

## Water Chillers With Single Screw Compressor ZUW-C Compact Series



*Compact Structure*

*Easy Installation*

*Modularly Combined*

*Convenient Transportation*



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## Daikin Huizhou Factory Profile



**DAIKIN AIR-CONDITIONING (SHANGHAI)CO.,LTD HUIZHOU FACTORY —**  
*The manufacture base of central air-conditioner in China*



Production area about 45,000 M<sup>2</sup>

Production capacity 3,000 units per year

Production on sales prospects

Delivery cycle 30 days

*Believe in Professionality*  
*Believe in DAIKIN*

## DAIKIN Chiller Fulfills Customer Needs

### Long History

Daikin Central Air Conditioning Co., Ltd., one of the water chiller developing pioneers in Japan, has nearly 100 years history. Developing the high-performance semi-hermetic single-screw compressor to begin with in 1978, Daikin has become a leading single-screw compressor manufacturer in the world with the aim to satisfy every user's need and try its best to create highly comfortable air conditioning environment.

### Stable Growth

Daikin takes the lead in terms of market share of single-screw compressors in Japan which are sold more than 70,000 units in the world. High-performance products together with the targeted and professional proposing-style sales method make Daikin central air conditioners widely applied in various fields including special ones such as hospitals, wine brewing, etc.

### Excellent Technology

Through nearly 100 years of experience and reliable refrigerant technology with efficient single screw compressor by highly intelligent control. Daikin achieves efficient, reliable performance and longer service life. Daikin provides enough satisfaction to customers.

### Solid Manufacturing

The overall unit manufacturing base ( Daikin Central Air Conditioning Co., Ltd in Huizhou), is supported by the Suzhou compressor plant and Changshu Fluorine chemistry plant(both Daikin correlate), has powerful production and R&D capacities of chiller and its key components. Thus promising better quality assurance.

### Reliable Service

The central air conditioning after-sales service center working closely with sales offices and factories can dispatch the service personnel to the job site within 24 hours, thus ensuring various problems can be solved timely. And the center has a large number of elite after-sales service talents adhering to the quality principle of "Keep Improving", who can provide more professional service.



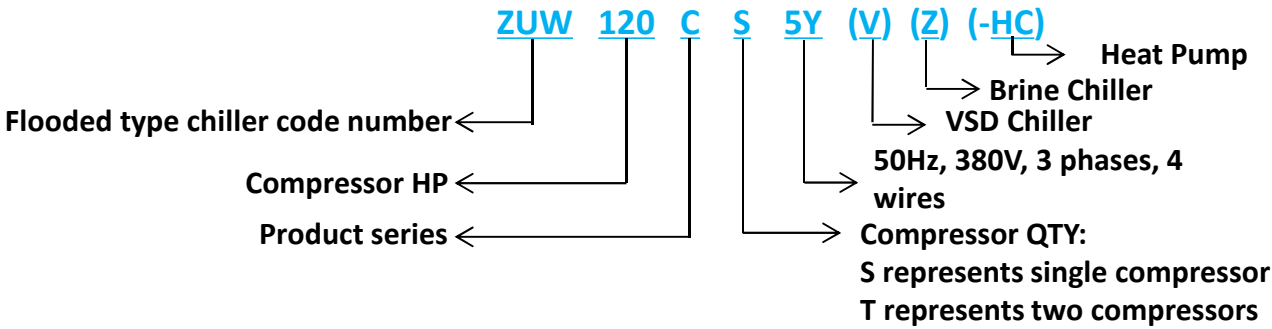
## Product Profile

### Brief Introduction

Daikin Air-conditioning has been devoted to the research of air conditioning field, owning the world's leading air conditioning technology and combining with the needs of users, launching more safe, reliable, stable, environmentally friendly and energy-saving products to provide more comfortable air conditioning environment for customers.

Nowadays the energy is in shortage state, in order to conform to the high-energy requirements of the global market, Daikin launch ZUW-B series flooded type chiller with high efficiency shell and tube condenser and high performance flooded type evaporator.

### Model Naming Instructions



### Product Application Advantage

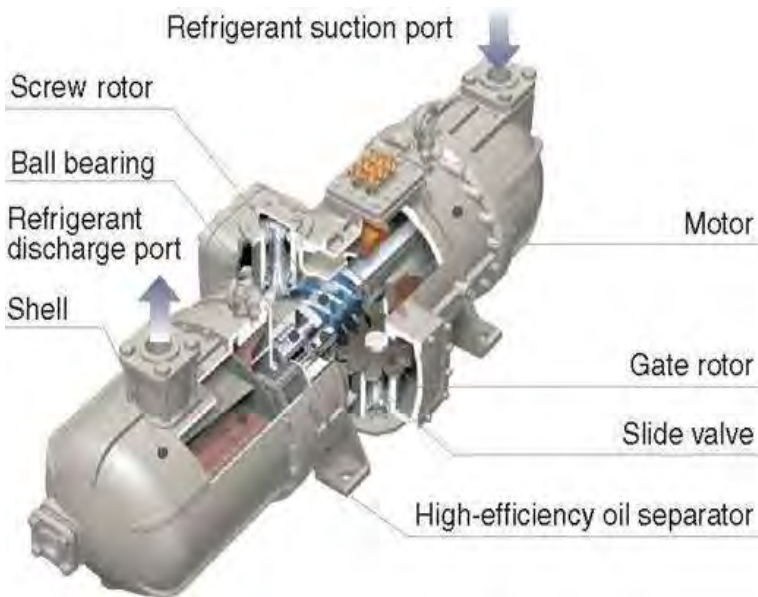
1. With the unique oil separation technology, the oil separation efficiency can reach 99.9% which can effectively prevent the phenomenon of "oil running", keep the unit operation in a high efficiency for a long time.
2. Modular combination, flexible application. It can start and stop the unit module number according to the cooling demand, so as to achieve high efficiency operation.
3. Compact structure, small floor area, can be transported by cargo elevator.



## Reliability

**[Giving careful thought to important parts such as compressor, heat exchanger and expansion valve, our chiller acquires superb performance and reliability]**

### Semi-hermetic Single-screw Compressor



#### ■ High accuracy and long service life

The upper part pressure and lower part pressure of the screw do eliminating eccentric effect and balancing the load. The high-accuracy bearing used in the orthogonal screw structure, boasts a service life twice more than that of the bearing in a twin-screw compressor, effectively extending the maintenance interval of the chiller to 40,000 hours.



#### ■ Working mechanism of single-screw compressor

##### (1) Suction

Refrigerant is sucked into the screw rotor groove through the suction pipe, and when the screw rotor rotates, one tooth of the gate rotor engages with the groove, shutting the air inlet.



##### (2) Compression

Compression strokes take place in the compression space formed by the screw rotor groove and gate rotor tooth. When the compression space decreases during the rotor rotation, the refrigerant inside is compressed and the pressure rises.



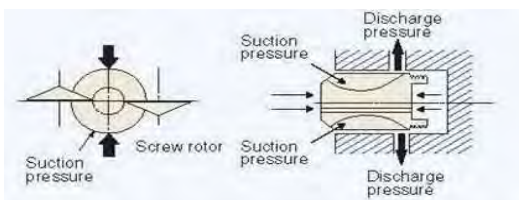
##### (3) Discharge

The pressure in the compression space reaches the discharge level. Compressed gas is discharged from upper unload discharge port.



#### ■ Low noise and low vibration

The high-performance gate rotors mesh smoothly, minimizing shock and vibration, realizing stable running. Besides, two rotors are mounted symmetrically to make pressure balanced, thus significantly suppressing noise and vibration.



#### ■ High-efficiency operation

Every rotation cycle consists of 12 compressions. Compared with traditional twin-screw compressors, almost no energy loss occurs to the semi-hermetic single-screw compressor, thanks to absence of gas mixing-up between the high pressure side and low pressure side. What's more, the gate rotor is made from high molecular material, reducing leakage loss by improving tightness, thus substantially enhancing the full-load and part-load efficiency.

