Residential
Air Cooled Water Chiller & Heat Pump

Engineered for
the Hash Weather conditions in the Gulf

An Ideal Solution to
Sanitary Chilled Water and Hot Water

BLUEWAY

Enjoy Comfortable life!

INDEX

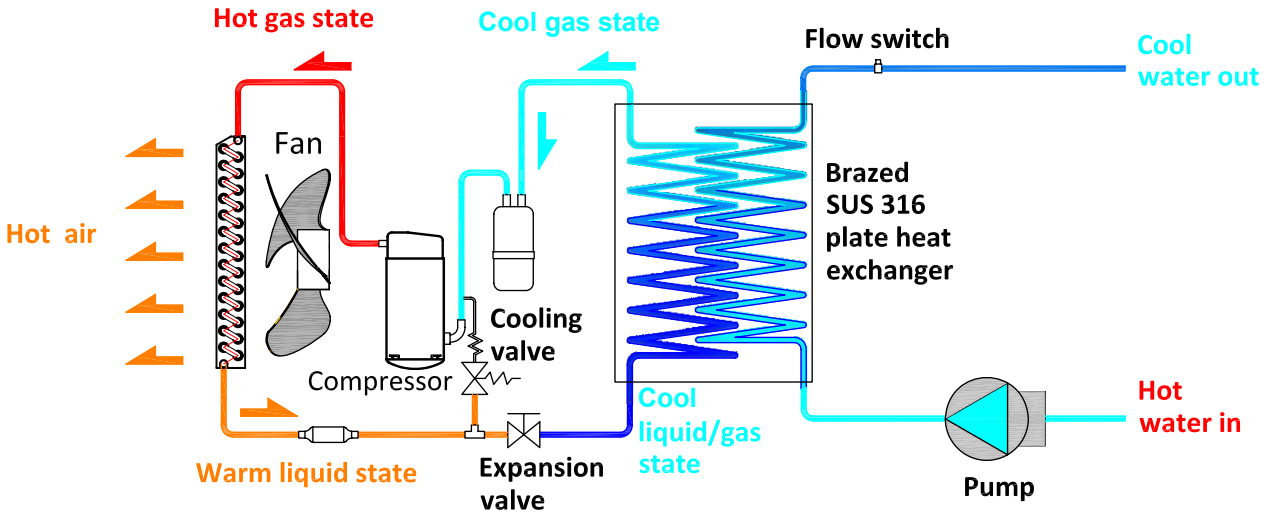
GENERAL INFORMATION

Blueway **Residential Air Cooled Water Chiller & Heat Pump** is specially designed for the need of sanitary chilled water and hot water in tropical regions of the gulf areas, where the ambient temperature in summer can even go up to as much as 54°C, causing the rooftop tank water reach unbearable temperatures. The unit works as a chiller in summer and a heat pump in other seasons, offering the maximum comfort the whole year through. They chill or heat the roof top tank water to a comfortable temperature ideal for use in bathroom and kitchen, such as shower, bath, washing, laundry, cooking, drinking and cleaning etc. It uses a CFC free, eco-friendly R417A refrigerant which is highly efficient and has no depletion to ozone layer.

The system consists of a refrigerant circuit and a water circuit. The refrigerant circuit is composed of a compressor, a condenser coil, a brazed SUS 316 plate heat exchanger and an expansion valve. The water circuit is composed of a built-in pump,an external buffer tank and the same plate heat exchanger.

The refrigerant absorbs heat from the water passing by the plate heat exchanger, by which the water temperature is reduced. The whole system is controlled by an intelligent digital controller with a friendly user interface.

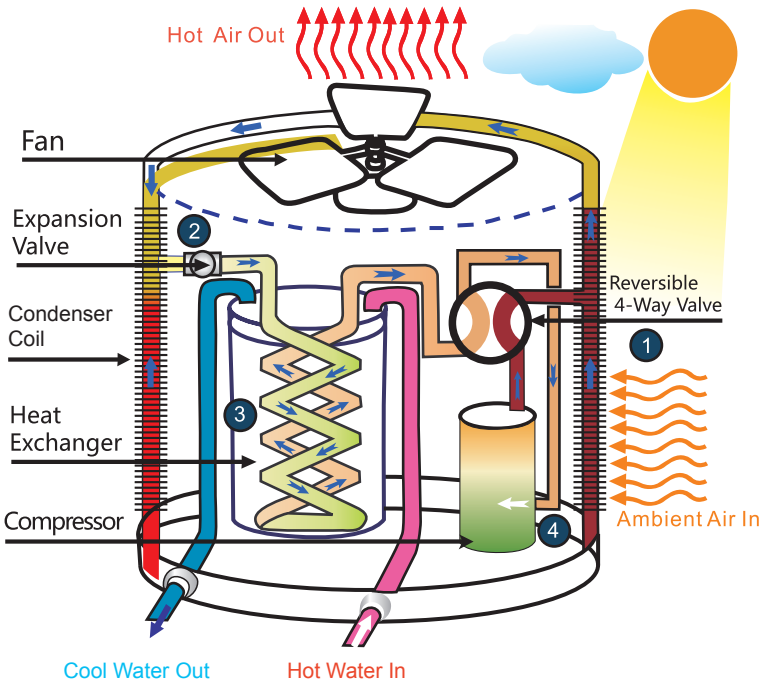
It uses world top brand rotary and scroll compressors, which is of high efficiency and quiet operation and is tropical for high ambient conditions.



WORKING PRICIPLE OF BLUEWAY CHILLER SYSTEM

How does Blueway Water Chiller & Heat Pump System work?

AS A CHILLER



1 STAGE ONE
The temperature of the hot gaseous refrigerant discharged from the compressor is much higher than the outside ambient air temperature. When the outside air passes across the condenser coil, the gaseous refrigerant transfers its heat to the air and condenses into liquid.

2 STAGE TWO
The liquid refrigerant passes through the expansion valve, reducing its pressure and temperature.

3 STAGE THREE
The low temperature refrigerant passes to the heat exchanger evaporator, where the actual heat transfer takes place: the refrigerant absorbs heat from the water pumped into the heat exchanger and evaporates, whereby the water temperature is reduced.

4 STAGE FOUR
The gas refrigerant is then sucked to the compressor and compressed, increasing its pressure and temperature, ready to start the whole cycle once again.

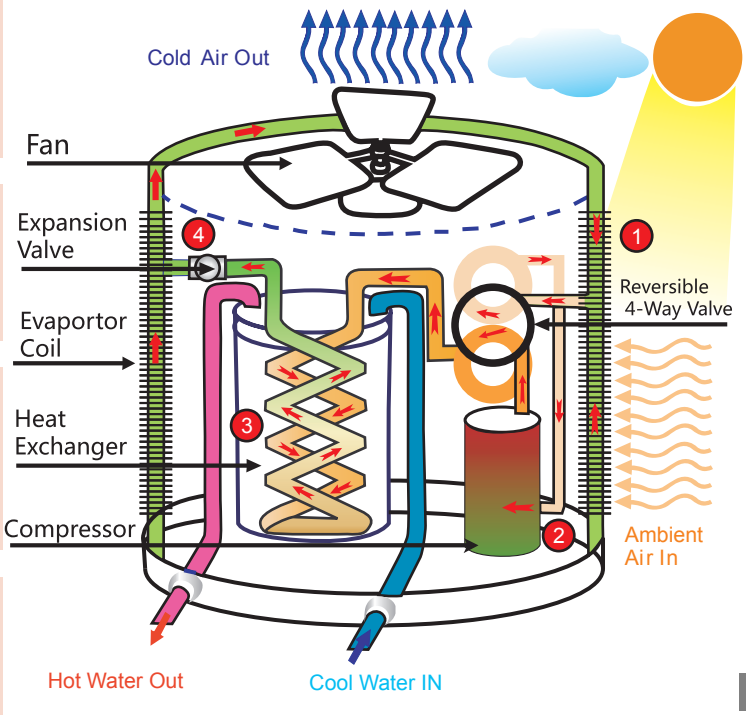
AS A HEAT PUMP

1 STAGE ONE
The heat transfer medium (the refrigerant) is colder than the outside air. As the outside air passes across the evaporator coil, the liquid refrigerant absorbs heat from the air and evaporates.

