





Ningbo Dekon Refrigeration Equipment Co., Ltd, a large-scale industry and trade integrated company , is one of the leading manufacture and supplier for air conditioner products and ventilation systems in China. Products focus on air cooled or water cooled chiller; air handling units; water fan coil units; VRF air conditioner; light commercial air conditioner and special function industrial air conditioner.

Designing and manufacturing a wide range of A/C and ventilation products, we can supply models for use in residential apartments, houses, commercial buildings, hotels, shopping malls and public venues. Marketing all series under our proprietary brand "DEKON" , we can also complete ODM and OEM orders as per customers' requirements.

DEKON strives for better air in your home, hotel, shopping Center and office buildings. And our aim is to supply our air conditioner product to each corner of the world !

DEKON Modular Scroll Water Chiller

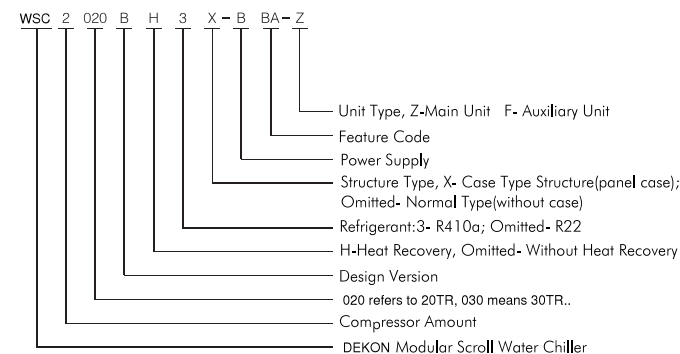
Instruction

DEKON Modular Scroll Water Chiller can serve as cooling source for central conditioning project and industry cooling system. Chiller applies modular design. Modules are independent and can be combined randomly under central control microcomputer. Chillers can take active control of capacity output by start/stop relevant module according to load change,thus effectively saving much energy. Heat recovery is optional,which can recover rest heat of condenser in order to produce 60°C domestic hot water or process water.

Unit applied high quality refrigerant self-control components imported from world famous manufacturer, and has gone through system match and optimum design with advanced control technology, and it has become one of the most reliable,energy saving,enviroment friendly, and quiet units.DEKON boasts test labratory certified by CNAS, and every unit is ensured good quality and performance through strict testing.



Unit Nomenclature



Unit Features

(1) Easy Flexible Installation & Commissioning

- Every modular unit has independent cooling and protection control system. Each unit will start to operate step by step in order to achieve capacity needed. If one of them breaks down, it will not affect operation the other unit so as to make sure of continuous operation, with high reliability, but without any need of stand-by unit.
- Every modular unit can be installed closely or by a separate distance, max 8 modules, in order to suit the application and shifting space as well saving installation fee.
- Reasonable design and tight structure; low space demand.

(2) Intelligent Control & High Efficient Energy Saving

- Due to the modular system design, the maximum starting ampere for the whole system is decreased to the minimum (lower voltage surge) by starting the modular unit separately. This will directly save for the system energy generally.
- The microprocessor can detect and determine the required capacity automatically. It will randomly start the separate modular units until the sufficient capacity for the space heat load is supplied in order to achieve the best energy saving for the system.
- All modular unit use the new hermetic scroll compressor that is of low noise, low vibration and high efficiency.
- Refrigerant system applies parallel compressor that increase the partial load COP 15%, saving more electricity.

(3) High Quality & Reliable Performance

- Hermetic high efficient reliable scroll compressor is applied. with inner over-heat protection, stable and reliable.
- All main components in the refrigeration system are of branded high quality products from America, Europe and Japan.
- Microprocessor controller have functions such as failure diagnosis, capacity management, antifreeze control etc. to ensure best performance of the unit.
- Microprocessor controller gives real-time monitor on high/low pressure, discharge temperature and water temperature and has multiple protector to ensure safe operation.
- Evaporator and condenser both applied high efficient heat exchange pipe. Shell and tube heat exchanger is applied to avoid frost cleft, with low requirement on water quality, and easy to clean.

(4) Free Hot Water & Environment Friendly (Optional)

- Unit cooling EER Under heat recovery condition is 5% higher, with lower operation cost.
- High temperature condensing waste heat in process of recovery cooling operation can be used to supply free hot water as high as 60°C without any energy consumption.
- Directly use condensing waste heat and reduce waste heat discharge; meanwhile, hot water system separate water and electricity to avoid hidden danger.

