



VERSOPUMP- HEAT PUMP



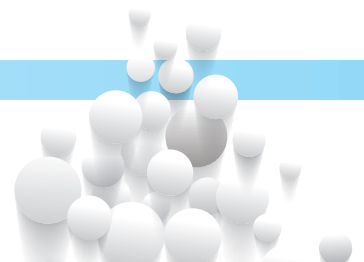
VERSOPUMP- HEAT PUMP

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HEAT PUMPS is a device that provides heat energy from a source of heat to a destination called a "heat sink". Heat pumps are designed to move thermal energy opposite to the direction of spontaneous heat flow by absorbing heat from a cold space and releasing it to a warmer one. VERSOL Heat Pumps "VERSOPUMPS" are designed to suit different applications like Swimming pool heating, Swimming pool cooling, domestic water cooling, boiler back up etc.

VERSOPUMP can be offered in two types.

1. Air/Water Heat Pumps (AS/CH Series)
2. Water/Water Heat Pumps (WS/CH Series)



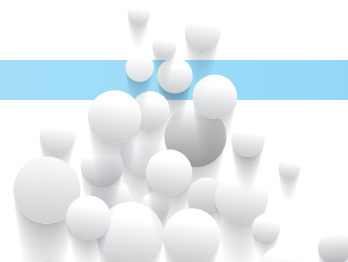
Commercial Air Source Heat Pump

Type: Air source heat pump for heating (AS/CH-14 to AS/CH-90)



Description:

Commercial Air Source Heat Pump for Domestic Water Heating and Floor Heating. Manufactured with Copeland Scroll Compressor and High Efficiency Shell & Tube Heat Exchanger. VERSOPUMP AS/CH-14-90 range heat pump (for DHW and/or house heating) is designed special for domestic hot water and house heating system even at low ambient temperature (-10C)





Compressor

Brand: Copeland
Structure type : Scroll
controlling way: ON/OFF
Series: ZW series
Advantage : Special for heat pump
Worldwide famous brand
Gas: R410A / R 407c refrigerant



Condenser

Tube in shell heat exchanger
a. Thick copper pipe, strong quality
b. Thread surface of copper pipe, large heat exchanging area
c. Big diagram of water flow shell, small water resistance
d. In the center is liquid accumulator of refrigerant



Evaporator

Finned tube heat exchanger
Fin: Hydrophilic Aluminium foil with wing
Tube Copper pipe with inner thread
Advantages: Good anti corrosion
Large heat exchanging area Smart size



Gas liquid separator

Position: Between evaporator and compressor
Function: When refrigerant go through it, only gas can go out, liquid will be left in it, avoid liquid going to compressor



Expansion valve
Brand: Danfoss
Type: Electronic expansion valve



Low pressure switch

Range: 0.15/0.56 MPa
Function: When lower pressure lower than 0.15 Mpa, the switch will give signal to the controller, and the controller will display "low pressure protection" error code



Gas filling valve

Fill and release gas through the small valve



Heat exchanger

1. Double-pipe heat exchanger
2. Copper material tube
3. Large heat exchanging area
4. High efficiency
5. Not easy blocked



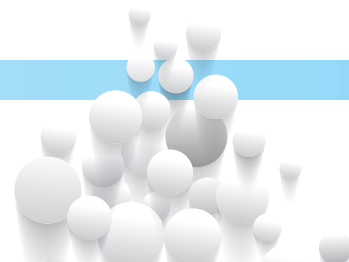
Pressure guage

Range: 0Mpa to 5.5 Mpa
Quantity: 2 pcs for one compressor, one for high pressure, another for low pressure