2 STAGE TWO
The gaseous refrigerant then passes to the compressor and is compressed. When compressed, the pressure is increased and the temperature of the vapor rises, effectively concentrating the heat.

3 STAGE THREE
The hot gaseous refrigerant passes to the heat exchanger condenser, where the actual heat transfer takes place: the intensely hot gaseous refrigerant transfers its heat to the water pumped into the heat exchanger and condenses back into a liquid.

4 STAGE FOUR
The liquid refrigerant then passes through an expansion valve, reducing its pressure and temperature, ready to start the whole cycle once again.



KEY COMPONENTS

Brazed Plate Heat Exchanger

Blueway Water Chiller & Heat Pump System incorporates plate type heat exchangers that are far superior to conventional systems using copper coils, thus giving the following advantages:

- Safe and hygienic water
- High corrosion resistance due to use of SUS 316
- High pressure up to 45 bar
- High thermal efficiency
- High working temperature
- Low maintenance

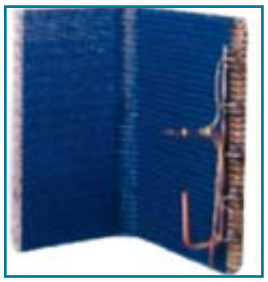
High Efficiency Compressor

Blueway Water Chiller & Heat Pump System units use high efficiency tropical Scroll or Rotary Compressors which have the following advantages:

- High efficiency and energy saving
- Tropical for high ambient conditions
- Quiet operation due to less moving parts

Condenser Coils

Condenser coil used in the system is of fin and tube type. The condensers are properly designed for the ambient conditions through special design softwares. The fins in the condenser are hydrophilic coated (corrosive resistance) aluminum.



The tubes are of copper. The fins used in the condenser are of corrugated fins, which increase the air heat transfer. The copper tubes are of inner-grooved type, which increases the heat transfer in the refrigerant side.

Intelligent Control

The units are supplied with micro processor based digital controller with LCD display. The control panel is completely factory wired with all accessories and terminals included.

FEATURES & HIGHLIGHTS

Features

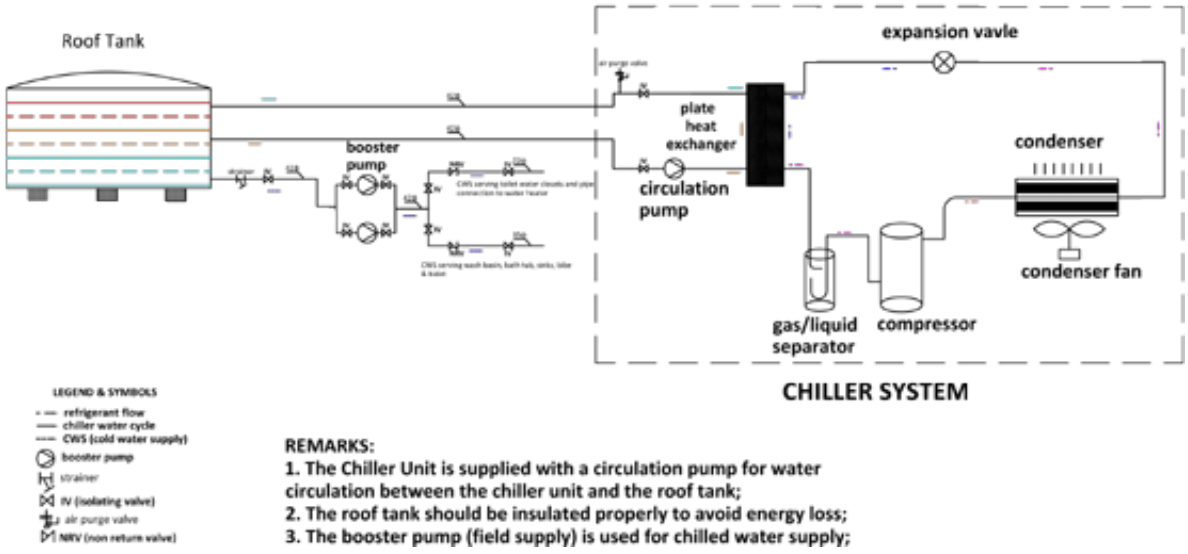
- Tropical design for a maximum working ambient temperature of 54°C;
- High efficiency rotary or scroll compressor, tropical for high ambient conditions;
- Eco friendly CFC free R417A refrigerant , without ozone depletion;
- Electric expansion valve or thermal expansion valve, for reliability and high precision expansion
- Micro processor based digital controller with LCD user interface;
- Adjustable water temperature setting: 8-30°C for chilled water; 31-55°C for hot water;
- Brazed SUS 316 plate heat exchanger for high efficiency and super corrosion resistance
- Guaranteed water safety, no potential risk of contamination to potable water;
- Full safety protection incorporated to the system:
  - high pressure and low pressure protection
  - compressor overload and high discharge temperature protection
  - phase failure protection
  - water flow protection
  - anti-freezing protection
- Heavy gauge galvanized steel cabinet with epoxy powder painting, for long lasting outdoor life span
- Coated aluminum fins, corrosion resistant
- Built in circulation pump

Highlights

- Wide Capacity Range: 1.5, 2, 2.5, 3, 4, 5,10 TR
- Available for water tanks of 200-1000 gallons
- Compatible with all types of existing tanks
- Be installed in the garden or roof
- Easy Installation: be easily installed by a plumber or electrician to an existing tank
- Easy Operation: operates like a simple domestic appliance
- Energy Saving : saves 2/3 running cost than conventional electric heaters