(5) Environment Friendly Refrigerant, Better Heat Exchanger(R410a Series)

- R410a would not damage the atmospheric layer, also environment friendly.
- Better heat exchange performance thanks to R410a with better system efficiency and less refrigerant. It makes a great contribution to reduce the green house effect.

(6) Quiet and Comfortable, Easy Maintenance

- Firm structure and outstanding appearance with good sound insulation to reduce the noise in the lowest level. The box panel can be dismantled, hence easy for maintenance.
- R410a scroll compressor is with more quiet operation performance and smaller vibration comparing with normal scroll compressor.
- Compressor equips with soft installation foundation that reduce the vibration efficiently.
- Optimized suction/exhausting air pipe design to reduce the vibration delivery.

(7) Water Proof Design, without Equipment Room(for the Unit with Case)

- The case is under static electrode painting and antirust treatment, hence it can be installed outside no need equipment room any more.

Component Instruction

Compressor

This series unit applies high efficient scroll compressor, each module has 2-3 compressors so that multi-step capacity control is available. There is overheat protection for compressor and to avoid liquid hammer during compressor startup, each compressor has a oil heater with proper power installed at bottom, which can heat standby compressor.

Evaporator

The evaporator shall be of high efficiency profiled shell and tube heat exchanger. Design pressure on refrigerant side for 2.5MPa, while at water side is 1.0MPa. The evaporator internal has been assembled with PP water baffles. The chilled water goes along the baffles to increase the turbulence flow effect. The evaporator inlet is designed specially in order to distribute the refrigerant evenly to every copper tube thus enhancing the overall heat transfer rate of the heat exchanger.

Condenser

The evaporator shall be of high efficiency profiled shell and tube heat exchanger. Design pressure on refrigerant side for R22 series is 2.5MPa, for R410a series is 3.99MPa, while at water side is 1.0MPa. The condenser increases heat transfer with high efficiency, and a subcooler of the bottom, which can increase refrigerant subcooling degree. Each refrigerant system is equipped with high efficiency, and a subcooler of the bottom, which is equipped with safe protection. Water side piping applies flexible damp, easy for on-side installation.

Condenser is designed, manufactured and tested with strict accordance to GB151-1999 and JB/T4750-2003.

Control Panel

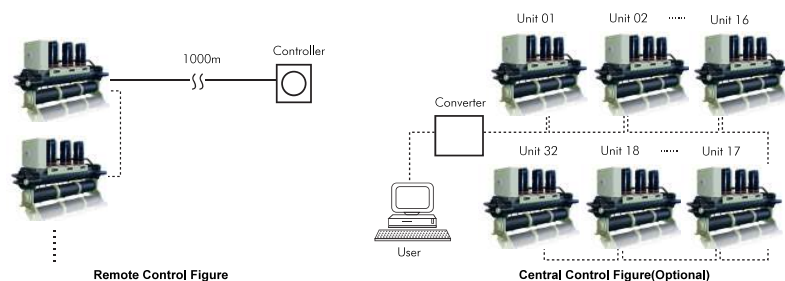
Control cabinet includes supply power part and control part. All components that unit needs for control and motor startup have been connected and functional tested in factory. Control cabinet use single point power connection.

Refrigerant Circuit

Each circuit has included compressor, shell and tube condenser evaporator, thermal expansion valve, dry filter, HP/LP switch, etc. Refrigeration system has gone through pressure-proof and leakage test, then been vacuumized and charged with refrigerant in factory. Low temperature pipes are all insulated by soft PE foam.