Heat exchanger

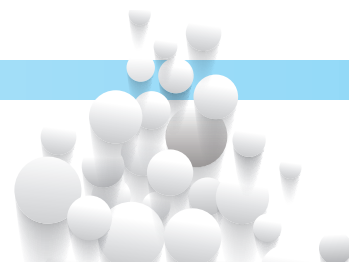
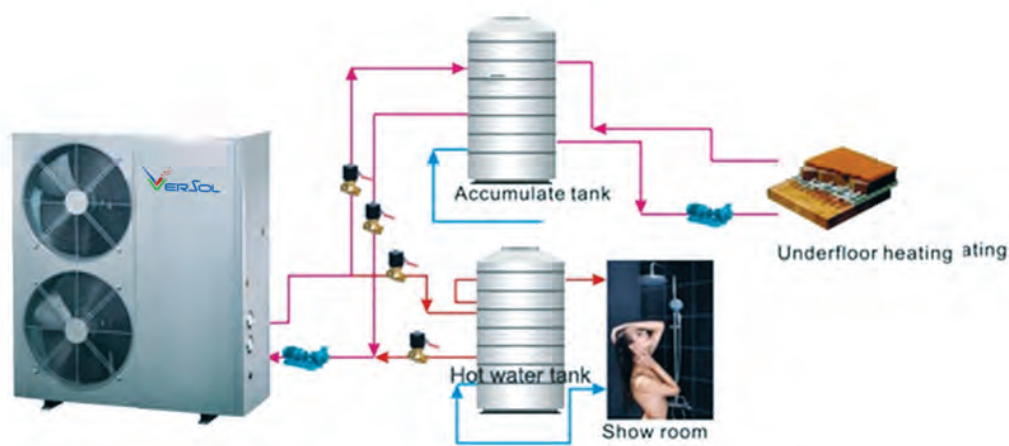
1. Plate heat exchanger
2. SUS 316 stainless steel
3. high heat exchanging rate
4. demand high quality water



Commercial Air Source Heat Pumps

Model		AS/CH-14	AS/CH-18	AS/CH-24	AS/CH-38	AS/CH-45	AS/CH55	AS/CH-75	AS/CH-90
heating capacity	kW	11.2	18	24	36.3	43.7	54.4	69.8a	87.4
COP		4.67	4.62	3.98	4.65	4.62	4.69	4.58	4.64
Rated heated water output	l/h	241	388	420	780	940	1170	1500	1882
Rated outlet water temp	*C								
Max. outlet power	*C								
Input power	kW	2.4	3.9	4.9	7.8	9.45	11.6	15.23	18.85
Input current	A	11.48	7.41	8.5	14.81	17.94	22.03	28.92	35.8
Rated current	A	11.1	7.63	8.8	11.1	7.63	16.11	18.29	28.93
Power supply	V/Hz/Ph	220-240V/50Hz/1Ph			380415V/50Hz/3Ph				
Compressor type		Copeland Scroll							
Number of compressors		1	1	1	2	2	2	4	4
		Condenser							
Evaporator		Hydropilic Aluminium foil and internal thread copper pipe heat exchanger							
Refrigerant		R407C							
Hot water circulation flow	m3/h	1.93	3.1		6.24	7.51	9.35	12	15.03
Hot water circulation pressure drop	kPa	30	60	60	65	65	70	65	70
Noise in 1 meter distance	db	59	62	62	63	63	66	68	68
		Low noise high efficiency axial type							
Fan type	W	70	250	250	250	250	550	750	750
Fan Direction		Vertical							
Fan Rotation Speed	RPM	850	850	850	850	850	910	940	940
Piping Diameter	Inch	R1	R1	R1	R1-1/2	R1-1/2	Rc2	Rc2-1/2	Rc2-1/2
Cabinet		galvanized powder coated steel							

INSTALLATION PROGRAMME



Advanced Air Source Heat Pump



- AS/EVI-12 to AS/EVI-75



**EVI air to
water heat pump
for heating**

EVI heat pump introduction:

With advanced EVI(enhanced vapor injection) technology, EVI heat pump can work stably at extremely low ambient temperature with high COP.