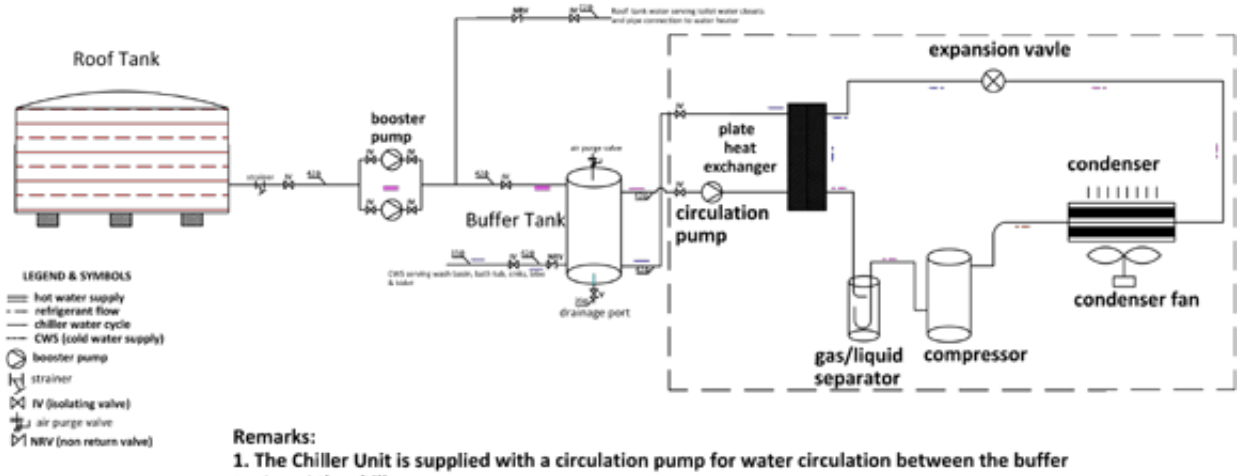
APPLICATION DIAGRAMS

Installation without Buffer Tank (directly to cool the roof tank)



REMARKS:
1. The Chiller Unit is supplied with a circulation pump for water circulation between the chiller unit and the roof tank;
2. The roof tank should be insulated properly to avoid energy loss;
3. The booster pump (field supply) is used for chilled water supply;

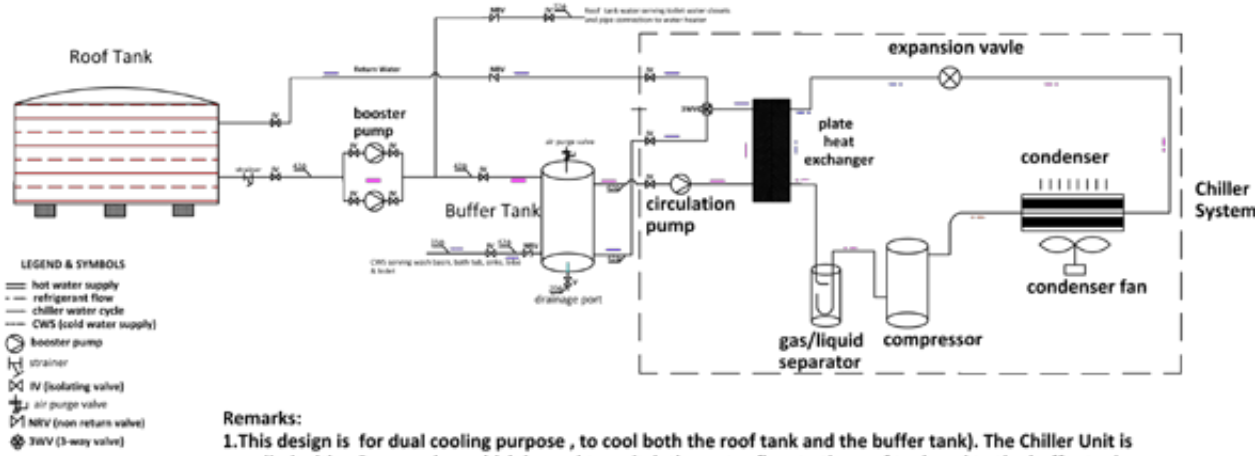
Installation with Buffer Tank (to cool only the buffer tank)



Remarks:
1. The Chiller Unit is supplied with a circulation pump for water circulation between the buffer tank and the chiller;
2. The booster pump (field supply) shall be used for supplying chilled water;
3. When the tap is open, the booster pump will be started and the roof tank will automatically feed water to the buffer tank;
4. The buffer tank is pressurized and with 50mm thick insulation . Its inner tank is made of SUS304 (food grade), and the external cabinet is made of galvanized steel with powder coating to resist the harsh weather conditions.

APPLICATION DIAGRAMS

Dual Cooling System (to cool both the roof tank & the buffer tank)



Remarks:

1.This design is for dual cooling purpose , to cool both the roof tank and the buffer tank). The Chiller Unit is supplied with a 3-way valve, which is used to switch the water flow to the roof tank and to the buffer tank;
2. Priority is given to cool the buffer tank first. When the buffer tank water temperature is satisfied, the chiller will start to cool the roof tank (the 3-way valve change the water flow automatically).
3. The Chiller Unit is supplied with a circulation pump for water circulation between the buffer tank (or roof tank) and the chiller;
4. The booster pump (field supply) shall be used for supplying chilled water;
5. When the tap is open, the booster pump will be open and the roof tank will automatically feed water to the buffer tank;
6. When the Chiller is cooling the roof tank, both the circulation pump and booster pump are on open state for water circulation between the chiller and roof tank;




Technical Specifications

Domestic Water Chiller & Heat Pump 50Hz

Model			DWCH-18	DWCH-24	DWCH-24V	DWCH-30V	DWCH-36V	DWCH-48V	DWCH-60V
Power Supply	-	V/Hz/Ph	220-240/50/1				380-415/50/3		
Cooling (1): A35/24°C W45/25°C	Cooling capacity	BTU/Hr	18020	23900	24050	30100	36050	48020	60000
	Power consumption	Watts	1821	2502	2554	3139	3787	5118	6280
	EER	-	2.9	2.8	2.76	2.81	2.79	2.75	2.8
	Chilled water production △T=20°C	Gallon/hour	60	79	80	100	120	159	199
Cooling (2): A46/24°C W45/25°C	Cooling capacity	BTU/Hr	15317	20315	20442.5	25585	30642.5	40817	51000
	Power consumption	Watts	2149	2952	3014	3705	4469	6039	7474
	EER	-	2.09	2.02	1.99	2.02	2.01	1.98	2.00
	Chilled water production △T=20°C	Gallon/hour	51	67	68	85	102	135	169
Heating A20/15°C W15/55°C	Heating capacity	BTU/Hr	21624	28680	28860	36120	43260	57624	72000
	Power consumption	Watts	1474	2050	2014	2647	3092	4222	5147
	COP	-	4.3	4.1	4.2	4.0	4.1	4.0	4.1
	Hot water production △T=40°C	Gallon/hour	36	48	48	60	72	96	119
Suggested tank connection (capacity range)		Gallon	100-200	150-300	150-300	200-350	250-400	300-600	350-700
Noise level	-	dB(A)	52	52	52	55	55	58	58
Controller	-	-	Micro processor based digital wire controller with LCD display						
Compressor	Type		Rotary			Scroll			
	Qty	Nos.	1						
	Refrigerant	-	R417A						
Heat exchanger (water side)	Type	-	Plate						
	Qty	Nos.	1						
	Construction Material	-	SUS 316						
Condenser fan	Type	-	Axial						
	Airflow	CFM	1471	2059	2059	3235	3235	3529	3529
	Dia x Qty	Inch x Nos.	17.7*1	17.7*1	17.7*1	24*1	24*1	24*1	24*1
Condenser motor	Output Power	Watts	130	130	130	130	130	165	165
	RPM	-	850	850	900	900	900	850	850
	Qty	Nos.	1	1	1	1	1	1	1
Condenser coil	Type		Finned tube exchanger						
	Tube dia	mm	Φ9.52						
	Row	-	2	2	2	2	2	1	2
	FPI	-	16	16	16	16	16	18	16
	Total face area	m2	14.7	28.7	28.7	35.3	35.3	47.5	74
Circulation water pump	Type	-	Centrifugal						
	Minimum flow rate	GPM(US)	2.4	3.2	3.2	4.0	4.8	6.4	8.0
	Minimum pressure head	meter	3	3	3	4.8	4.8	3	3
	Maximum flow rate	GPM(US)	9.2	9.2	9.2	22	22	27.5	27.5
	Maximum pressure head	meter	6	6	6	7.8	7.8	6	6
	Insulation Class	IP	IP42	IP42	IP42	IP42	IP42	IP44	IP44
Water Connection	Inlet	Inch	G3/4"	G3/4"	G3/4"	G1"	G1"	G1-1/2"	G1-1/2"
	Outlet	Inch	G3/4"	G3/4"	G3/4"	G1"	G1"	G1-1/2"	G1-1/2"
Dimmension: W×H×D	Net	mm	1010*307*614	1117*427*614	554*554*663	740*740*633	740*740*633	740*740*835	740*740*835
	Shipping	mm	1070*380*665	1165*480*730	575*575*660	760*760*660	760*760*660	760*760*865	760*760*865
Weight	Net	Kg	60	80	58	77	80	97	100
	Shipping	Kg	70	90	62	80	83	100	103
Stack	-	Layer(s)	4	3	3	3	3	2	2
Loading Qty	20'/40'/40'HQ	Set(s)	90/198/264	72/150/150	118/180/318	72/135/180	72/135/180	42/90/134	42/90/134