## Electronic Expansion Valve

- The electronic expansion valve adjusts delicately according to change of compressor load, thus achieving high-efficiency operation status.
- Adopting electronic valve to control refrigerant, thus the chiller runs more smoothly and stably.



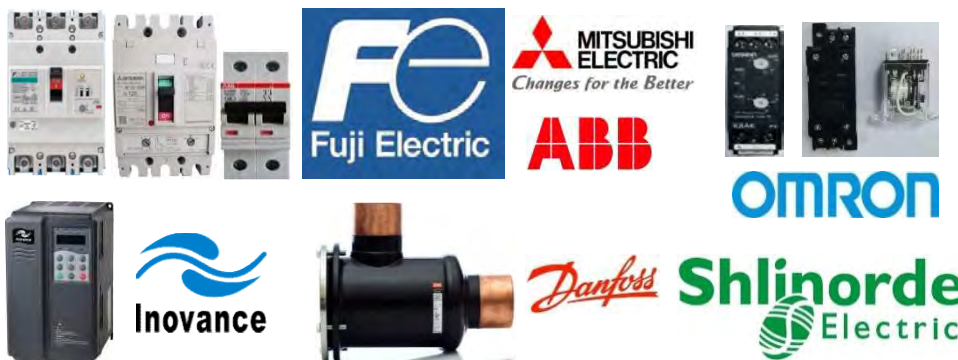
## Heat Exchanger-Flooded Type Evaporator

- By calculating and analyzing refrigerant flow in the evaporator, redesigned the suction distributing plate, make the refrigerant flow control in a more appropriate level. At the same time, adopting the special shape heat exchange pipe which can enhance the refrigerant boiling. With these achieving high performance and minimum size successfully.

## Brand-new Product Perfectly meet customers' needs

- The whole series adopts environmental refrigerant R134a featuring no harm to the ozone layer, which can actively respond to the environmental needs.
- Equipped with continuous capacity control compressor, the whole series can conduct continuative energy regulation within a range of 25% to 100%, thus achieving high-precision water temperature control.

## Adopt World-famous Electronic Components



## Excellent Control System

- New PLC controller (monitoring running parameter by digital color monitor)



- The special developed new type PLC controller is adopted to expand unit monitoring and control function.
- Equipped with various digital sensors which can collect all units operation parameters.
- Abundant expansion and option functions .
  - Unit reserve diversified control extension functions, RS485 interface, Modbus, Bacnet, Lonworks protocol.
  - Unit adopt standard Y- $\Delta$  starting method. Soft starter or inverter starter can be selected to achieve soft starter functions to perfectly meet customers' needs.

## Diversified Protection Functions and Powerful Control Systems

### Diversified Control System Functions

- Various operation mode settings are available for meeting users' various needs.
  - ☆ Operation system selection
  - ☆ Selection of remote transmission contacts
  - ☆ Remote / Local control selection
  - ☆ Inlet/outlet water temperature control selection
  - ☆ Forced load operation setting
  - ☆ Energy-saving mode setting
  - ☆ Cooling water pump interlock and forced operation selection
  - ☆ Chilled water pump interlock and forced operation selection
  - ☆ Cold accumulation/duo-temperature setting selection
  - ☆ Timing switch unit control can be achieved, truly unattended
- Various automatic protection devices ensure safety of unit operation. (When protection devices trip, malfunction causes and abnormal operation parameters will be displayed directly on control panel.)
  - ☆ Protections of reverse phase, open phase and voltage imbalance for 3-phase power supply
  - ☆ Protections of current imbalance and overcurrent
  - ☆ Compressor motor overheat protection
  - ☆ High/Low pressure protection
  - ☆ Protections of compressor suction/discharge superheat degree abnormality
  - ☆ Freeze-up protections of chilled water and freeze-up pressure protections of refrigerant system
  - ☆ Protections of pump interlock and water flow switch abnormality
  - ☆ Protections of temperature, pressure and current sensors abnormalities
- Large size color LCD touch screen showing the operation parameters of the unit in a comprehensive manner.
  - ☆ Cooling water and chilled water inlet/outlet temperature
  - ☆ Suction/Discharge, condensing and evaporating temperatures of refrigerant system
  - ☆ Condensing and evaporating pressures of refrigerant system
  - ☆ Compressor load and electronic expansion valve opening
  - ☆ 3-phase operating current value
  - ☆ Current operation time and accumulated operating time of system, start frequency and start waiting time.
- Abnormality-shunning operation functions
  - ☆ Forced operation of water pump during unit stop for anti-freezing in winter.
- Large size color LCD touch screen, so easy to operate.
  - ☆ Operation monitoring  
Used for unit start-up or stop, check basic parameters, detailed parameters, input/output and temperature curve of unit operation.
  - ☆ Temperature setting - Setting the control water temperature and mode operation.
  - ☆ Log-in and Exit – Used for user password login/exit and password change.
  - ☆ System information - Used for viewing supplier and related unit information.
  - ☆ Abnormal records - Use for checking the details and history record of unit abnormal condition.
  - ☆ Operation setting - Setting system information of unit operation mode, parameters and other related control setting.





## Specification(Standard Model)

Model		ZUW80CS5Y	ZUW90CS5Y	ZUW100CS5Y	ZUW120CS5Y
Cooling Capacity (50Hz/380V)(Note 1)	USRT	80.5	90.4	100.4	120.6
	kW	283.0	318.0	353.0	424.0
	kcal/h	243,380	273,480	303,580	364,640
Power Consumption	kW	54.5	61.1	67.8	81.4
COP		5.19	5.20	5.21	5.21
IPLV		5.40	5.40	5.40	5.42
Chiller Color		Ivory White			
Chilled Water Flow(50Hz)	m <sup>3</sup> /h	48.7	54.7	60.7	72.9
	l/min	811	912	1012	1215
Condenser Water Flow(50Hz)	m <sup>3</sup> /h	60.8	68.4	75.9	91.2
	l/min	1014	1140	1265	1519
Dimensions(L×W×H)	mm	2000×1170×1680			2020×1290×1765
Compressor	Type	Semi-hermetically Sealed Single Screw			
	Starting Method	Star-delta Starter			
	Capacity Control	25 ~ 100% Continuous Capacity Control			
Condenser	Type	Shell and Tube			
	Quantity×Model	CF5015-C80×1	CF5015-C90×1	CF5015-C100×1	CF5515-C120×1
Evaporator	Type	Flooded			
	Quantity×Model	WF4515-C80×1	WF4515-C90×1	WF4515-C100×1	WF5015-C120×1
Refrigerant	Name	R134a			
	NO.of Circuit	1			
	Control Method	Electronic Expansion Valve			
	Charging Volume	kg	90	90	100
Refrigerating Oil Name		FVC68D			
Refrigerating Oil Charging Volume	l	10	10	14	14
Electric Control System		MICRO TECH III Program Controller、LCD Touch Screen			
Safety Devices		Main Circuit Fuse,reverse-phase protection, High/Low Pressure Protector, Over-Current-Sensor(Comp.),Overheat Sensor for Discharge Gas, Overheat Protector(Comp.),Freeze-up protector thermostat, Chilled water interrupt latency,Safety Valve,chilled water differential pressure flow switch			
Pipe OD	Chilled Water Inlet/Outlet	Φ140			
	Condenser Water Inlet/Outlet	Φ140			
Insulation Material		NBR/PVC Polyethelene Foam			
Machine Weight	kg	1850	1880	2050	2200
Operation Weight	kg	2170	2210	2380	2560

**Remark:**
**1. Cooling capacity is based on the following conditions:**

 Chilled water outlet temperature: 7°C; Chilled water flow rate 0.172m<sup>3</sup>/(h · kW)

 Condenser water inlet temperature: 30°C; Condenser water flow rate 0.215m<sup>3</sup>/(h · kW)

