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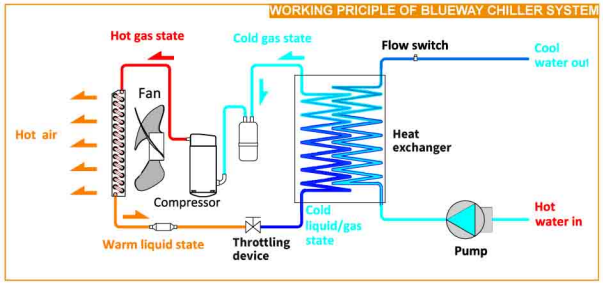
Air Cooled Water Chiller

An Ideal Solutions to Chilled Water Applications

Blueway Air Cooled Water Chiller is specially designed for the need of chilled water in tropical regions of the gulf areas, where the ambient temperature in summer can even go up to as high as 53°C, causing the rooftop tank water reaches unbearable temperature. The unit works as a chiller in summer, which chills the rooftop tank water to a comfortable temperature ideal for cooled water applications, such as shower, bath, washing, laundry, cooking, drinking and cleaning etc. It adopts a CFC free, eco-friendly refrigerant which is highly efficient and has no depletion to ozone layer.

The system consists of a refrigerant circuit and water circuit. The refrigerant circuit is composed of a compressor, a condenser coil, heat exchanger and a throttling device. And the water circuit is composed of a water pump, the same water heat exchanger.



Key Components

Condenser Coils

The evaporator or condenser coil used is of fin and tube type. The fins are hydrophilic treated aluminum fins to resist corrosion, and the copper tubes are 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 controller is programmed to provide a maximum protection to the heat pump system and accurate temperature control. The control panel is completely factory wired with all accessories and terminals included.

Fan Blade & Water Pump

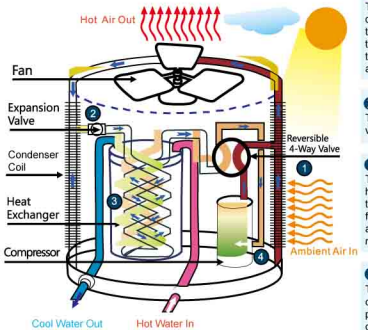
Blueway water chillers adopt aluminum fan blade in tropical regions. Domestic ranges are supplied with a built-in circulation pump, adopt Wilo pump as standard.

High Efficiency Compressor

- With tropical resistance capacity
- High efficienty and energy saving
- Quiet operation due to less moving parts

How does Blueway Water Chiller 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.

Features & Highlights

- Tropical for max. working ambient temp. of 53°C
- High efficiency compressor is tropical for high ambient conditions
- Eco friendly CFC free refrigerant R410a
- Intelligent wired controller with LCD user interface
- Heat exchanger with high thermal efficiency, high working temperature and low maintenance
- Guaranteed water safety, no potential risk of contamination to potable water
- Adjustable water temp. setting: 15-35°C for domestic type, 8-35°C for commercial type
- Compatible with all types of existing tanks
- Be installed in the garden or roof
- 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
- Built-in water pump is optional
- Energy saving: saves 2/3 running cost than conventional electric heaters
- Easy operation: operates like a simple domestic appliances

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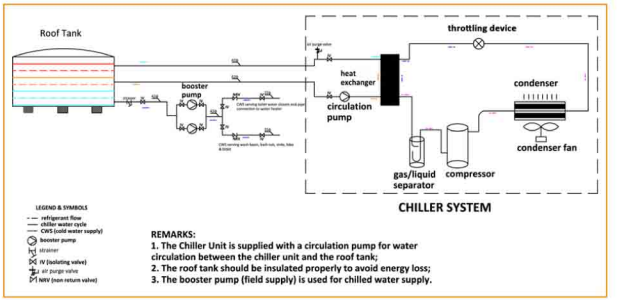
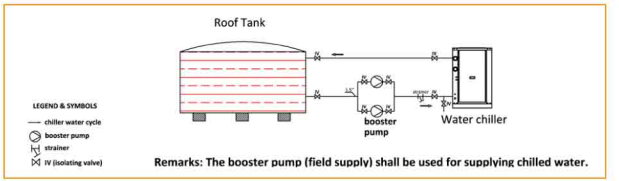
Application Diagrams

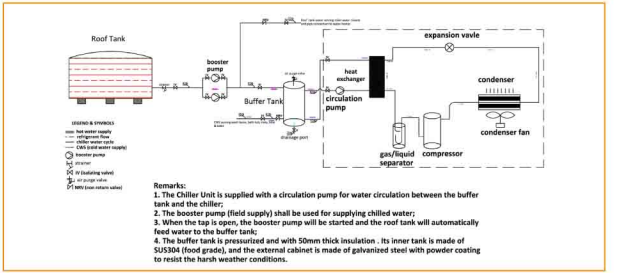
Installation without Buffer Tank (Domestic Type)



Installation without Buffer Tank (Commercial Type)



Installation with Buffer Tank (Single Cooling System)