Notes:

1. Conditions of "Cooling (1)": Ambient air temperature DB/WB: 35°C/24°C, Inlet/Outlet water temperature:W45/25°C ;
2. Conditions of "Cooling (2)": Ambient air temperature DB/WB: 46°C/24°C, Inlet/Outlet water temperature:W45/25°C ;
3. Conditions of "Heating": Ambient air temperature DB/WB: 20°C/15°C, Inlet/Outlet water temperature:W15/55°C ;

Blueway reserves the rights to modify the above specifications without notice.Please contact us for updated inforamtion.

Domestic Water Chiller & Heat Pump 60Hz

Technical Specifications

Model			DWCH-18a	DWCH-24a	DWCH-24Va	DWCH-30Va	DWCH-36Va	DWCH-48Va	DWCH-60Va
Power Supply	-	V/Hz/Ph	208-230/60/1						
Cooling (1): A35/24°C W45/25°C	Cooling capacity	BTU/Hr	18050	24060	24100	30060	36100	48020	60000
	Power consumption	Watts	1812	2457	2541	3158	3806	5099	6258
	EER	-	2.92	2.87	2.78	2.79	2.78	2.76	2.81
	Chilled water production △T=20°C	Gallon/hour	60	80	80	100	120	159	199
Cooling (2): A46/24°C W45/25°C	Cooling capacity	BTU/Hr	15343	20451	20485	25551	30685	40817	51000
	Power consumption	Watts	2138	2899	2998	3726	4491	6017	7447
	EER	-	2.10	2.07	2.00	2.01	2.00	1.99	2.01
	Chilled water production △T=20°C	Gallon/hour	51	68	68	85	102	135	169
Heating A20/15°C W15/55°C	Heating capacity	BTU/Hr	21660	28872	28920	36072	43320	57624	72000
	Power consumption		1476	2015	2018	2579	3023	4119	5275
	COP	-	4.3	4.2	4.2	4.1	4.2	4.1	4.0
	Hot water production △T=40°C	Gallon/hour	36	48	48	60	72	96	119
Suggested Tank connection (capacity range)		Gallon	100-200	150-300	150-300	200-350	250-400	300-600	350-700
Noise level	-	dB(A)	52	52	52	55	55	58	58
Controller	-	-	Micro processor based digital wire controller with LCD display						
Compressor	Type		Rotary			Scroll			
	Qty	Nos.	1						
	Refrigerant	-	R417A						
Heat exchanger (water side)	Type	-	Plate						
	Qty	Nos.	1						
	Construction Material	-	SUS 316						
Condenser fan	Type	-	Axial						
	Airflow	CFM	1471	2059	2059	3235	3235	3529	3529
	Dia x Qty	Inch x Nos.	17.7*1	17.7*1	17.7*1	24*1	24*1	24*1	24*1
Condenser motor	Output Power	Watts	130	130	130	130	130	165	165
	RPM	-	850	850	900	900	900	850	850
	Qty	Nos.	1						
Condenser coil	Type		Finned tube exchanger						
	Tube dia	mm	Φ9.52						
	Row	-	2	2	2	2	2	1	2
	FPI	-	16	16	16	16	16	18	16
	Total face area	m2	14.7	28.7	28.7	35.3	35.3	47.5	74
Circulation water pump	Type	-	Centrifugal						
	Minimum flow rate	GPM(US)	2.4	3.2	3.2	4.0	4.8	6.4	8.0
	Minimum pressure head	meter	3	3	3	4.8	4.8	3	3
	Maximum flow rate	GPM(US)	9.2	9.2	9.2	22	22	27.5	27.5
	Maximum pressure head	meter	6	6	6	7.8	7.8	6	6
	Insulation Class	IP	IP42	IP42	IP42	IP42	IP42	IP44	IP44
Water Connection	Inlet	Inch	G3/4"	G3/4"	G3/4"	G1"	G1"	G1-1/2"	G1-1/2"
	Outlet	Inch	G3/4"	G3/4"	G3/4"	G1"	G1"	G1-1/2"	G1-1/2"
Dimmension: W×H×D	Net	mm	1010*307*614	1117*427*614	554*554*663	740*740*633	740*740*633	740*740*835	740*740*835
	Shipping	mm	1070*380*665	1165*480*730	575*575*660	760*760*660	760*760*660	760*760*865	760*760*865
Weight	Net	Kg	60	80	58	77	80	97	100
	Shipping	Kg	70	90	62	80	83	100	103
Stack	-	Layer(s)	4	3	3	3	3	2	2
Loading Qty	20'/40'/40'HQ	Set(s)	90/198/264	72/150/150	118/180/318	72/135/180	72/135/180	42/90/134	42/90/134

Notes:

1. Conditions of "Cooling (1)": Ambient air temperature DB/WB: 35°C/24°C, Inlet/Outlet water temperature:W45/25°C ;
2. Conditions of "Cooling (2)": Ambient air temperature DB/WB: 46°C/24°C, Inlet/Outlet water temperature:W45/25°C ;
3. Conditions of "Heating": Ambient air temperature DB/WB: 20°C/15°C, Inlet/Outlet water temperature:W15/55°C ;