**2. Evap. side fouling factor 0.018m<sup>2</sup>·°C/kW; Cond. side fouling factor 0.044m<sup>2</sup>·°C/kW.**

## Specification(Brine Model)

Model		ZUW80CS5YZ	ZUW90CS5YZ	ZUW100CS5YZ	ZUW120CS5YZ
Cooling Capacity (50Hz/380V)(Note 1)	USRT	45.8	52.6	54.0	70.2
	kW	161.0	185.0	190.0	247.0
	kcal/h	138,460	159,100	163,400	212,420
Power Consumption	kW	49.5	56.1	61.2	75.1
COP		3.25	3.30	3.10	3.29
Chiller Color		Ivory White			
Chilled Water Flow(50Hz)	m <sup>3</sup> /h	27.7	31.8	32.7	42.5
	l/min	462	530	545	708
Condenser Water Flow(50Hz)	m <sup>3</sup> /h	34.6	39.8	40.9	53.1
	l/min	577	663	681	885
Dimensions(L×W×H)	mm	2000×1170×1680			2020×1290×1765
Compressor	Type	Semi-hermetically Sealed Single Screw			
	Starting Method	Star-delta Starter			
	Capacity Control	25 ~ 100% Continuous Capacity Control			
Condenser	Type	Shell and Tube			
	Quantity×Model	CF5015-C80×1	CF5015-C90×1	CF5015-C100×1	CF5515-C120×1
Evaporator	Type	Flooded			
	Quantity×Model	WF4515-C80×1	WF4515-C90×1	WF4515-C100×1	WF5015-C120×1
Refrigerant	Name	R134a			
	NO.of Circuit	1			
	Control Method	Electronic Expansion Valve			
	Charging Volume	kg	90	90	100
Refrigerating Oil Name		FVC68D			
Refrigerating Oil Charging Volume	l	10	10	14	14
Electric Control System		MICRO TECH III Program Controller, LCD Touch Screen			
Safety Devices		Main Circuit Fuse,reverse-phase protection, High/Low Pressure Protector, Over-Current-Sensor(Comp.),Overheat Sensor for Discharge Gas, Overheat Protector(Comp.),Freeze-up protector thermostat, Chilled water interrupt latency,Safety Valve,chilled water differential pressure flow switch			
Pipe OD	Chilled Water Inlet/Outlet	Φ140			
	Condenser Water Inlet/Outlet	Φ140			
Insulation Material		NBR/PVC Polyethelene Foam			
Machine Weight	kg	1850	1880	2050	2200
Operation Weight	kg	2170	2210	2380	2560

**Remark:**

1. Cooling capacity is based on the following conditions:

Chilled water in/out: -2°C/-5°C

Condenser water in/out: 32°C/37°C

## Specification(Heat Pump Model)

Model		ZUW80CS5Y-HC	ZUW90CS5Y-HC	ZUW100CS5Y-HC	ZUW120CS5Y-HC
Nominal Cooling (Ground Water)	USRT	81.3	91.6	107.8	131.4
	kW	286.0	322.0	379.0	462.0
	kcal/h	245,960	276,920	325,940	397,320
Power Consumption	kW	52.5	59.1	63.6	82.5
EER	W/W	5.45	5.45	5.96	5.60
Chilled Water Flow	m <sup>3</sup> /h	49.2	55.4	65.2	79.5
	l/min	819.9	923.1	1086.5	1324.4
Condenser Water Flow	m <sup>3</sup> /h	29.5	33.2	39.0	47.6
	l/min	491.0	552.8	650.6	793.1
Nominal Heating (Ground Water)	USRT	87.9	98.9	110.6	137.3
	kW	309.0	348.0	389.0	483.0
	kcal/h	265,740	299,280	334,540	415,380
Power Consumption	kW	63.6	71.5	79.6	100.0
COP	W/W	4.86	4.87	4.89	4.83
Chilled Water Flow	m <sup>3</sup> /h	29.5	33.2	39.0	47.6
	l/min	491.0	552.8	650.6	793.1
Condenser Water Flow	m <sup>3</sup> /h	49.2	55.4	65.2	79.5
	l/min	819.9	923.1	1086.5	1324.4
ACOP		5.19	5.19	5.49	5.26
Chiller Color		Ivory White			
Dimensions(L×W×H)	mm	2000×1170×1680			2020×1290×1765
Compressor	Type	Semi-hermetically Sealed Single Screw			
	Starting Method	Star-delta Starter			
	Capacity Control	%	25 ~ 100% Continuous Capacity Control		
Condenser	Type	Shell and Tube			
	Quantity×Model	CF5015-C80×1	CF5015-C90×1	CF5015-C100×1	CF5515-C120×1
Evaporator	Type	Flooded			
	Quantity×Model	WF4515-C80×1	WF4515-C90×1	WF4515-C100×1	WF5015-C120×1
Refrigerant	Name	R134a			
	NO.of Circuit	1			
	Control Method	Electronic Expansion Valve			
	Charging Volume	kg	90	90	100
Refrigerating Oil Name		FVC68D			
Refrigerating Oil Charging Volume	l	10	10	14	14
Electric Control System		MICRO TECH III Program Controller, LCD Touch Screen			
Safety Devices		Main Circuit Fuse,reverse-phase protection, High/Low Pressure Protector, Over-Current-Sensor(Comp.),Overheat Sensor for Discharge Gas, Overheat Protector(Comp.),Freeze-up protector thermostat, Chilled water interrupt latency,Safety Valve,chilled water differential pressure flow switch			
Pipe OD	Chilled Water Inlet/Outlet	Φ140			
	Condenser Water Inlet/Outlet	Φ140			
Insulation Material		NBR/PVC Polyethelene Foam			
Machine Weight	kg	1850	1880	2050	2200
Operation Weight	kg	2170	2210	2380	2560

**Remark:**
**1. Cooling capacity is based on the following conditions:**

**Nominal cooling (ground water)condition:**

Chilled water outlet temperature: 7°C, Chilled water flow rate 0.172m<sup>3</sup>/(h · kW)

water resource inlet temperature: 7°C, Condenser water flow rate 0.215m<sup>3</sup>/(h · kW).

**Nominal heating(buried pipe)condition:**

source water inlet temp.15°C, water flow –a

Hot water outlet temp. 45°C, flow rate –a (-a: adopt water flow under nominal cooling condition).

## Specification(Inverter Model)

Model		ZUW80CS5YV	ZUW90CS5YV	ZUW100CS5YV	ZUW120CS5YV
Cooling Capacity (50Hz/380V)(Note 1)	USRT	80.5	90.4	100.4	120.6
	kW	283.0	318.0	353.0	424.0
	kcal/h	243,380	273,480	303,580	364,640
Power Consumption	kW	55.0	61.6	68.3	82.0
IPLV		7.76	7.94	7.94	8.10
Chiller Color		Ivory White			
Chilled Water Flow	m <sup>3</sup> /h	48.7	54.7	60.7	72.9
	l/min	811	912	1012	1215
Condenser Water Flow	m <sup>3</sup> /h	60.8	68.4	75.9	91.2
	l/min	1014	1140	1265	1519
Dimensions(L×W×H)	mm	2000×1170×1680			2020×1290×1765
Compressor	Type	Semi-hermetically Sealed Single Screw			
	Starting Method	VFD Starter			
	Capacity Control	% 20 ~ 100% Continuous Capacity Control			
Condenser	Type	Shell and Tube			
	Quantity×Model	CF5015-C80×1	CF5015-C90×1	CF5015-C100×1	CF5515-C120×1
Evaporator	Type	Flooded			
	Quantity×Model	WF4515-C80×1	WF4515-C90×1	WF4515-C100×1	WF5015-C120×1
Refrigerant	Name	R134a			
	NO.of Circuit	1			
	Control Method	Electronic Expansion Valve			
	Charging Volume	kg	90	90	100
Refrigerating Oil Name		FVC68D			
Refrigerating Oil Charging Volume	l	10	10	14	14
Electric Control System		MICRO TECH III Program Controller、 LCD Touch Screen			
Safety Devices		Main Circuit Fuse,reverse-phase protection, High/Low Pressure Protector, Over-Current-Sensor(Comp.),Overheat Sensor for Discharge Gas, Overheat Protector(Comp.),Freeze-up protector thermostat, Chilled water interrupt latency,Safety Valve,chilled water differential pressure flow switch			
Pipe OD	Chilled Water Inlet/Outlet	Φ140			
	Condenser Water Inlet/Outlet	Φ140			
Insulation Material		NBR/PVC Polyethylene Foam			
Machine Weight	kg	1910	1940	2160	2310
Operation Weight	kg	2230	2270	2490	2670