This type heat pump has a 2.5 COP at -15° with 65°C hot water output and can safely work in -25° outside air temperature.

EVI heat pump features:

1. Hot water output temperature up to 65°C.
2. Suitable for cold area, safely working in -25° ambient temperature.
3. COP can be up to 2.5, at -15°.
4. Eco-friendly refrigerant: R407C/R410A
5. Automatic defrosting function included (with reverse cycle valve inside).
6. Anti-corrosion case: durable coating; no-screw design with stainless steel bolts and nuts, no rust.

EVI heat pump Main components:

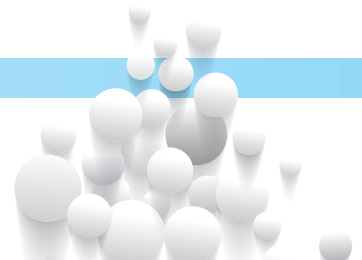
Compressor: Copeland new designed scroll compressor with Gas injection increase enthalpy

Heat exchanger: Stainless steel plate heat exchanger & Coaxial Coil heat exchanger

Evaporator: Hydrophilic high efficiency fin-tube evaporator

Expansion valves: Main thermal expansion valves & Spray thermal expansion valves

Electromagnetic valve: Emerson electromagnetic valve





Saginomiya
4-way valve



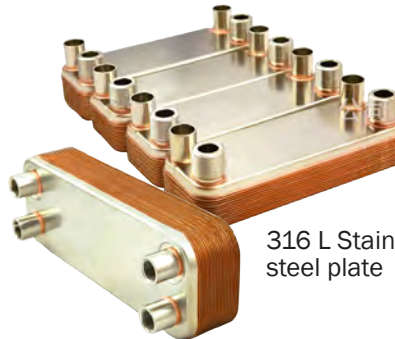
Al-Mg fan motor
Nylon blades



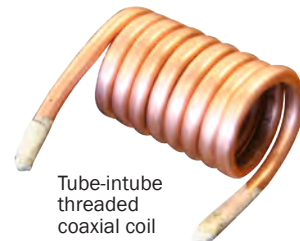
Emerson thermal
expansive valve



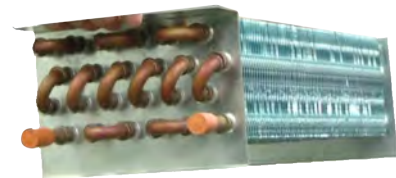
Copeland EVI tech compressor



316 L Stainless
steel plate



Tube-in-tube
threaded
coaxial coil



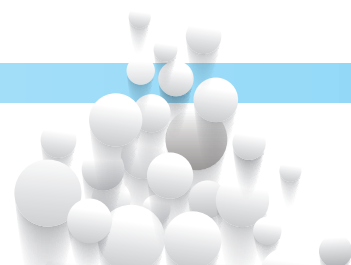
Golden hydrophobic fin-tube evaporator
stronger corrosion protection

INSTALLATION PROGRAMME



EVI low Ambient air source heat pump (Heating mode, monoblock type)