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Technical Specifications

Blueway Air Cooled Water Chiller

Model				BAWC-10	BAWC-12
Cooling performance data	Nominal cooling capacity		Ton/hour	10	12
	Power Supply		V/Hz/Ph	380-415/50/3	208-230/60/3
	Cooling (1): A35/24°C W45/25°C	Cooling capacity	BTU/hour	120855	145026
			W/hour	35450	42505
		Power consumption	Watts	13033	15289
		EER	W/W	2.72	2.78
		Chilled water production	Gallon/hour	401	481
	Cooling (2): A46/24°C W45/25°C	Cooling capacity	BTU/Hr	102727	123272
			W/hour	30133	36129
		Power consumption	Watts	15379	18042
		EER	W/W	1.96	2.00
		Chilled water production	Gallon/hour	341	409
	Controller	-	-	Micro processor based digital controller with LCD display	
Key components	Compressor	Type	-	Scroll	Scroll
		Make		DANFOSS	DANFOSS
		Qty	Nos.	1	1
		Refrigerant	-	R417A	R417A
	Heat exchanger (water side)	Type	-	Brazed plate heat exchanger	Brazed plate heat exchanger
		Qty	Nos.	1	1
		Construction Material	-	SUS316	SUS316
		Max. working pressure	Bar	45	45
	Condenser fan	Fan direction	-	Vertical	Vertical
		Airflow	CFM	10588	10588
		Dia x Qty	mm x Nos.	600*2	600*2
		Material	-	Metal	Metal
	Condenser motor	Output Power	Watts	650 *2	650 *2
		RPM	-	1300	1300
		Qty	Nos.	1	1
	Condenser coil	Type		Fin-tube	Fin-tube
		Tube dia	mm	9.52	9.52
		Row	-	2	2
		FPI	-	12.7	12.7
		Total face area	m2	110.4	110.4
	Water pump	Pressure head	Bar	6	6
		Max. water flow rate		10.26	10.26
		Power	Watts	300	300
	Water pressure drop		Bar	0.5	0.5
	Noise level	-	dB(A)	65	65
	Water Connection	Inlet	Inch	1+1/2	1+1/2
		Outlet	Inch	1+1/2	1+1/2
	Dimmension: W×H×D	Net	mm	1430*730*1190	1430*730*1190
		Shipping	mm	1480*780*1240	1480*780*1240
	Weight	Net	Kg	380	380
		Shipping	Kg	410	410
	Loading Qty	20'/40'/40'HQ	Set(s)	9/24/48	9/24/48

Notes:

1. Conditions of "Cooling (1)": Ambient air temperature DB/WB: 35°C/24°C, Inlet/Outlet water temperature:W45/25°C ;
2. Conditions of "Cooling (2)": Ambient air temperature DB/WB: 46°C/24°C, Inlet/Outlet water temperature:W45/25°C ;

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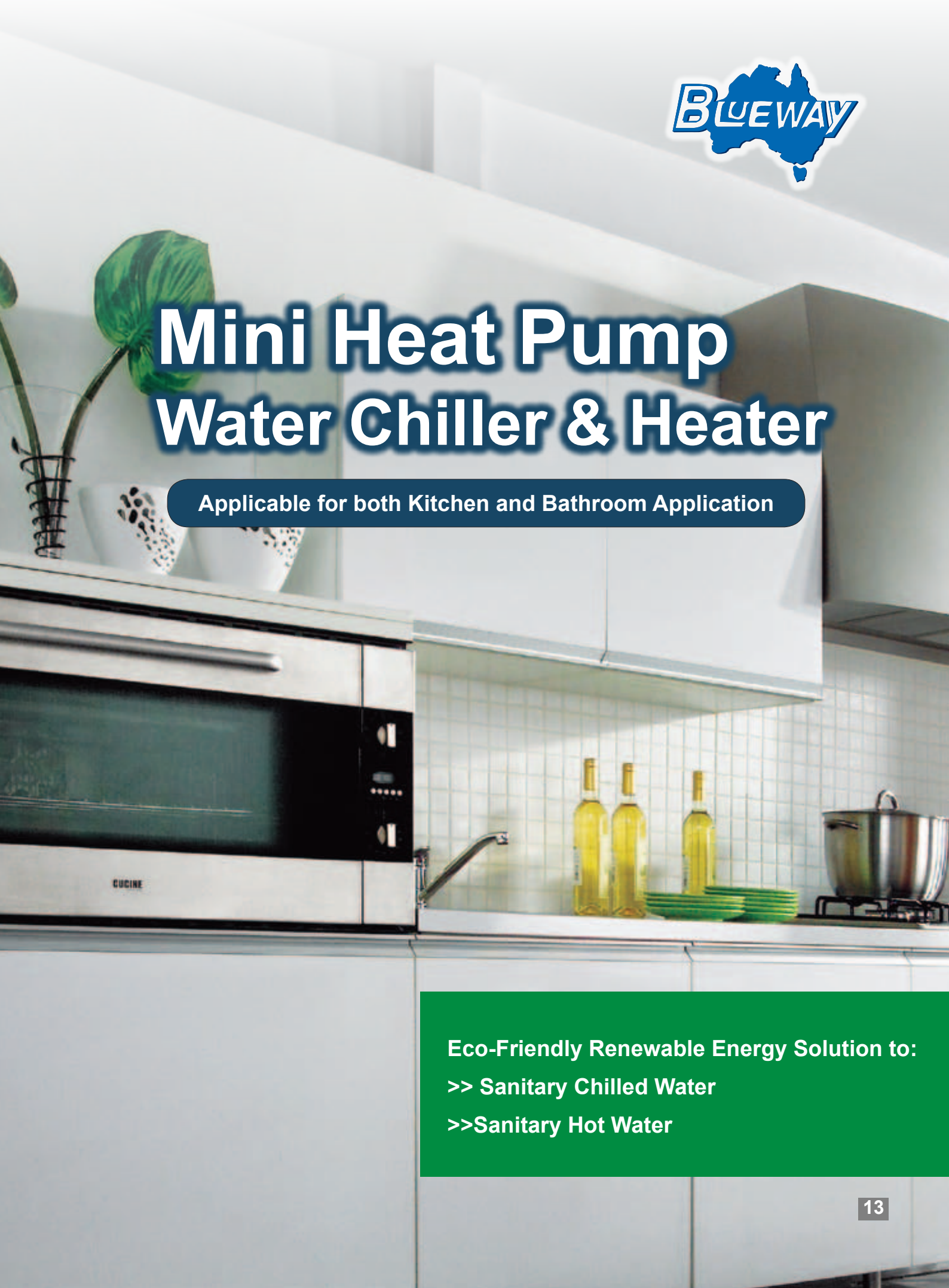


Mini Heat Pump
Water Chiller & Heater

Applicable for both Kitchen and Bathroom Application

Eco-Friendly Renewable Energy Solution to:

>> Sanitary Chilled Water

>>Sanitary Hot Water

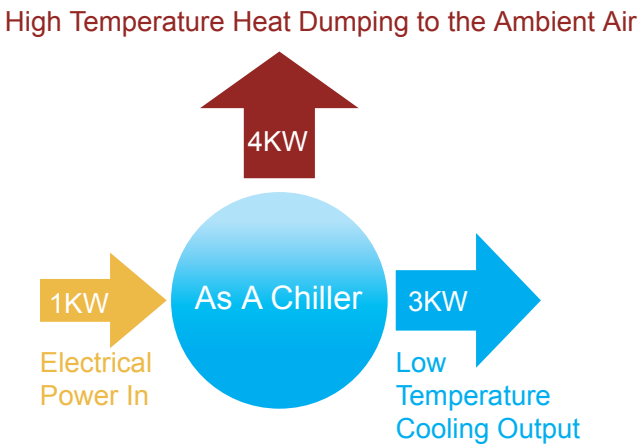
ENERGY FROM THE NATURE

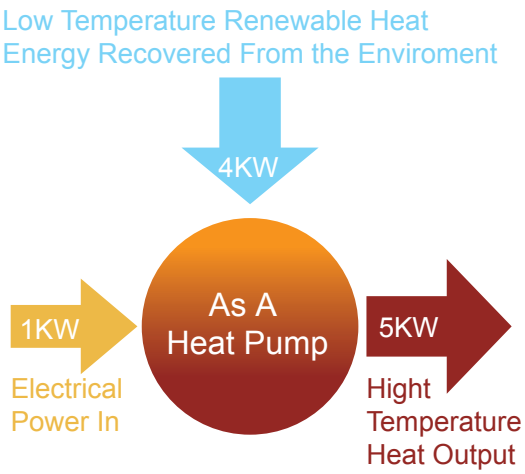
Blueway **Mini Heat Pump Water Chiller & Heater** (MHP) is specially designed for the need of sanitary chilled or hot water, applicable for kitchen and bathroom application. It uses CFC free refrigerant to absorb energy from the air, cooling and (or) heating the water to a temperature adjustable between 8°C to 60°C.

As a heater, the unit takes energy from outside air and converts it to heat for hot water production; while as a chiller, the unit works in a reverse cycle and removes heat from the water to the outside air, by which the water temperature is reduced.

It consumes **70-80% less** electrical energy than a conventional electric water heater, as the electrical power it consumes is only to operate the compressor and fan.

Every 1kW electrical energy it consumes will drive the unit to generate 3-5kW heat energy. In addition, the unit can do cooling which is no way for conventional electrical water heaters can do.





Blueway produces two types of designs and both designs ensure no potential risk of contamination to potable water.

TYPE A: WRAP-AROUND HEAT EXCHANGER

Instead of being immersed in the tank water, the copper pipe heat exchanger is wrapped around the outer wall of the inner stainless steel water tank, which means no direct contact with potable water.
This design ensures no potential risk of contamination to the tank water due to corrosion or refrigerant leakage, and therefore guarantees the water quality.

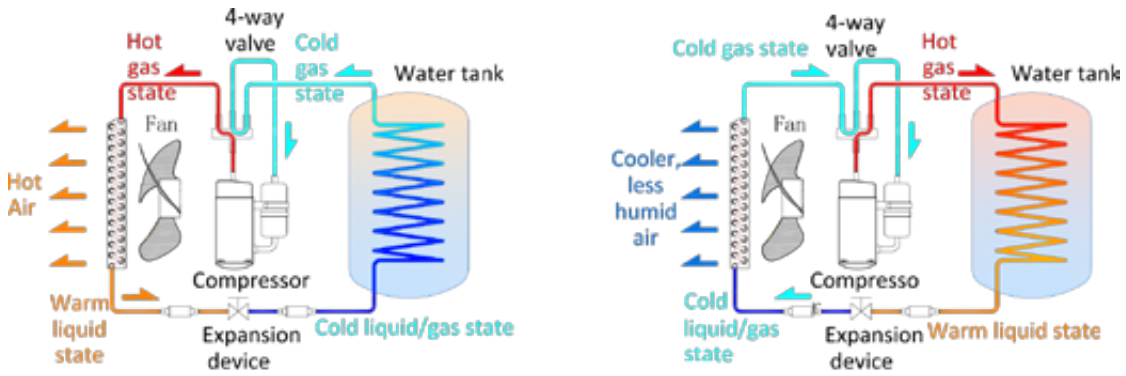
TYPE B: INTERNAL COIL HEAT EXCHANGER

This design adopts two internal SUS 316 pipe coil heat exchangers, one of which is for refrigerant (refrigerant heat exchanger), and the other one is for water (water heat exchanger) and is connected to tap or shower water. The refrigerant heat exchanger will first heat or cool the water stored in the water tank to the setting temperature.

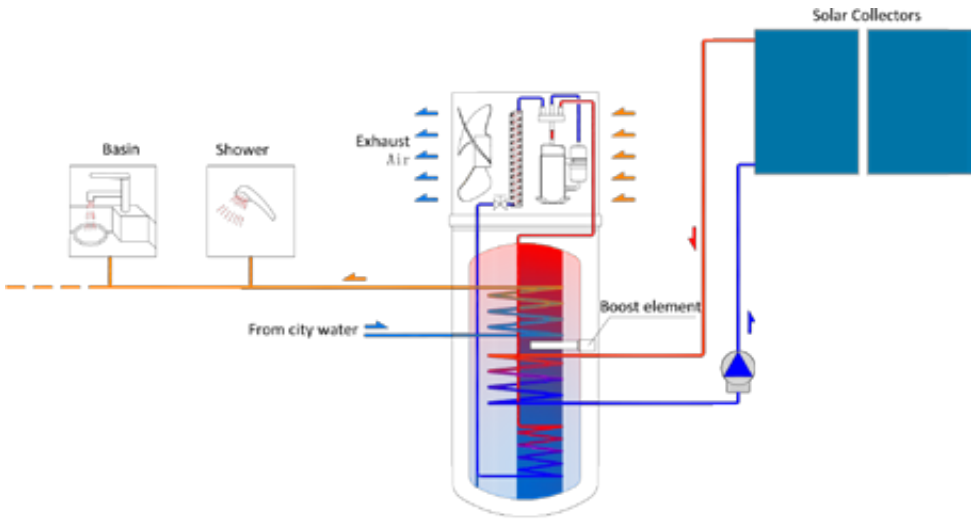
Then the heated or cooled water in the tank will act as a heat transfer medium and transfer heating or cooling to the water heat exchanger, in which the shower water or tap water is running through. For this design, the refrigerant heat exchanger does not contact potable water as well, thus ensures the safety of the water to be used in kitchen and bathroom.

DIAGRAM

Working Principle Diagram



Application Diagram



HEAT RECOVERY APPLICATION
(not applicable for tropical regions)

When the unit is working on hot water mode, the exhaust cooling air from the top of the unit can be ducted to the kitchen.

By doing this, people can enjoy free comfortable cooling, if the temperature in kitchen is very hot.

Highlights

- Micro processor based digital controller with LCD display
- Cool/Heat mode selection:
  Cool water temperature setting: 8-30°C
  Hot water temperature setting: 30-60°C
- No potential risk of contamination to potable water
- Tropical design against the hush weather conditions in the Gulf
- High efficiency rotary compressor ensures quiet operation
- CFC free R134A or R410A refrigerant , without ozone depletion
- Energy saving, the running cost is only 1/3 of the conventional electric water heaters
- **Safety:** complete isolation between water and electricity, no potential danger of any inflammable, gas poisoning, explosion, fire, electrical shock which are associated with other heating systems
- **Easy Installation:** be easily installed by a plumber or electrician, no need for a specialist refrigeration engineer
- **Easy Operation:** operates like a simple domestic appliance

APPLICATION

Hot Water Application

Chilled Water Application

Mini Heat Pump Water Chiller & Heater (TYPE A)

