

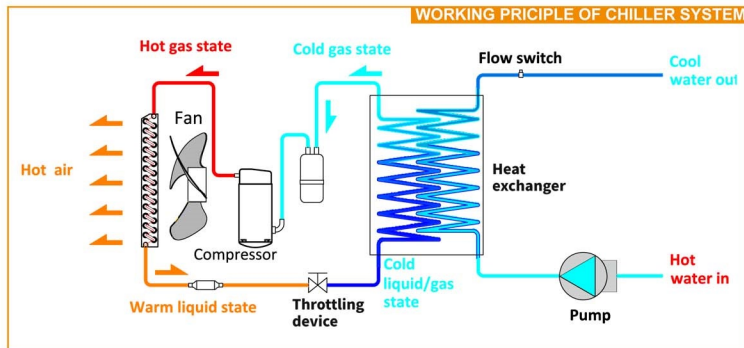


# Air Cooled Water Chiller

## An Ideal Solutions to Chilled Water Applications

**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.

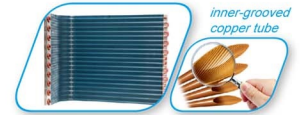
The system consists of a refrigerant circuit and water circuit. The refrigerant circuit is composed of a compressor, a condenser coil, heat exchanger and a throttling device. And the water circuit is composed of a water pump, the same water heat exchanger.



## 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

Water chillers adopt aluminum fan blade in tropical regions. Built-in circulation water pump is optional.



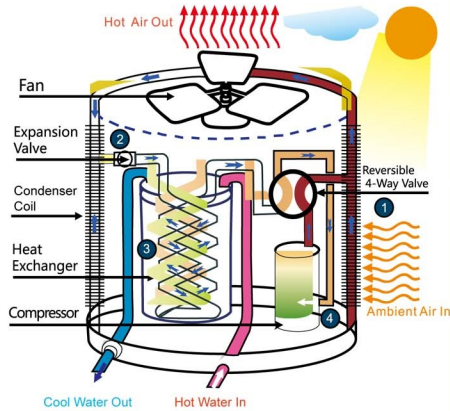
### High Efficiency Compressor

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



## How does 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

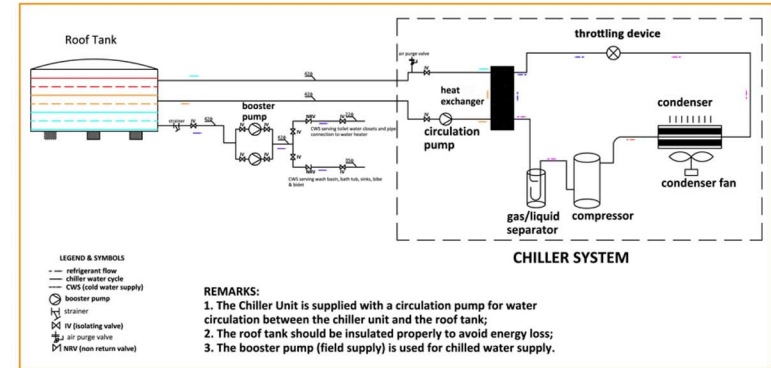
The gas refrigerant is then sucked to the compressor and compressed, increasing its pressure and temperature, ready to start the whole cycle once again.

## Features & Highlights

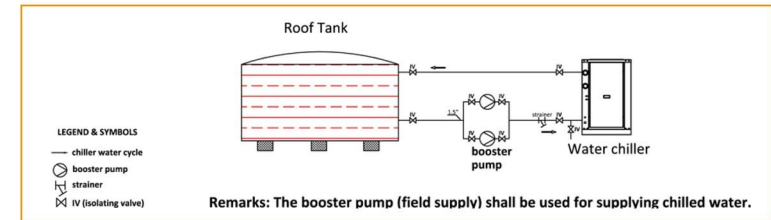
- Tropical for max. working ambient temp. of 53°C
- High efficiency compressor is tropical for high ambient conditions
- Eco friendly CFC free refrigerant R410a
- Intelligent wired controller with LCD user interface
- Heat exchanger with high thermal efficiency, high working temperature and low maintenance
- Guaranteed water safety, no potential risk of contamination to potable water
- Adjustable water temp. setting: 15-35°C
- 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