Standard component							
Model		AS/EVI-12	AS/EVI-12D	AS/EVI-20	AS/EVI-40	AS/EVI-70	
Cabinet color			Spray coating				
Refrigerant			R407C				
Power supply		220V~	380V~415V/50 Hz/3ph				
Compressor type			Copeland EVI compressor				
Condenser			High efficiency shell and tube heat exchanger				
Economy unit			Plate heat exchanger				
Evaporator		Blue hydrophilic aluminium foil. wavy fin and copper tube heat exchanger					
Throttle unit			Heat expansion valve				
Controller			Multi-function controller				
Protection function		Temperature protection, time protection, water flow protection, antifreeze protection, current protection					
Low pressure switch			0.05/0.15 MPa				
High pressure switch			3.0/3.2 MPa				
		Specification					
Heating capacity	20℃	kW	10.8	11.8	20.6	40.6	74.4
Input power when heating		kW	2.81	3.1	5.4	10.7	19.6ted current
		A	12.4	5.9	9	17.6	35.2
COP			3.84	3.81	3.81	3.81	3.79 3.80
Hot water capacity		L/H	232	254	443	873	1599
Heating capacity	-10℃	kW	6.3	7	12.6	24.4	43.2
Input power		kW	2.58	2.9	5.1	9.9	17.4
COP			2.44	2.41	2.47	2.46	2.48
Hot water capacity		L/H	135	150	271	524	929
Heating capacity	-20℃	kW	4.9	5.4	10.3	19.6	31
Input power			2.00	2.01	2.04	2.00	2.02
Hot water capacity		L/H	105	116	221	421	666
Rated outlet water temp		℃					
Max. outlet water temp		℃					
Water flow	m³/H	2415	2638	4606	9078	16636	



Swimming Pool Heat Pump-Heating/Cooling

AS/H&C-14 to AS/H&C-90



Our Swimming pool heat pump applies titanium coil exchanger and heat pump technology which can move heat from surrounding to the pool water, we use of R407C refrigerant makes the unit in perfect performance and more eco-friendly.

Description :

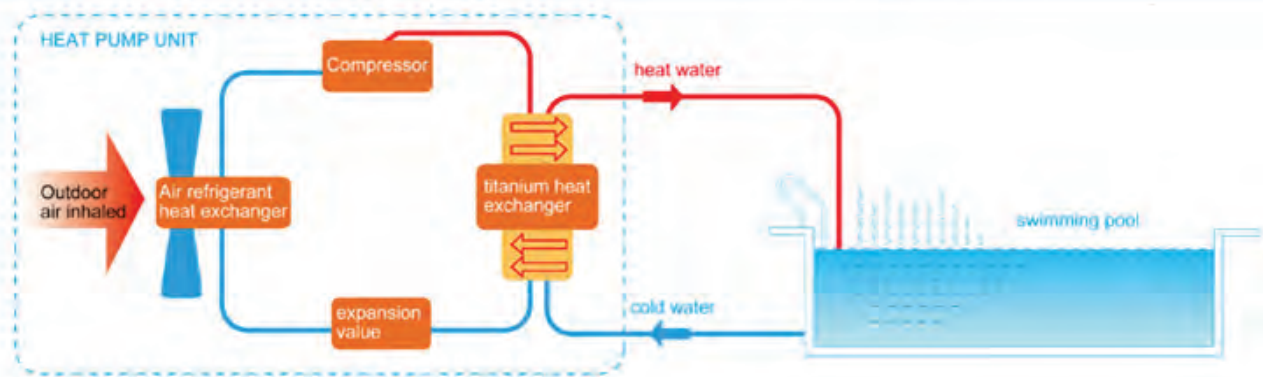
1. Heating for swimming pool, Spa pool, Sauna, etc.
2. Working condition range: -7°C to 43°C
3. Max outlet water temperature: 45°C
4. Anti-corrosion, with titanium tube water heat exchanger
5. Copeland or Sanyo scroll compressor

Features:

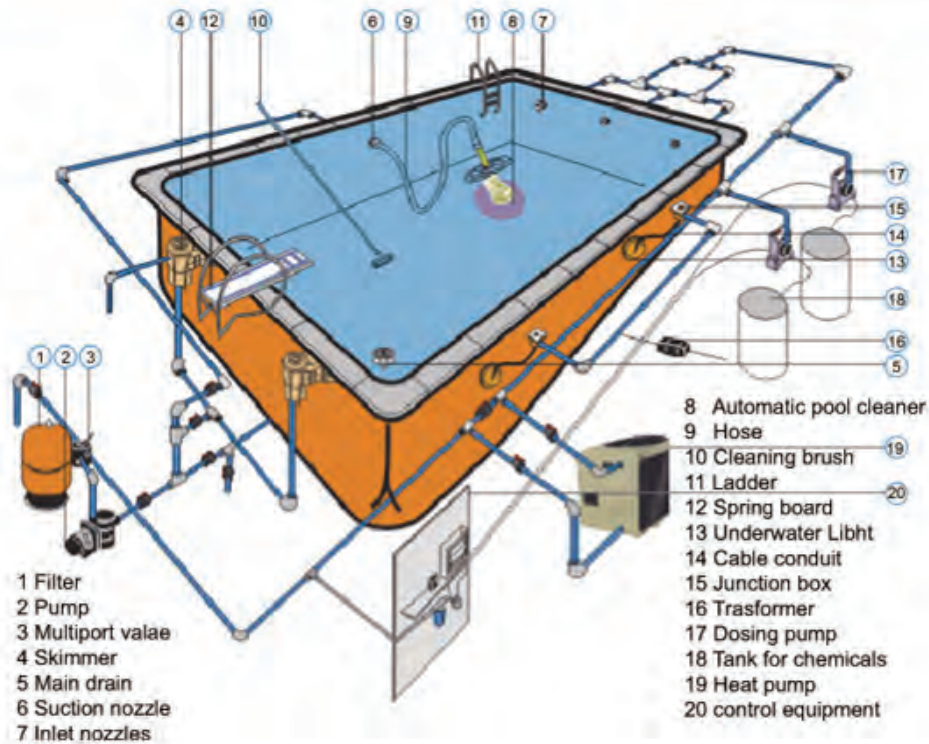
1. Scroll compressor
2. R407c refrigerantS
3. Intelligent defrosting
4. Easy installation & operation
5. Tube in tube titanium/Tube in shell heat exchanger



PRINCIPLE DIAGRAM

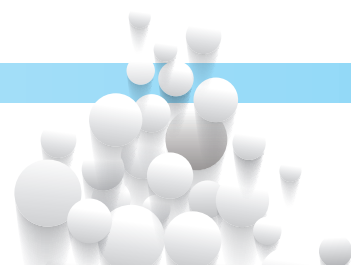


INSTALLATION DIAGRAM



Air to water swimming pool heat pump

		AS/H&C-12	AS/H&C-20	AS/H&C-24	AS/H&C-38	AS/H&C-45	AS/H&C-55	AS/H&C-70	AS/H&C-95
Rated input power	KW	1.63	3.21	3.62	6.18	7.24	8.82	11.3	15.5
heating capacity	KW	10.01	19.8	22.8	38	45.6	53	70.5	94.6
Fixed current	A	8	6	6.5	12	83	17	21.5	26
COP		6.14	61.7	6.30	6.15	6.30	6.01	6.24	61.0
	℃	40	40	40	40	40	40	40	40
Constant water temp	℃	28	28	28	28	28	28	28	28
Water flow	m3h	3	5.8	6.7	11.5	13.5	15.5	21.2	27.2
Water pressure drop	Kpa	≥70	≥70	≥80	≥80	≥80	≥70	≥70	≥70
Power supply	V	220V/50Hz/1ph	380V~415 V/50Hz/3ph						
Evaporator	Hydrophilic Aluminium foil and interal thread pipe heat exchanger								
Compressor	Copeland scroll compressor								
Condenser	Titanium heat exchanger								
Evaporator	Hydrophilic Aluminium foil and internal thread copper pipe heat exchanger								
Thermal expansion valve	DANFOSS 3TDANFOSS 5t		DANFOSS6T	DANFOSS 5T*2	DANFOSS 6T*2	DANFOSS 7.5 T*2	DANFOSS 5 TONEMMERSON 6T*4		
Fan motor	90W*1	90W*2	90W*2	250W*2	250W*2	550W*2	800W*2	1150W*2	
Cabinet	Galvanized sheet/Spray coating/gray color								
Water pressure switch	0.01 Mpa. OFF, 0.03 Mpa ON								
High pressure switch	3.0/3.4 Mpa								
Working mode	heating mode & cooling mode								
Expansion valve	Electric expansion valve								