Control System

1. System Frame Diagram



2. Controller Display Function

Realtime display(24hrs)	Every Modular Unit output parameter display
Operation mode:cool,heat,automatic & manual	Compressor cut in display
Module temperature setting and indicator display	Compressor accumulate running duration display
Running module amount display	Compressor accumulate stat up times display
Communication Status Display	Water pump accumulate operating duration display
Every modular unit input parameter display	Module failure alarm display

3. Controller Control Function

Multiple ON/OFF timer function	Remote control terminal
Compressor wear & tear balancing	Failure alarm dialing function (optional)
Cooling,heating,automatic,manual and other mode function	Remote control function (dry contact control)
Self-diagnosis and protection function	Remote operation,alarm function
Fuzzy capacity adjustment control	Multi module controller
Chilled water antifreeze protection	Cooling water low temperature protection
Temperature, pressure transducer short circuit,cut off protection	Power failure last memory function
Unit setting control quantity function	Delay on timer after unit off
Multiple ON/OFF operation mode/method	Compressor oil heat-up control

4.Safety Alarm Function

High Pressure protection	External interlocking protection
Low pressure protection	Information failure alarm
Compressor overload,crankcase heater protection	Failure memory record
Wrong phase,high or low voltage protection	Transducer failure alarm
Air vent protection(high temperature)	Low water outlet temperature alarm.
Minimum chilled water flow rate protection	Minimum cooling water flow rate protection

R22 Series Performance Parameter

Model		WSC 2020B		WSC 3030B	
Cooling Capacity	kW	68		104	
Input Power	kW	14		21	
Operating Current	A	28		42	
Capacity Regulating		0—50%—100%		0—33%—67%—100%	
Power Supply		380V/3N~/50Hz			
Compressor	Type	Hermetic Scroll Compressor			
	Start Up		Directly Start		
	Qty	Set	2	3	
Refrigerant	Type	R22			
	Charge	kg	13	19.5	
	Controlled Type		External Equalizer Thermostic Expansion Valve		
Evaporator	Type	High Efficiency Shell and Tube Heat Exchanger			
	Water Flow Rate	m ³ /h	11.7	17.9	
	Pressure Drop	kPa	48	48	
	Connection Pipe	DN	65	65	
Condenser	Connection Type		Soft Hoop		
	Type	High Efficiency Shell and Tube Heat Exchanger			
	Water Flow Rate	m ³ /h	14.6	22.4	
	Pressure Drop	kPa	50	50	
Heat Recovery (Optional)	Connection Pipe	DN	65	65	
	Connection Type		Soft Hoop		
	Heat Recovery Capacity	kW	10	15	
	Water Flow Rate	m ³ /h	1.7	2.6	
Dimension	Pressure Drop	kPa	50	50	
	Connection Pipe	inch	R1*	R1*	
	Type	Plate Heat Exchanger			
Weight	Length	mm	2000	2000	
	Width	mm	565	565	
	Height	mm	1350	1350	
Weight	Transportation Weight	kg	550	650	
	Operation Weight	kg	650	750	

Note:

- 1.Design, manufacture and test comply with GB/T18430.1-2007 criterion.
- 2.Above capacity based on chilled water outlet temperature 7℃, cooling water inlet temperature 30℃.
- 3.Chilled water outlet temperature range 5-15℃, inlet and outlet water difference in temperature range 3.5-8℃, cooling water outlet temperature range 25-40℃, inlet and outlet water difference in temperature range 3.5-8℃.
- 4.Heat Recovery inlet temperature 40℃.
- 5.When actual water temperature is different from nominal water temperature, please calibrate it with "different conditions performance correction factor" in page 7.

R410a Series Performance Parameter

Model WSC		2020A3X		2020A3		3030A3		2055A3		2070A3					
Cooling Capacity		kW		72.5		72.5		108.5		200		48.5			
Input Power		kW		15.6		15.6		23.3		40.8		50.8			
Operating Current		A		28.4		28.4		42.5		68.4		85.3			
Capacity Regulating				0—50%—100%				0—33%—66%—100%				0—50%—100%			
Power Supply				380V/3N ~ /50Hz											
Compressor	Type			Hermetic Scroll Compressor											
	Start Up			Directly Start											
	Qty	Set		2		2		3		2		2			
Refrigerant	Type			R410a											
	Charge	kg		10		12		18		33		42			
	Controlled Type			External Equalizer Thermostic Expansion Valve											
Evaporator	Type			Plate Heat Exchanger		High Efficiency Shell and Tube Heat Exchanger									
	Water Flow Rate	m³/h		12.5		12.5		18.7		34.4		42.7			
	Pressure Drop	kPa		50		50		50		50		50			
	Connection Pipe	DN		50		65		65		80		80			
	Connection Type			2" Inner Taper Pipe Thread		Soft Hoop				Flange					
Condenser	Type			High Efficiency Shell and Tube Heat Exchanger											
	Water Flow Rate	m³/h		15.6		15.6		23.3		43.0		53.4			
	Pressure Drop	kPa		50		50		50		50		50			
	Connection Pipe	DN		50		65		65		100		100			
	Connection Type			2" Inner Taper Pipe Thread		Soft Hoop				Flange					
Heat Recovery (Option)	Heat Recovery Capacity	kW		10		10		15		28		35			
	Water Flow Rate	m³/h		1.7		1.7		2.6		4.8		6.0			
	Pressure Drop	kPa		50		50		50		50		50			
	Connection Pipe	inch		R1"		R1"		R1"		R1"1/4		R1"1/4			
Dimension	Type			Plate Heat Exchanger											
	Length	mm		1260		2000		2000		2400		2400			
	Width	mm		580		565		565		770		770			
	Height	mm		1215		1380		1380		1840		1840			
Weight	Transportation Weight	kg		550		550		630		1330		1330			
	Operation Weight	kg		650		650		730		1450		1450			