**Remark:**
**1. Cooling capacity is based on the following conditions:**

 Chilled water outlet temperature: 7°C; Chilled water flow rate 0.172m<sup>3</sup>/(h · kW)

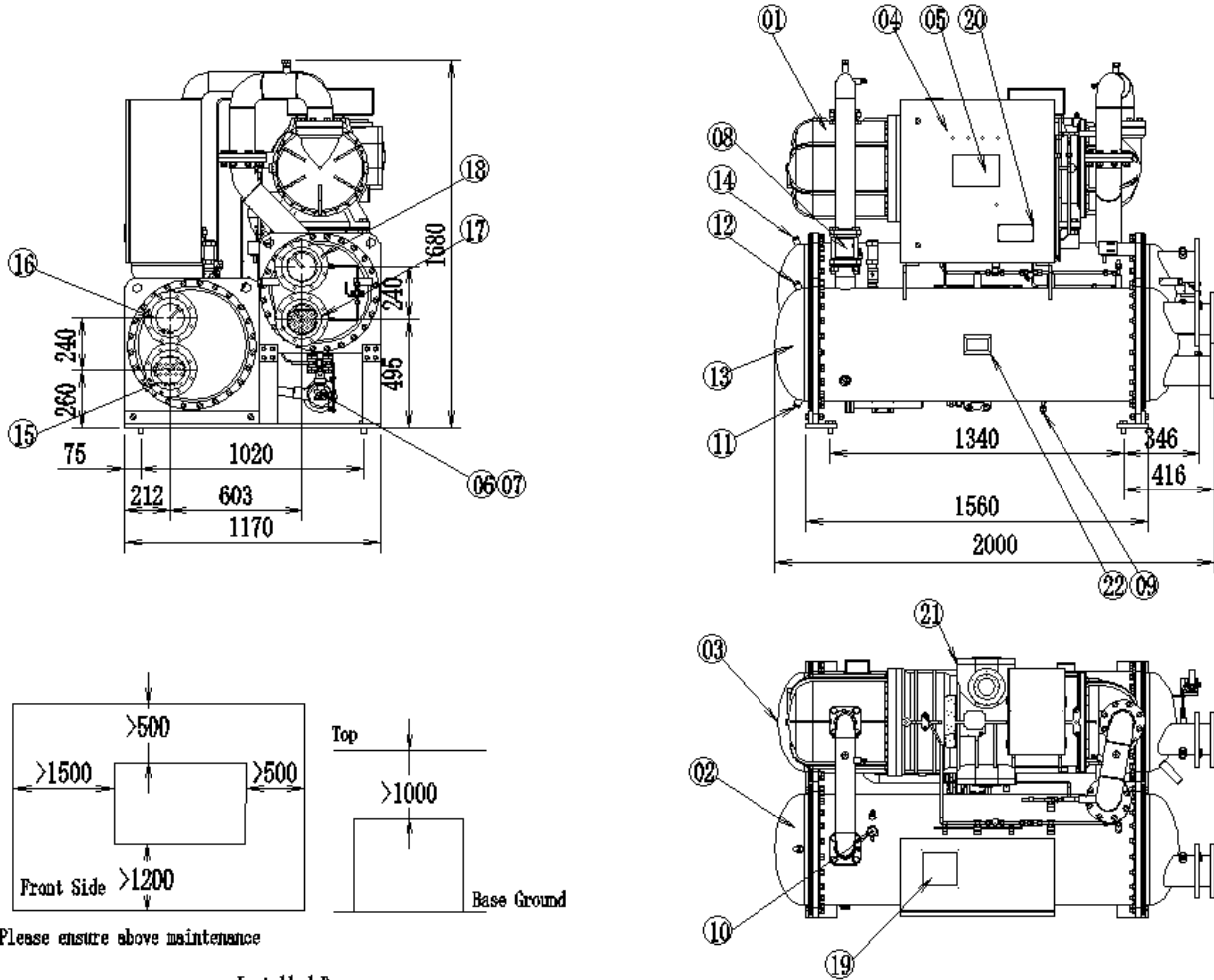
 Condenser water inlet temperature: 30°C; Condenser water flow rate 0.215m<sup>3</sup>/(h · kW)

**2. Evap. side fouling factor 0.018m<sup>2</sup>·°C/kW; Cond. side fouling factor 0.044m<sup>2</sup>·°C/kW.**



**Dimension**

**ZUW80/90/100CS5Y(Z)(-HC)**



Please ensure above maintenance

Installed Base

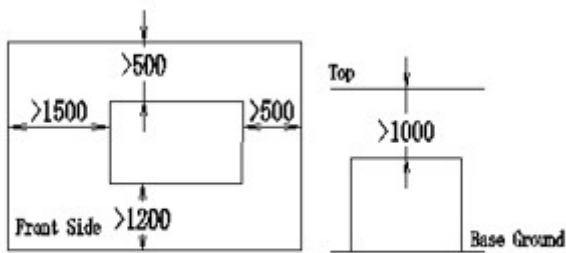
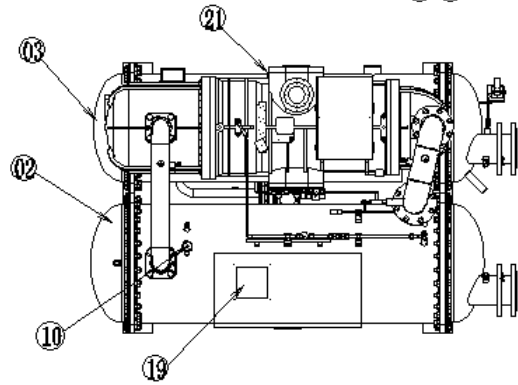
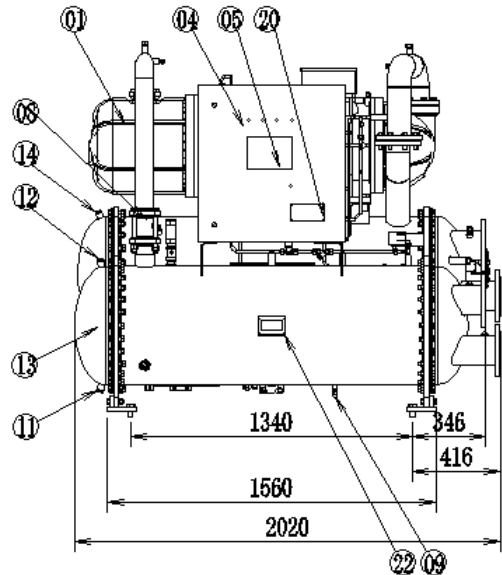
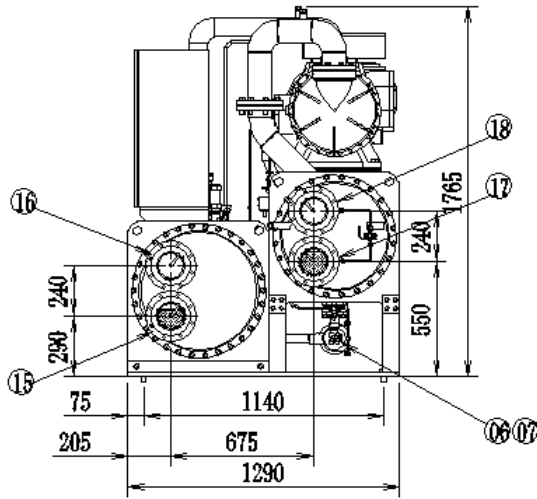
NO.	Spare Parts Name	Remark
1	Compressor	
2	Condenser	
3	Evaporator	
4	Control box	
5	Control Panel	
6	Electronical Expansion Valve	
7	Dry Filter	
8	Reflex Valve	
9	Refrigerant charge valve	
10	Safety Valve	1 NPT
11	Condenser Water Drain Outlet	NPT1/2"
12	Condenser Water Air Outlet	NPT1/2"
13	Chilled Water Drain Outlet	NPT1/2"
14	Chilled Water Air Outlet	NPT1/2"

NO.	Spare Parts Name	Remark
15	Condenser Water Inlet	DN125(ø140)
16	Condenser Water Outlet	DN125(ø140)
17	Chilled Water Inlet	DN125(ø140)
18	Chilled Water Outlet	DN125(ø140)
19	Power Supply Connector	
20	Chiller Name Plate	
21	Evaporator Name Plate	
22	Condenser Name Plate	

**Note:**  
Flange cooling water and chilled water ( Refrigerant) nozzle is self-prepared by users. Flange size is based on HG20592.