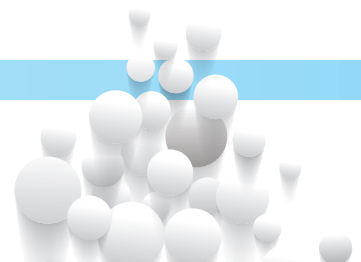


1. Supply hot water and heating house by changing 3-way valve
2. Plate heat exchanger SUS316L stainless steel
3. Emerson thermal expansion valve
4. Copeland scroll compressor
5. Refrigerant: R410A, R407C.

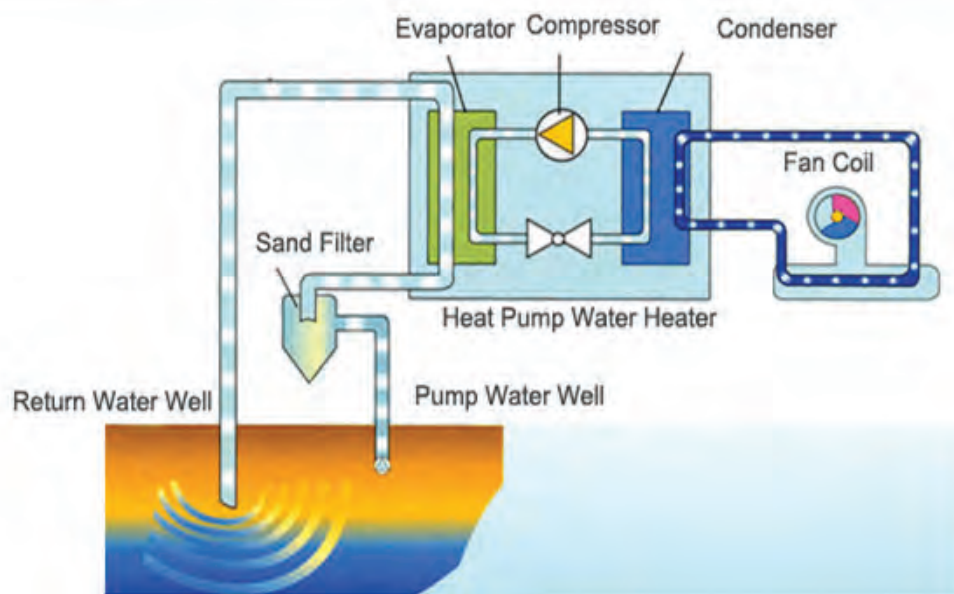
VERSOL geothermal heat pump absorbs heat from underground water and transfers it to warm and heat the water, for domestic hot water and heating.

This unit could be installed indoors, as floating support for compressor to reduce vibration at the most extent and noise insulation inside the cabinet as well as noise jacket for compressor.

The compact design heat pump is built-in Copeland compressor, and Emerson thermal expansion valve to ensure it work smoothly.