Note:

- 1.Design, manufacture and test comply with GB/T18430.1-2007 criterion.
- 2.Above capacity based on chilled water outlet temperature 7℃ , cooling water inlet temperature 30℃ .
- 3.Chilled water outlet temperature range 5-15℃ , inlet and outlet water different in temperature range 3.5-8 ℃, cooling water outlet temperature range 25-40℃ , inlet and outlet water different in temperature range 3.5-8 ℃ .
- 4.Heat Recovery inlet temperature 40℃
5. For the model WSC2020A3X is case type, it can be installed outside.
- 6.When actual water temperature is different from nominal water temperature, please calibrate it with "different conditions performance correction factor" in page 7.

Different Conditions Performance Parameter Correction Factor

Cooling Water Entering Temp.	Cooling Capacity (kW)							Unit Input Power(kW)						
	Chilled Water Leaving Temperature							Chilled Water Leaving Temperature						
	5℃	6℃	7℃	8℃	9℃	10℃	11℃	5℃	6℃	7℃	8℃	9℃	10℃	11℃
25℃	0.99	1.02	1.06	1.09	1.12	1.16	1.20	0.89	0.90	0.90	0.91	0.91	0.92	0.92
26℃	0.98	1.01	1.04	1.08	1.11	1.15	1.19	0.91	0.92	0.92	0.93	0.93	0.94	0.94
27℃	0.97	1.00	1.03	1.07	1.10	1.14	1.17	0.93	0.94	0.94	0.95	0.95	0.96	0.96
28℃	0.96	0.99	1.02	1.05	1.09	1.12	1.16	0.95	0.96	0.96	0.97	0.97	0.97	0.98
29℃	0.95	0.98	1.01	1.04	1.08	1.11	1.15	0.97	0.98	0.98	0.98	0.99	0.99	1.00
30℃	0.94	0.97	1.00	1.03	1.07	1.10	1.13	0.99	1.00	1.00	1.01	1.01	1.02	1.02
31℃	0.93	0.96	0.99	1.02	1.05	1.09	1.12	1.01	1.01	1.02	1.03	1.03	1.04	1.04
32℃	0.92	0.95	0.98	1.01	1.04	1.08	1.11	1.03	1.04	1.04	1.05	1.05	1.06	1.06
33℃	0.91	0.94	0.97	1.00	1.03	1.06	1.10	1.05	1.06	1.06	1.07	1.07	1.08	1.08
34℃	0.90	0.93	0.96	0.99	1.02	1.05	1.09	1.07	1.08	1.08	1.09	1.09	1.10	1.10
35℃	0.89	0.92	0.95	0.98	1.01	1.04	1.07	1.09	1.10	1.10	1.11	1.12	1.12	1.13

Note:

- 1.When actual water temperature is different from nominal condition, calibrate it with above data.
- 2.The actual cooling capacity or input power is the value that nominal cooling capacity or input power multiply by the correction factor