**Dimension**

**ZUW120CS5Y(Z)(-HC)**



Please ensure above maintenance

Installed Base

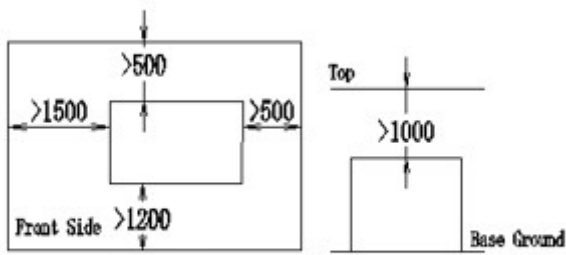
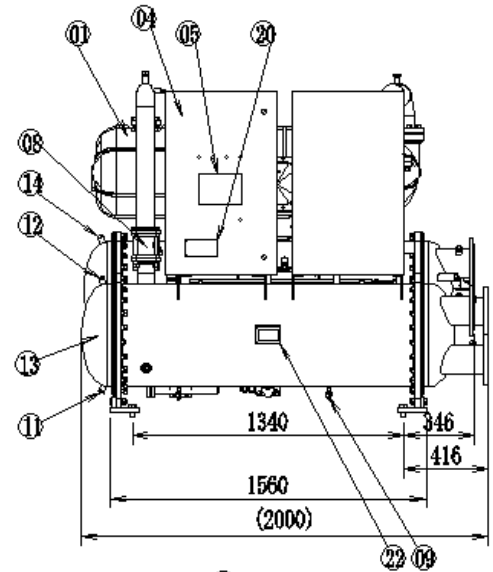
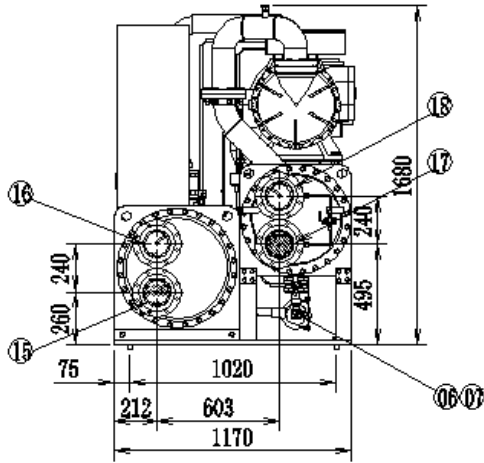
NO.	Spare Parts Name	Remark
1	Compressor	
2	Condenser	
3	Evaporator	
4	Control box	
5	Control Panel	
6	Electronical Expansion Valve	
7	Dry Filter	
8	Reflex Valve	
9	Refrigerant charge valve	
10	Safety Valve	1 NPT
11	Condenser Water Drain Outlet	NPT1/2"
12	Condenser Water Air Outlet	NPT1/2"
13	Chilled Water Drain Outlet	NPT1/2"
14	Chilled Water Air Outlet	NPT1/2"

NO.	Spare Parts Name	Remark
15	Condenser Water Inlet	DN125(ø140)
16	Condenser Water Outlet	DN125(ø140)
17	Chilled Water Inlet	DN125(ø140)
18	Chilled Water Outlet	DN125(ø140)
19	Power Supply Connector	
20	Chiller Name Plate	
21	Evaporator Name Plate	
22	Condenser Name Plate	

**Note:**  
Flange cooling water and chilled water ( Refrigerant) nozzle is self-prepared by users. Flange size is based on HG20592.

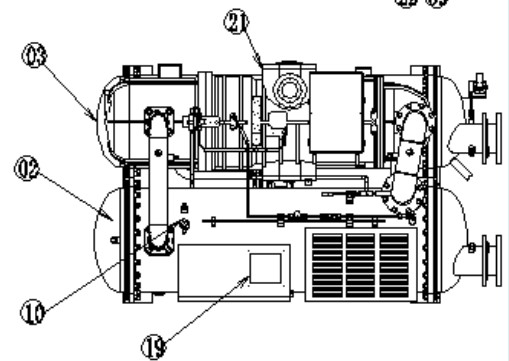
**Dimension**

**ZUW80/90/100CS5YV**



Please ensure above maintenance

Installed Base



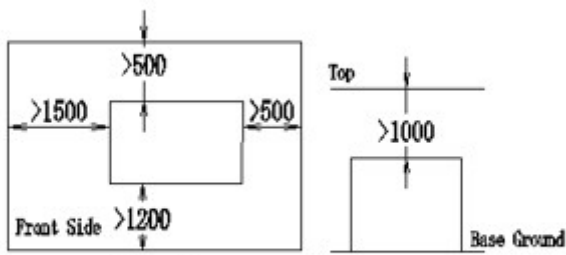
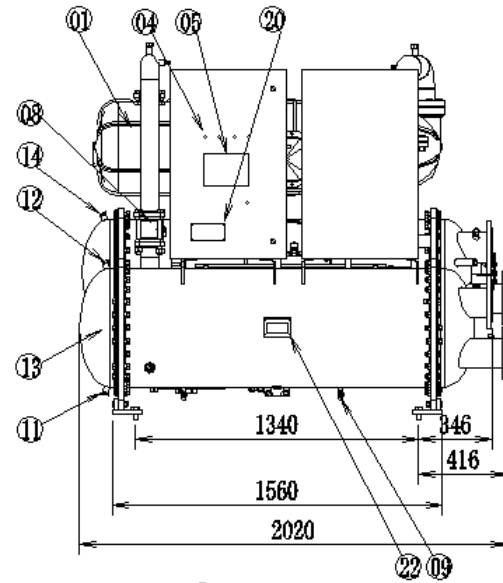
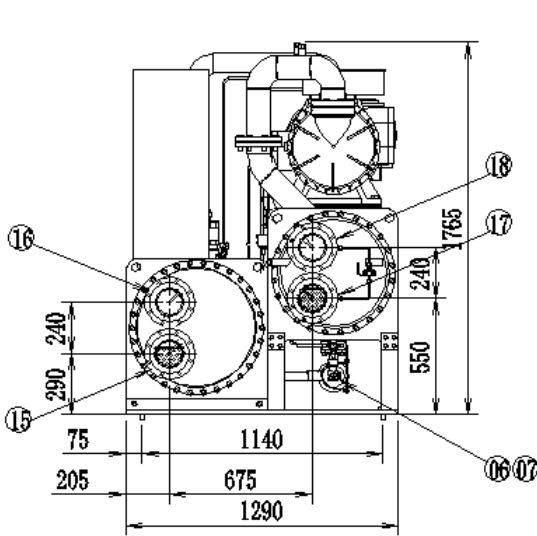
NO.	Spare Parts Name	Remark
1	Compressor	
2	Condenser	
3	Evaporator	
4	Control box	
5	Control Panel	
6	Electronical Expansion Valve	
7	Dry Filter	
8	Reflex Valve	
9	Refrigerant charge valve	
10	Safety Valve	1 NPT
11	Condenser Water Drain Outlet	NPT1/2"
12	Condenser Water Air Outlet	NPT1/2"
13	Chilled Water Drain Outlet	NPT1/2"
14	Chilled Water Air Outlet	NPT1/2"

NO.	Spare Parts Name	Remark
15	Condenser Water Inlet	DN125(ø140)
16	Condenser Water Outlet	DN125(ø140)
17	Chilled Water Inlet	DN125(ø140)
18	Chilled Water Outlet	DN125(ø140)
19	Power Supply Connector	
20	Chiller Name Plate	
21	Evaporator Name Plate	
22	Condenser Name Plate	

**Note:**  
Flange cooling water and chilled water ( Refrigerant) nozzle is self-prepared by users. Flange size is based on HG20592.