Technical Specifications

Model			MHP12-200L	MHP12-250L
Power Supply	-	V/Hz/Ph	220/50/1, 220/60/1	
Chilled Water Performance (1)	Cooling capacity	BTU/Hr	12500	12500
	Power consumption	Watts	1308	1308
	EER	-	2.8	2.8
	Current	A	5.69	5.69
	Chilled water production	Gallon/hour	166	166
Chilled Water Performance (2)	Cooling capacity	BTU/Hr	10625	10625
	Power consumption	Watts	1544	1544
	EER	-	2.02	2.02
	Current	A	6.71	6.71
	Chilled water production	Gallon/hour	70	70
Hot Water Performance	Heating capacity	BTU/Hr	15000	15000
	Power consumption		1235	1235
	COP	-	3.6	3.6
	Current	A	5.37	5.37
	Hot water production	Gallon/hour	25	25
Tank capacity	Capacity	Litter	200	250
		Gallon	53	66
	Internal tank	Materials	SUS 304	SUS 304
	Insulation thickness	mm	50	50
Noise level	-	dB(A)	55	55
Controller	-	-	Micro processor based digital wire controller	
Compressor	Type		Rotary	
	Qty	Nos.	1	
	Refrigerant	-	R134A	
Heat exchanger (water side)	Type	-	Wrap around copper pipe coil	
	Qty	Nos.	1	
Condenser fan	Type	-	Axial	
	Airflow	CFM	900	
	Dia x Qty	mm x Nos.	ϕ300*50	
	Material	-	Plastic	
Condenser motor	Output Power	Watts	60	
	RPM	-	850	
	Qty	Nos.	1	
Condenser coil	Type		Fin-tube	
	Tube dia	mm	ϕ7.0	
	Row	-	3	
	FPI	-	16	
	Total face area	m2	9	
Water Connection	Inlet	Inch	G1"	
	Outlet	Inch	G1"	
Dimmension: W×H×D	Net	mm	Φ570*1750	Φ570*2100
	Shipping	mm	645*645*1850	645*645*2200
Weight	Net	Kg	47	55
	Shipping	Kg	52	60
Stack	-	Layer(s)	1	
Loading Qty	20'/40'/40'HQ	Set(s)	27/57/57	27/57/57

Test Conditions:

1.Chilled Water Performance (1): Air 35/24°C (DB/WB), Water 30/25°C (Inlet/Outlet);
2.Chilled Water Performance (2): Air 46/24°C (DB/WB), Water 40/30°C (Inlet/Outlet);
3.Hot Water Performance: Air 20/15°C (DB/WB), Water 15/55°C (Inlet/Outlet);

Technical Specifications

Mini Heat Pump Water Chiller & Heater (TYPE B)

Model			MHP12-250L
Power Supply	-	V/Hz/Ph	220/50/1, 220/60/1
Chilled Water Performance (1)	Cooling capacity	BTU/Hr	12500
	Power consumption	Watts	1242
	EER	-	2.95
	Current	A	5.40
	Chilled water production	Gallon/hour	166
Chilled Water Performance (2)	Cooling capacity	BTU/Hr	10625
	Power consumption	Watts	1465
	EER	-	2.13
	Current	A	6.37
	Chilled water production	Gallon/hour	70
Hot Water Performance	Heating capacity	BTU/Hr	15000
	Power consumption		1172
	COP	-	3.8
	Current	A	5.10
	Hot water production	Gallon/hour	25
Tank capacity	Capacity	Litter	250
		Gallon	66
	Internal tank	Materials	SUS 304
	Insulation thickness	mm	50
Noise level	-	dB(A)	55
Controller	-	-	Micro processor based digital wire controller
Compressor	Type		Rotary
	Qty	Nos.	1
	Refrigerant	-	R134A
Heat exchanger (water side)	Type	-	Internal SUS 316 piple coil
	Qty	Nos.	2
Condenser fan	Type	-	Axial
	Airflow	CFM	900
	Dia x Qty	mm x Nos.	ϕ300*50
	Material	-	Plastic
Condenser motor	Output Power	Watts	60
	RPM	-	850
	Qty	Nos.	1
Condenser coil	Type		Fin-tube
	Tube dia	mm	ϕ7.0
	Row	-	3
	FPI	-	16
	Total face area	m2	9
Water Connection	Inlet	Inch	G1"
	Outlet	Inch	G1"
Dimmension: W×H×D	Net	mm	Φ570*2100
	Shipping	mm	645*645*2200
Weight	Net	Kg	47
	Shipping	Kg	52
Stack	-	Layer(s)	1
Loading Qty	20'/40'/40'HQ	Set(s)	27/54/54

Test Conditions:

1.Chilled Water Performance (1): Air 35/24°C (DB/WB), Water 30/25°C (Inlet/Outlet);
2.Chilled Water Performance (2): Air 46/24°C (DB/WB), Water 40/30°C (Inlet/Outlet);
3.Hot Water Performance: Air 20/15°C (DB/WB), Water 15/55°C (Inlet/Outlet);

Mini Water Cooler

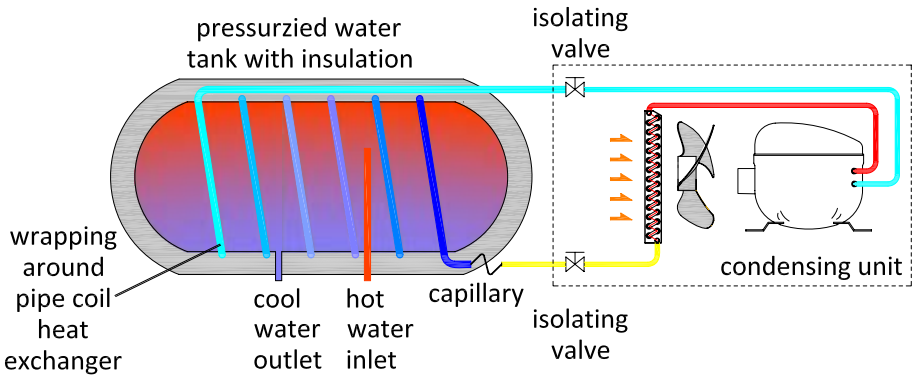
Designed to cool the water in the bathroom for use of shower and bath in the hot summers

Blueway Mini Water Cooler is designed to cool the water in the bathroom for use of shower and bath in the hot summers. The cooler can cool the water down to 8°C and the cooled water is stored in a storage tank to be mixed with the hot city water in a mixing valve for use of shower and bath. This solution removes the headache of unbearable hot water for shower and bath during summer time of the Gulf Area.

The water cooler is of a split design, which has a condensing unit and a water tank with pipe coil heat exchanger wrapping around the inner tank. Unlike using immersed pipe coil, this design ensures no potential risk of contamination to potable water due to corrosion or refrigerant leakage. The inner tank for the water tank is of food grade glass lined type (porcelain coated). The condensing unit is incorporated with a piston compressor which gives powerful cooling capacity and reliable performance at tropical ambient conditions. The refrigerant used is R134A which is eco friendly and has no depletion to ozone layer.