Water Piping System

Chilled water and cooling water system installation

- All the water inlet/outlet pipe and valve should be thermal insulated to prevent capacity loss or water condensation from occurring.
- To ensure the water side heat exchanger and the pipe system have sufficient water flow, and also to avoid problem such as high side pressure too high, internal freezing, low side pressure too low and insufficient oil return due to the insufficient water flow into the heat exchanger, a water flow switches must be installed at the chilled water system and condensing water side with which they must be interlocked with the compressor.
- During the multiple heat exchanger units operate with the unit chiller, every unit water flow should remained the same to prevent any diversion. The chiller with the heat exchanger units forth return piping must have the same resistance. A compensation valve is required if necessary.
- If the evaporator water piping system is a close loop system, to resolve problem such as expansion and contraction of the water volume due to the different water temperature and isolated supply water pressure effect, an expansion tank must be installed. The location of the expansion tank must be installed at the highest point of the water pipe system. The water level in expansion tank should at least 1m higher than the highest point of water piping system.
- The chilled water pump should be at inlet side of the evaporator.
- To avoid air lock in the water system, auto air vent must be installed at all the highest points of the water pipe system. The horizontal pipe must maintain at least 1/250 ratio sliding angle.

Water Piping System

- There should be a flexible connector in water pipe inlet/outlet, in order to avoid transferring the vibration from chiller to room.
- The piping weight can not be supported by the chiller unit. The water pump inlet/outlet with the pipe connection must be connected with flexible connector to prevent vibration and noise interference
- The chiller unit inlet and outlet should be installed with thermometer and pressure gauge for daily inspection.
- When the unit operation, chilled water flow rate should not less than 60% of nominal water flow rate, in the case of accident.
- Chilled water and cooling water pipe accessories should installed the foundation. So that we can separate it from water pipe. easily when checking.
- For single water chiller cooling water pipe connection please refer to diagram A
- For single water chiller chilled water pipe connection please refer to diagram B

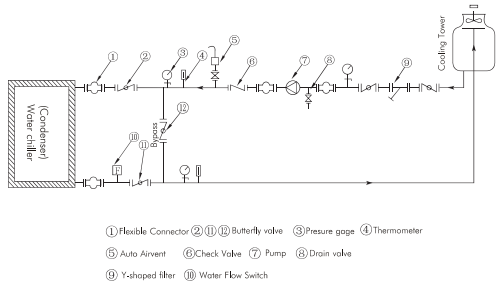


Diagram A cooling water pipe connection

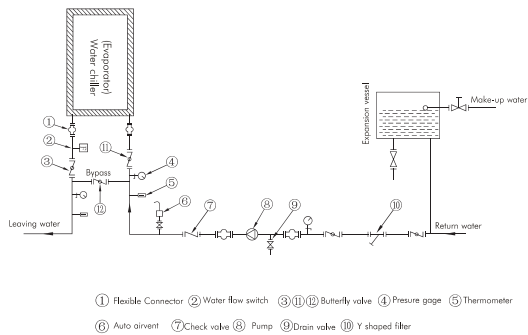


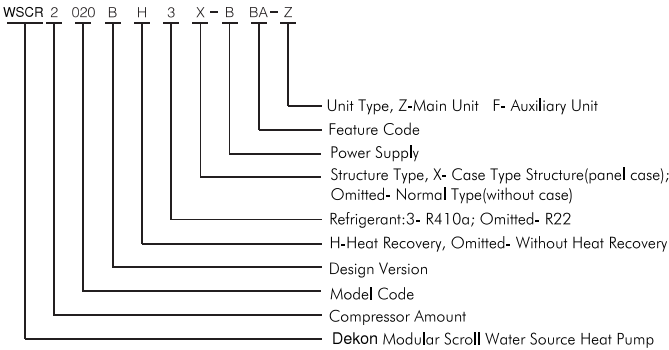
Diagram B chilled water pipe connection

Modular Scroll Water Source Heat Pump

Instruction

WSCR Modular Scroll Water Source Heat Pump is a high effective energy saving air conditioner which applies underground water, soil water or surface water both for cooling and heating. Based on stable temperature of underground water and soil, chiller conducts heat exchange between underground water and underground piping system, for energy transfer from low grade to high grade. In Winter, chiller will get heat from those water and transfer into the room; while in winter chiller will take heat out from the room and release them to water. It applies modular design. Modules are independent and can be combined randomly under central control microcomputer. Chillers can take active control of capacity output by start/stop relevant module according to load change, thus effectively saving much energy. Heat recovery is optional, which can recover rest heat of condenser in order to produce 60°C domestic hot water or process water. Unit applied high quality refrigerant self-control components imported from world famous manufacturer, and has gone through system match and optimum design with advanced control technology, and it has become one of the most reliable, energy saving, environment friendly, and quiet units. Dekon boasts test laboratory certified by CNAS, and every unit is ensured good quality and performance through strict testing.