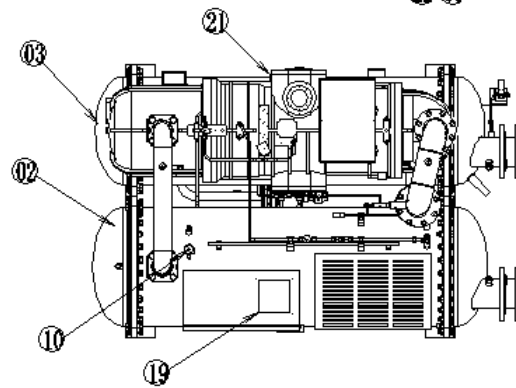
**Dimension**

**ZUW120CS5YV**



Please ensure above maintenance

Installed Base



NO.	Spare Parts Name	Remark
1	Compressor	
2	Condenser	
3	Evaporator	
4	Control box	
5	Control Panel	
6	Electronical Expansion Valve	
7	Dry Filter	
8	Reflex Valve	
9	Refrigerant charge valve	
10	Safety Valve	1 NPT
11	Condenser Water Drain Outlet	NPT1/2"
12	Condenser Water Air Outlet	NPT1/2"
13	Chilled Water Drain Outlet	NPT1/2"
14	Chilled Water Air Outlet	NPT1/2"

NO.	Spare Parts Name	Remark
15	Condenser Water Inlet	DN125(ø140)
16	Condenser Water Outlet	DN125(ø140)
17	Chilled Water Inlet	DN125(ø140)
18	Chilled Water Outlet	DN125(ø140)
19	Power Supply Connector	
20	Chiller Name Plate	
21	Evaporator Name Plate	
22	Condenser Name Plate	

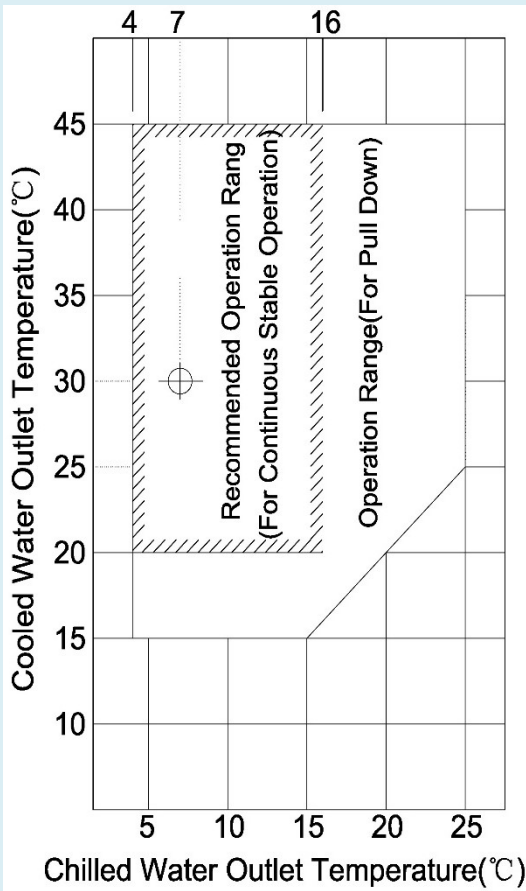
**Note:**  
Flange cooling water and chilled water ( Refrigerant) nozzle is self-prepared by users. Flange size is based on HG20592.



## Operation Limits

### 1. Temperature Range

#### Standard Model and Inverter Model

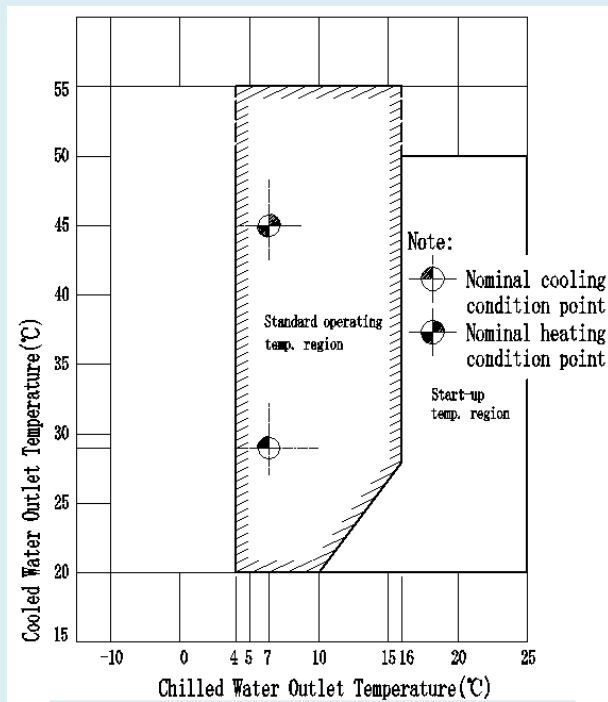
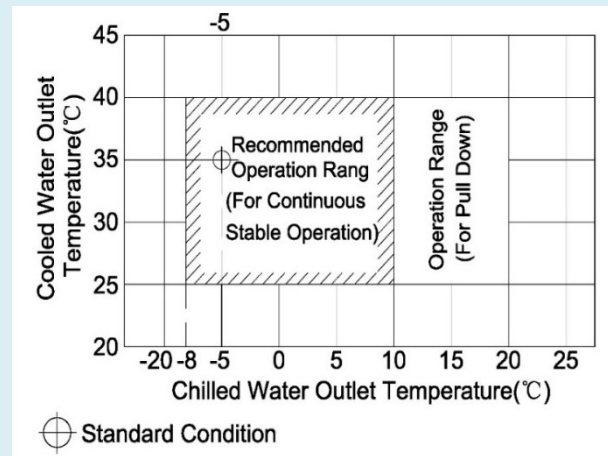


1. The water flow of ZUW-C units should be stipulated in the following table. In the cooling water and chilled water system. It is necessary to make the unit operate under the condition of constant water flow.

2. The circulating water should be used in the chilled water and cooling water system.

3. Low temperature application: ethylene glycol (concentration 35%) refrigerant.

#### Brine Chiller



#### Heat Pump Chiller

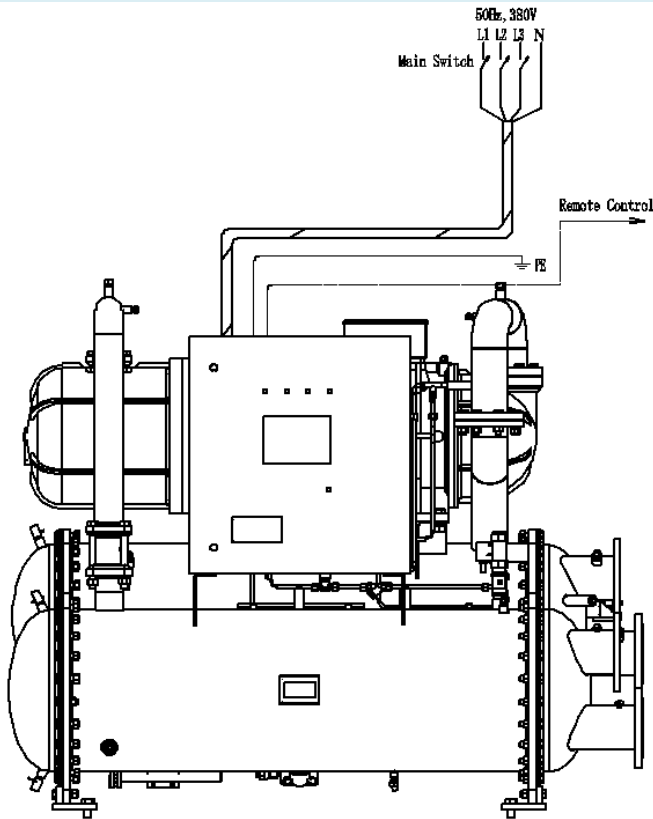
### 2. Minimum Retention Water

Minimum retention water		
Model no.	Min. retention water(L)	Evap. Inner water volume(L)
ZUW80CS5Y/Z/V	1971	52
ZUW90CS5Y/Z/V	2265	54
ZUW100CS5Y/Z/V	2508	59
ZUW120CS5Y/Z/V	3010	72
ZUW80CS5Y-HC	2050	52
ZUW90CS5Y-HC	2308	54
ZUW100CS5Y-HC	2716	59
ZUW120CS5Y-HC	3311	72