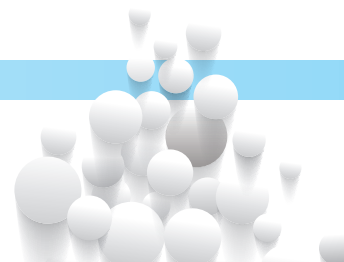


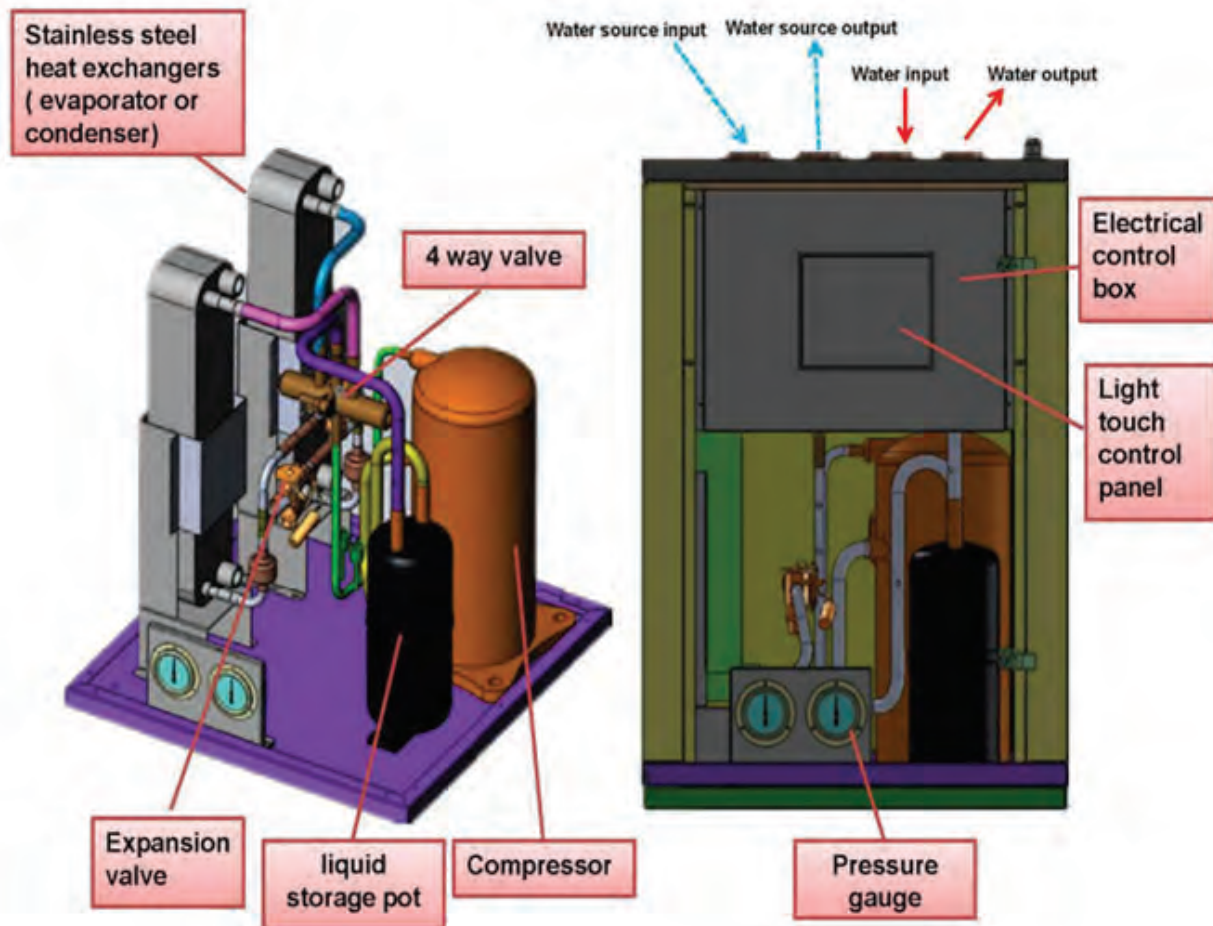
PRINCIPLE DIAGRAM



Features:

1. Copeland scroll compressor
2. High efficiency Plate Heat Exchanger
3. Low noise, stable and long life time
4. R410 A/R407C refrigerant





Compressor

Brand: Copeland
 Structure type : Scroll
 controlling way: ON/OFF
 Series: ZW series
 Advantage : Special for heat pump
 Worldwide famous brand
 Gas: R410A / R 407c refrigerant



Condenser

Tube in shell heat exchanger
 a. Thick copper pipe, strong quality
 b. Thread surface of copper pipe, large heat exchanging area
 c. Big diameter of water flow shell, small water resistance
 d. In the center is liquid accumulator of refrigerant