## Application Diagrams

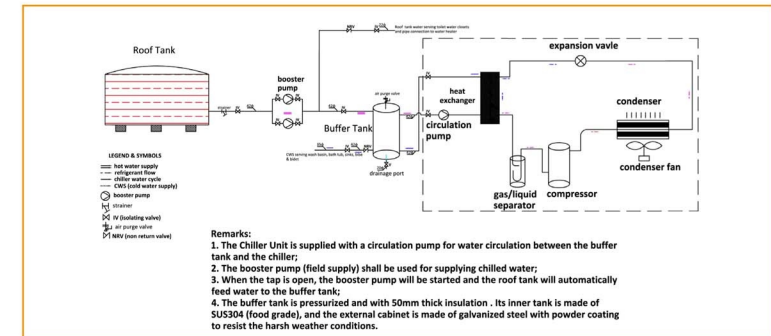
### Installation without Buffer Tank (Domestic Type)



### Installation without Buffer Tank (Commercial Type)



### Installation with Buffer Tank (Single Cooling System)





## Domestic Air Cooled Water Chiller (50Hz)

### Technical Specifications

MODEL		RCCT-25D	RCCT-30D	RCCT-40D	RCCT-50D	RCCT-70D	RCCT-80D	
Nominal cooling capacity		ton/h	1.5	2	3	4	5	7
Power supply		V/Hz/Ph	220-240/50/1			380-415/50/3		
Cooling (1): A35/24°C W30/25°C	Cooling capacity	btu/h	20813	28490	41626	54592	66875	95092
		W/h	6100	8350	12200	16000	19600	27870
	Power consumption	W	1540	2110	3110	4160	5100	7426
	EER	-	3.96	3.96	3.92	3.85	3.84	3.76
Cooling (2): A46/24°C W30/25°C	Cooling capacity	btu/h	17691	24217	35382	46403	56844	81888
		W/h	5200	7200	10600	14000	17500	24000
	Power consumption	W	1770	2440	3670	4950	6040	8550
	EER	-	2.94	2.95	2.89	2.83	2.9	2.8
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	4
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		-	S/S tube-in-tube or titanium tube in PVC Shell					
Built-in water pump (optional)		-	Wilo/Shinwoo					
Water connection	Inlet&Outlet	inch	1"	1"	1"	1"	1"	1-1/4"
Noise level		dB(A)	56	57	63	63	63	63
Net dimension	W*D*H	mm	660*620*655	660*620*655	790*750*850	790*750*850	790*750*850	790*750*1050
Net weight		kg	55	60	87	105	120	162

**Notes:**  
 1. Conditions of "Cooling (1)": Ambient air temperature DB/WB: 35/24°C, Inlet/Outlet water temperature: W30/25°C;  
 2. Conditions of "Cooling (2)": Ambient air temperature DB/WB: 46/24°C, Inlet/Outlet water temperature: W30/25°C;  
 manufacturer reserves the rights to modify the above specifications without notice for product improvement.  
 Please contact us for updated information.



## Commercial Air Cooled Water Chiller (50Hz)

### Technical Specifications

MODEL		RCCT-90C	RCCT-100C	RCCT-120C	RCCT-200C	
Nominal cooling capacity		ton/h	8	10	12	18
Power Supply		V/Hz/Ph	380-415/50/3			
Cooling (1): A35/24°C W30/25°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 W30/25°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	15-35			
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		-	Braze plate heat exchanger			
Water pump (optional)		-	Wilo/Shinwoo			
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:**  
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