Water application scope		
Model no.	Chilled water(L/min)	Condenser water(L/min)
ZUW80CS5Y/Z/V	532~1478	528~1490
ZUW90CS5Y/Z/V	611~1699	607~1712
ZUW100CS5Y/Z/V	677~1881	672~1896
ZUW120CS5Y/Z/V	813~2258	807~2276
ZUW80CS5Y-HC	553~1537	549~1550
ZUW90CS5Y-HC	623~1731	618~1745
ZUW100CS5Y-HC	733~2037	728~2053
ZUW120CS5Y-HC	894~2483	887~2503

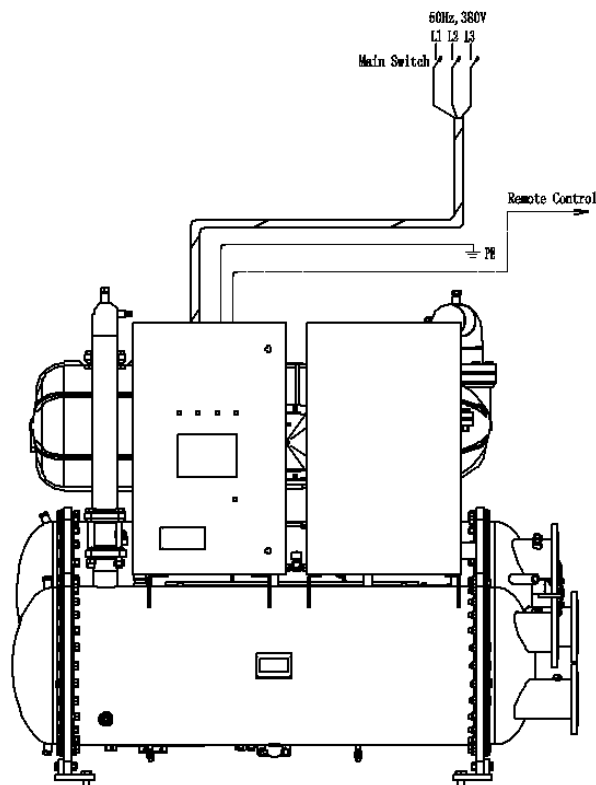
## External Power Supply Wiring Diagram

### Standard type/ Brine type(Single Compressor)



Model	Power line (L1,L2,L3) Cable specification	Zero line(N) Cable specification (mm <sup>2</sup> )	Grounding line(PE) Cable specification
ZUW80CS5Y(Z)	3×50	4	25
ZUW90CS5Y(Z)	3×50	4	25
ZUW100CS5Y(Z)	3×70	4	35
ZUW120CS5Y(Z)	3×95	4	50
ZUW80CS5Y-HC	3×70	4	35
ZUW90CS5Y-HC	3×70	4	35
ZUW100CS5Y-HC	3×70	4	35
ZUW120CS5Y-HC	3×95	4	50

ZUW80~120CS5Y (Z) (-HC)



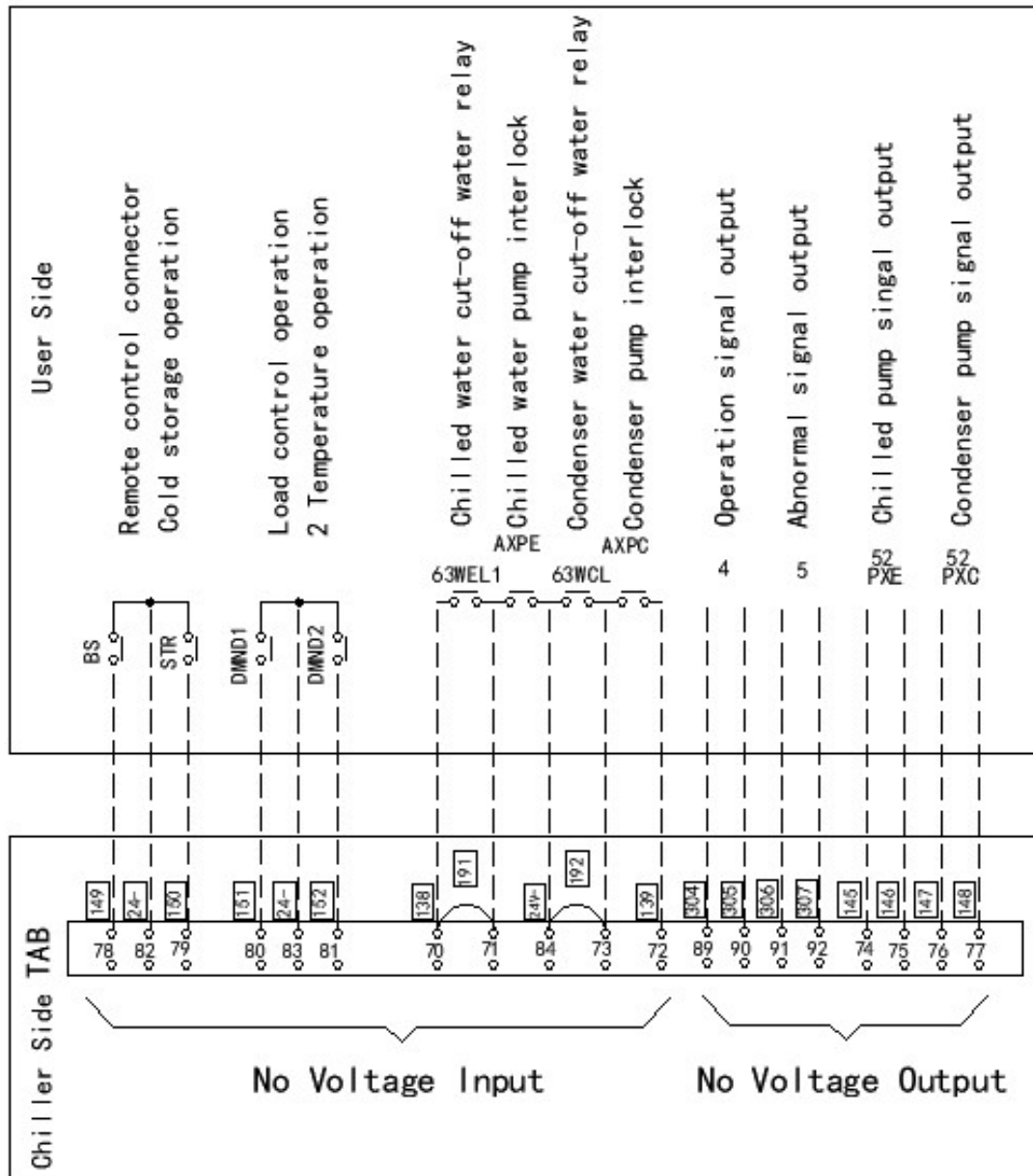
ZUW80~120CS5YV

Model	Power line (L1,L2,L3) Cable specification	Grounding line(PE) Cable specification
ZUW80CS5YV	3×50	25
ZUW90CS5YV	3×50	25
ZUW100CS5YV	3×95	50
ZUW120CS5YV	3×95	50