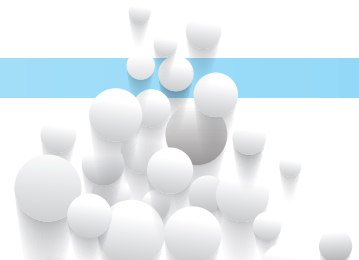
Evaoporator

Finned tube heat exchanger
 Fin: Hydrophilic Aluminium foil with wing
 Tube Copper pipe with inner thread
 Advantages: Good anti corrosion
 Large heat exchanging area Smart size



Gas liquid separator

Position: Between evaporator and compressor
 Function: When refrigerant go through it, only gas can go out, liquid will be left in it, avoid liquid going to compressor





Expansion valve
Brand: Danfoss
Type: Electronic expansion valve



Low pressure switch

Range: 0.15/0.56 MPa
Function: When lower pressure lower than 0.15 Mpa, the switch will give signal to the controller, and the controller will display "low pressure protection" error code



Gas filling valve

Fill and release gas through the small valve



Heat exchanger

1. Double-pipe heat exchanger
2. Copper material tube
3. Large heat exchanging area
4. High efficiency
5. Not easy blocked



Pressure guage

Range: 0Mpa to 5.5 Mpa
Quantity: 2 pcs for one compressor, one for high pressure, another for low pressure

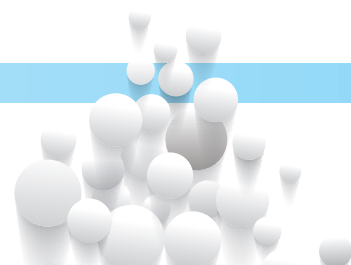


Heat exchanger

1. Plate heat exchanger
2. SUS 316 stainless steel
3. high heat exchanging rate
4. demand high quality water

Geothermal source heat pump for heating

		WS/CH-27	WS/CH-46	WS/CH-52	WS/CH-92	WS/CH-105	WS/CH-150	WS/CH-180	WS/CH-27
COP		4.86	4.83	4.82	4.85	4.83	4.84	4.81	4.80
Rated current	A	13	8.8	11.1	17.6	20.7	25.9	36.1	41.4
Max. outlet water temp	°C	60	60	60	60	60	60	60	60
Rated outlet water temp	°C	55	55	55	55	55	55	55	55
Hot water capacity	L/H	217	439	520	884	1049	1165	1531	2043
Water flow of load side	L/h	2100	3200	3800	4800	6200	7300	12400	19800
Water pressure drop	Kpa	≥70	≥70	≥70	≥80	≥80	≥80	≥80	≥80
Pipe size	mm	25	25	25	32	32	32	50	65
Noise	db	50	50	50	50	55	55	55	55
Electric shock proof grade		I	I	I	I	I	I	I	I
Cabinet		Galvanized sheet/Spray coating/gray color							
Dimension	mm	760*520*1000	710*520*1000	710*520*1000	1280*830*800	1280*830*800	1400*1000*900	1750*1000*900	1400*1000*900
Packing dimension	mm	760*570*1130	760*570*1130	760*570*1130	1330*880*930	1330*880*930	1450*1050*1030	1800*1050*1030	2050*1050*1030
Refrigerant		R407C/2.4kg	R407C/3.3kg	R407C/3.6kg	R407C/3.3kg	R407C/3.6kg	R407C/5kg*2	R407C/3.3kg*4	R407C/3.6kg*4
Power supply		220V/50Hz/1ph							
noise	db	50	50	50	50	55	55	55	55
Source side HE		plate heat exchanger							
Package		plywood case							
Working mode		heating + hot water							





"Water Heating & Cooling Solutions"

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Heat Pumps

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Heat Exchangers

Hot Water Boilers

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Steam Boilers



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