APPLICATION & FEATURES

Application



Features

- Piston compressor for strong cooling capacity and reliable performance at tropical region;
- High efficiency condensing motor;
- Axial fan blades made of aluminum;
- Wrapping around aluminum pipe coil heat exchanger, no potential risk of contamination to potable water;
- Food grade glass lined (porcelain coated) inner tank for water safety (SUS 304 inner tank is optional);
- 50mm thick integral insulation for the water tank;
- Adjustable water temperature control: optional for mechanical control and electric control;
- Water temperature setting: 8°C to 30°C;
- Full protections: overheat and over current protection for compressor, low water temperature protection

Technical Specifications

Mini Water Cooler (50Hz)

Model			MWC0.2-50L	MWC0.25-80L	MWC0.5-100L
Power Supply	-	V/Hz/Ph	220-240/50/1		
Chilled Water Performance (1)	Cooling capacity	BTU/Hr	1950	2650	4050
	Power consumption	Watts	212	293	451
	EER	-	2.70	2.65	2.63
	Current	A	0.92	1.27	1.96
	Chilled water	L/H	25	33	51
Chilled Water Performance (2)	Cooling capacity	BTU/Hr	1658	2253	3443
	Power consumption	Watts	250	346	533
	EER	-	1.94	1.91	1.89
	Current	A	1.09	1.50	2.32
	Chilled water	L/H	21	28	43
Water Tank	Capacity	Litter	50	80	100
	Internal tank	Materials	Glass-lined	Glass-lined	Glass-lined
	Insulation thickness	mm	50	50	50
Noise level	-	dB(A)	42	42	42
Controller	-	-	Mechanical or Electric		
Compressor	Type		Piston		
	Qty	Nos.	1		
	Refrigerant	-	R134A		
Heat exchanger (water side)	Type	-	Wrapping around aluminum pipe coil		
	Qty	Nos.	1		
Condenser fan	Type	-	Axial		
	Airflow	CFM	176	224	471
	Dia x Qty	mm x Nos.	ϕ200 x 1	ϕ250 x 1	ϕ250 x 1
	Material	-	Aluminum		
Condenser motor	Output Power	Watts	25	30	40
	RPM	-	1500	1500	1300
	Qty	Nos.	1		
Condenser coil	Type		Fin-flat tube		
	Tube dia	mm	ϕ7.0		
	Row	-	2		
	FPI	-	8.5		
	Total face area	m2	0.054	0.054	0.07
Water Connection	Inlet	Inch	G3/4"		
	Outlet	Inch	G3/4"		
Service Valve	Gas	mm	ϕ6.35	ϕ6.35	ϕ8
	Liquid	mm	ϕ4	ϕ4	ϕ5
Dimmension: W×D×H	Water tank Net	mm	ϕ400 x 700	ϕ400 x 1120	ϕ400 x 1330
	Water tank Shipping	mm	ϕ450 x 760	ϕ450 x 1180	ϕ450 x 1390
	Condensing unit Net	mm	330x300x260	330x300x260	350x300x280
	Condensing unit Shipping	mm	370x340x300	370x340x300	390x340x320
Weight	Water tank Net	Kg	31.2	46.8	58.16
	Water tank Shipping	Kg	37.2	54.8	68.16
	Condensing unit Net	Kg	17	18	20
	Condensing unit Shipping	Kg	19	20	23
Loading Qty 20'/40'/40'HC	Water tank	Set(s)	190/375/450	120/250/300	100/210/250
	Condensing unit	Set(s)	896/1792/2016	896/1792/2016	735/1470/1680

Test Conditions:

1.Chilled Water Performance (1): Air 35/24°C (DB/WB), Water 45/25°C (Inlet/Outlet);

2.Chilled Water Performance (2): Air 46/24°C (DB/WB), Water 45/25°C (Inlet/Outlet);

Mini Water Cooler (60Hz) Technical Specifications

Model				MWC0.25-50L	MWC0.25-80L
Power Supply	-		V/Hz/Ph	208-230/60/1	
Chilled Water Performance (1)	Cooling capacity		BTU/Hr	3180	3180
	Power consumption		Watts	339	352
	EER		-	2.75	2.65
	Current		A	1.47	1.53
	Chilled water		L/H	40	40
Chilled Water Performance (2)	Cooling capacity		BTU/Hr	2703	2671
	Power consumption		Watts	400	415
	EER		-	1.98	1.89
	Current		A	1.74	1.80
	Chilled water		L/H	34	34
Water Tank	Capacity		Litter	80	80
	Internal tank		Materials	Glass-lined	Glass-lined
	Insulation thickness		mm	50	50
Noise level	-		dB(A)	42	42
Controller	-		-	Mechanical or Electric	
Compressor	Type			Piston	
	Qty		Nos.	1	
	Refrigerant		-	R134A	
Heat exchanger (water side)	Type		-	Wrapping around aluminum	
	Qty		Nos.	1	
Condenser fan	Type		-	Axial	
	Airflow		CFM	176	224
	Dia x Qty		mm x Nos.	ϕ200 x 1	ϕ250 x 1
	Material		-	Aluminum	
Condenser motor	Output Power		Watts	25	30
	RPM		-	1500	1500
	Qty		Nos.	1	
Condenser coil	Type			Fin-flat tube	
	Tube dia		mm	ϕ7.0	
	Row		-	2	
	FPI		-	8.5	
	Total face area		m2	0.054	0.054
Water Connection	Inlet		Inch	G3/4"	
	Outlet		Inch	G3/4"	
Service Valve	Gas		mm	ϕ6.35	ϕ6.35
	Liquid		mm	ϕ4	ϕ4
Dimmension: W×D×H	Water tank	Net	mm	ϕ400 x 700	ϕ400 x 1120
		Shipping	mm	ϕ450 x 760	ϕ450 x 1180
	Condensing unit	Net	mm	330x300x260	330x300x260
		Shipping	mm	370x340x300	370x340x300
Weight	Water tank	Net	Kg	31.2	46.8
		Shipping	Kg	37.2	54.8
	Condensing unit	Net	Kg	17	18
		Shipping	Kg	19	20
Loading Qty 20'/40'/40'HC	Water tank		Set(s)	190/375/450	120/250/300
	Condensing unit		Set(s)	896/1792/2016	896/1792/2016

Test Conditions:

1.Chilled Water Performance (1): Air 35/24°C (DB/WB), Water 45/25°C (Inlet/Outlet);

2.Chilled Water Performance (2): Air 46/24°C (DB/WB), Water 45/25°C (Inlet/Outlet);

Storage Water Tank

Pressurized Storage Water Tank

Capacity			150L	200L	260L	320L	400L	500L	600L
Internal Tank	Diameter	mm	Φ370	Φ370	Φ470	Φ470	Φ600	Φ600	Φ600
	Wall materials	-	SUS304						
	Wall thickness	mm	1.0	1.0	1.2	1.2	1.5	1.5	1.5
Exteral Cabinet	Diameter	mm	470	470	555	555	555	700	700
	wall materials	-	Colour plate						
	Wall thickness	mm	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Insulation	Materials	-	Fluorin free polyurethane						
	Thickness	mm	50.0	50.0	42.5	42.5	50.0	50.0	50.0
Water Connection size		inch	G3/4''						
Working pressure		bar	7	7	7	7	7	7	7
Dimension: W×D×H	Net	mm	Φ470×1440	Φ470×1800	Φ555×1588	Φ555×1820	Φ700×1487	Φ700×1480	Φ700×2130
	Packing	mm	550×550×1540	550×550×1890	630×630×1685	630×630×1920	780×780×1640	780×780×1990	780×780×2280
Loading Qty			52/112/140	40/84/108	36/78/78	36//75/75	21/45/45	21/45/45	21/45/45

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