Domestic Air Cooled Water Chiller (50Hz) Technical Specifications

Model			DWC-18V	DWC-24V	DWC-36V	DWC-48V	DWC-60V
Nominal cooling capacity		ton/h	1.5	2	3	4	5
Power supply		V/Hz/Ph	220-240/50/1			380-415/50/3	
Cooling (1): A35/24°C W45/25°C	Cooling capacity	btu/h	20813	28490	41626	54592	66875
		W/h	6100	8350	12200	16000	19600
	Power consumption	W	1540	2110	3110	4160	5100
	EER	-	3.96	3.96	3.92	3.85	3.84
Cooling (2): A46/24°C W45/25°C	Cooling capacity	btu/h	17691	24217	35382	46403	56844
		W/h	5200	7200	10600	14000	17500
	Power consumption	W	1770	2440	3670	4950	6040
	EER	-	2.94	2.95	2.89	2.83	2.9
Ambient temp. range		°C	20~53				
Outlet water temp. range		°C	15-35				
Rated water flow rate		m³/h	0.9	1.2	1.8	2.4	3
Controller		-	Micro processor based digital wire controller with LCD display				
Fan		-	Aluminum				
External cabinet		-	Galvanized steel with powder coating				
Compressor	Type	-	Rotary			Scroll	
	Qty.	Nos.	1				
	Refrigerant	-	R410a				
Water heat exchanger		-	Brazed plate heat exchanger/tube-in-shell				
Billt-in water pump		-	Wilo/Shinhoo				
Water connection	Inlet&Outlet	inch	1"	1"	1"	1"	1"
Noise level		dB(A)	56	57	63	63	63
Net dimension	W*D*H	mm	660*620*655	660*620*655	790*750*650	790*750*850	790*750*850
Net weight		kg	55	60	87	105	120

Notes:
1.Conditions of "Cooling (1)": Ambient air temperature DB/WB: 35/24°C, Inlet/Outlet water temperature: W45/25°C;
2.Conditions of "Cooling (2)": Ambient air temperature DB/WB: 46/24°C, Inlet/Outlet water temperature: W45/25°C;
Blueway reserves the rights to modify the above specifications without notice for product improvement.
Please contact us for updated information.

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Commercial Air Cooled Water Chiller (50Hz) Technical Specifications

Model			BAWC-8	BAWC-10	BAWC-12	BAWC-18
Nominal cooling capacity		ton/h	8	10	12	18
Power Supply		V/Hz/Ph	380-415/50/3			
Cooling (1): A35/24°C W45/25°C	Cooling capacity	btu/h	107478	133068	167188	249076
		W/h	31500	39000	49000	73000
	Power consumption	W	8200	10200	12800	19000
	EER	-	3.84	3.82	3.83	3.84
Cooling (2): A46/24°C W45/25°C	Cooling capacity	btu/h	95536	119420	146716	214956
		W/h	28000	35000	43000	63000
	Power consumption	W	10000	12000	15100	21700
	EER	-	2.8	2.92	2.85	2.9
Ambient temp. range		°C	20~53			
Outlet water temp. range		°C	8-35			
Rated water flow rate		m³/h	5	6	7.4	10.8
Controller		-	Micro processor based digital wire controller with LCD display			
Fan		-	Aluminum			
External cabinet		-	Galvanized steel with powder coating			
Compressor	Type	-	Scroll			
	Qty.	Nos.	2			
	Refrigerant	-	R410a			
Water heat exchanger		-	Brazed plate heat exchanger			
Water pump (optional)		-	Wilo/Shinhoo			
Water connection	Inlet&Outlet	inch	1-1/2"	1-1/2"	1-1/2"	2"
Noise level		dB(A)	65	65	67	71
Net dimension (W*D*H)		mm	1432*742*1064	1432*742*1064	1432*742*1064	2000*950*2050
Net weight		kg	290	300	330	380

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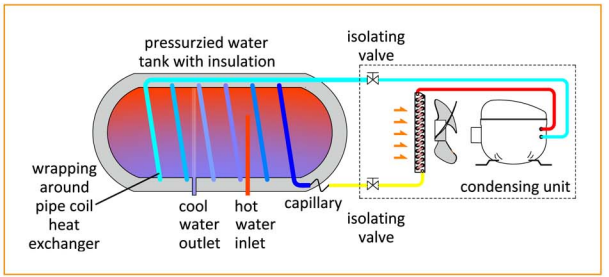
Mini Water Cooler

Designed to provide Sanitary Chilled Water

Blueway Mini Water Cooler is designed to cool the water in the bathroom for use of shower and bath in the hot summer for gulf area. The cooler can cool the water down to 15°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. 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.

Application



Features

- Famous compressor for strong cooling capacity and reliable performance at tropical region.
- Axial fan blades made of aluminum.
- 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).
- Adjustable outlet water temperature control: 15°C to 35°C.

Mini Water Cooler (50/60Hz) Technical Specifications

Model			MWCH-50	MWCH-80	MWCH-100
Power Supply		V/Hz/Ph	220-240/50/1, 208-230/60/1		
Chilled Water Performance (1)	Cooling capacity	btu/h	1950	2650	4050
	Power consumption	W	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/h	1658	2253	3443
	Power consumption	W	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	liter	50	80	100
	Internal tank	materials	Glass enamel		
	Insulation thickness	mm	50	50	50
Ambient temp. range	T1 condition	°C	-10~43		
	T3 condition	°C	-7~53		
Rated/Max.outlet water temp.		°C	15/35		
Controller		-	Digital wire controller with LCD display		
Compressor	Type	-	Rotary		
	Qty.	Nos.	1		
	Refrigerant	-	R134a		
Water heat exchanger	Type	-	Wrapping around aluminum pipe coil		
	Qty	Nos.	1		
Condenser fan	Type	-	Axial		
	Material	-	Aluminum		
Water connection	Inlet&Outlet	inch	G3/4"		
Noise level		dB(A)	42	42	42
Net dimension (W*D*H)	Indoor Unit	mm	Φ385*700	Φ400*1120	Φ400*1330
	Outdoor Unit	mm	410*375*268	410*375*268	410*375*268
Net Weight	Indoor Unit	kg	31.2	46.8	58.16
	Outdoor Unit	kg	17	18	20

Notes:
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);
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