**Note:**

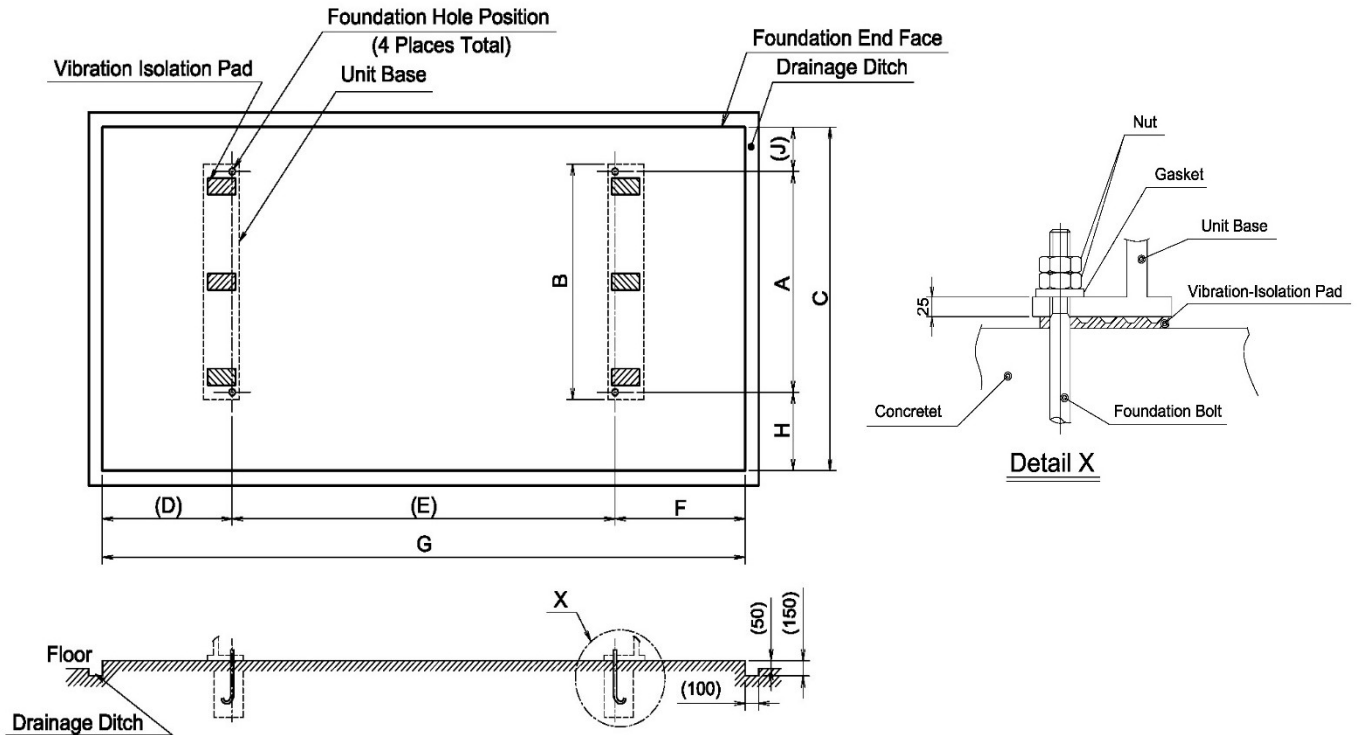
1. The cable parameters listed above are for reference only. Due to various factors such as cable settings, cable type selection, users should calculate the wiring according to the actual situation of the project and relevant electrical standards.
2. When the distribution voltage fluctuates greatly (more than  $\pm 2\%$ ), the wiring specifications should be increased appropriately.
3. Grounding can be done on site or wiring with fire line from machining room.

## Internal Control Wiring Diagram



- ☆ **Important note**  
Please do wiring in accordance with above power supply strictly, circuit board may be burned due to excessive current.
- ☆ **About the remote control wiring**  
When you are using a remote control, please well connect BS line, at the same time, set "T setting - Ctrl sel" item to "Remote" on touch screen.
- ☆ **About the load control**  
When you adopt load control operation to control, please well connect DMND1 contact line, at the same time, set "setting - common set - Load control" item to "DMND(out)".
- ☆ **About 2 temperature control**  
Connect DMND2 contact line, at the same time, set "T Setting - Model Set" item to "2 Temperature".
- ☆ **Operation output signal**  
Stop condition: normally open contacts (304, 305) disconnect  
Running condition: normally open contacts (304, 305) closed.
- ☆ **About cold storage control**  
Connect STR contact line, at the same time, set "T Setting- Model Set" item to "STR(out)".
- ☆ **About Chilled water pump and cooling water pump interlock connection**  
Must connect AXPC and AXPE line, unit can't start if interlock connection not connected.
- ☆ **About Chilled water and cooling water out-of relay interlock connection**  
User need to tear down the line number 191 short wire when connect chilled water out-of relay 63WEL1.  
User need to tear down the line number 192 short wire when connect cooling water out-of relay 63WCL.
- ☆ **About the operating power supply**  
on unit side, We require user to enter the passive switch signal to the unit.  
All output signals, passive dry contact provided by control box of unit. When user connects control wire, the wire capacity follow the below configuration:  
Maximum AC250V, 5A; Minimum DC5V, 100mA.
- ☆ **Fault output signal**  
Stop condition: disconnect  
Normal operation: disconnect

## Foundation



Model no.	A	B	C	D	E	F	G	H	J	Rubber pad	
										Size	Qty
ZUW100/90/80CS5Y(Z)(V)(-HC)	1020	1400	2490	600	1340	600	2070	600	450	240×100×t20	4
ZUW120CS5Y(Z)(V)(-HC)	1140	1400	2490	600	1340	600	2190	600	450	240×100×t20	4

### Notes:

1. Foundation must be capable of carrying the chiller operating weight.
2. The foundation surface should be finished horizontally and flatly.  
(The levelness should be 2mm max./1000mm)
3. The drainage ditch should be provided around the foundation.
4. For machine maintenance, the floor should be applied with water-proofing treatment.
5. The foundation bolts and nuts are not supplied. (Outside the range of our supply.)  
These parts should be arranged at customer's end with due consideration given to bolt pulling-out force, etc. by seismic force.
6. The vibration isolation works meeting the installation requirements should be conducted. Vibration may propagate from the installation part, thereby generating a sound from the floor and wall. The standard machine is isolated from vibration specifically by using the vibration isolation pads (accessories).
7. For standard vibration isolation, the vibration isolation pad should be attached near or around each foundation bolt and in the unit base center part. (Refer to above figure.)
8. Fixed bolt: J type, M24 buried deep 300, 4 pieces (the user should bring it by themselves).



## Warning

- Daikin Air-Conditioning(Shanghai)CO.,LTD Huizhou Factory's products are manufactured for export to numerous countries throughout the world. Daikin Huizhou Factory does not have control over which products are exported to and used in a particular country. Prior to purchase, please therefore confirm with your local authorized importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings. If you have any enquires, please contact your local importer, distributor or retailer.



**About ISO 9001**  
ISO 9001 is a plant certification system defined by the International Organization for Standardization (ISO) relating to quality assurance. ISO 9001 certification covers quality assurance aspects related to the "design, development, manufacture, installation, and supplementary service" of products manufactured at the plant.



**About ISO 14001**  
ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management Systems. Our group has been acknowledged by an internationally accredited compliance organization as having an appropriate program of environmental protection procedures and activities to meet the requirements of ISO 14001.

### Manufacturer

**DAIKIN AIR-CONDITIONING(SHANGHAI)CO.,LTD. HUIZHOU FACTORY**  
No. 8 South Dongtai Road, Dongjiang Zhongkai Hi-tech Industrial Park,  
Huizhou, Guangdong P.R., China 516005.