	Bypass valve		It is convenient for water pump maintenance
14	Flow control valve		To control water flow in pipe