Unit Nomenclature



Unit Features

(1) Easy Flexible Installation & Commissioning

- Every modular unit has independent cooling and protection control system. Each unit will start to operate step by step in order to achieve capacity needed. If one of them breaks down, it will not affect operation the other unit so as to make sure of continuous operation, with high reliability, but without any need of stand-by unit.
- Every modular unit can be installed closely or by a separate distance, max 8 modules, in order to suit the application and shifting space as well saving installation fee.
- Reasonable design and tight structure; low space demand.

(2) Intelligent Control & High Efficient Energy Saving

- Due to the modular system design, the maximum starting ampere for the whole system is decreased to the minimum (lower voltage surge) by starting the modular unit separately. This directly will save for the system energy generally.
- The microprocessor can detect and determine the required capacity automatically. It will randomly start the separate modular units until the sufficient capacity for the space heat load is supplied in order to achieve the best energy saving for the system.
- All modular unit use the new hermetic scroll compressor that is of low noise, low vibration and high efficiency.
- Refrigerant system applies parallel compressor that increase the partial load COP 15%, saving more electricity.

(3) High Quality & Reliable Performance

- Hermetic high efficient reliable scroll compressor is applied. with inner over-heat protection, stable and reliable.
- All main components in the refrigeration system are of branded high quality products from America, Europe and Japan.
- Microprocessor controller have functions such as failure diagnosis, capacity management, antifreeze control etc. to ensure best performance of the unit.
- Microprocessor controller gives real-time monitor on high/low pressure, discharge temperature and water temperature and has multiple protector to ensure safe operation.
- Evaporator and condenser both applied high efficient heat exchange pipe. Shell and tube heat exchanger is applied to avoid frost cleft, with low requirement on water quality, and easy to clean.

(4) Free Hot Water & Environment Friendly (Optional)

- Unit cooling EER Under heat recovery condition is 5% higher, with lower operation cost.
- High temperature condensing waste heat in process of recovery cooling operation can be used to supply free hot water as high as 60°C without any energy consumption.
- Directly use condensing waste heat and reduce waste heat discharge; meanwhile, hot water system separate water and electricity to avoid hidden danger.

(5) Environment Friendly Refrigerant, Better Heat Exchanger(R410a Series)

- R410a would not damage the atmospheric layer, also environment friendly.
- Better heat exchange performance thanks to R410a with better system efficiency and less refrigerant. It makes a great contribution to reduce the green house effect.

(6) Quiet and Comfortable, Easy Maintenance

- Firm structure and outstanding appearance with good sound insulation to reduce the noise in the lowest level. The box panel can be dismantled, hence easy for maintenance.
- R410a scroll compressor is with more quiet operation performance and smaller vibration comparing with normal scroll compressor.
- Compressor equips with soft installation foundation that reduce the vibration efficiently.
- Optimized suction/exhausting air pipe design to reduce the vibration delivery.

(7) Water Proof Design, without Equipment Room(for the Unit with Case)

- The case is under static electrode painting and antirust treatment, hence it can be installed outside no need equipment room any more.

Component Instruction

Compressor

This series unit applies high efficient scroll compressor, each module has 2-3 compressors so that multi-step capacity control is available. There is overheat protection for compressor and to avoid liquid hammer during compressor startup, each compressor has a oil heater with proper power installed at bottom, which can heat standby compressor.

Evaporator

The evaporator shall be of high efficiency profiled shell and tube heat exchanger. Design pressure on refrigerant side for 2.5MPa, while at water side is 1.0MPa. The evaporator internal has been assembled with PP water baffles. The chilled water goes along the baffles to increase the turbulence flow effect. The evaporator inlet is designed specially in order to distribute the refrigerant evenly to every copper tube thus enhancing the overall heat transfer rate of the heat exchanger.

Condenser

The evaporator shall be of high efficiency profiled shell and tube heat exchanger. Design pressure on refrigerant side for R22 series is 2.5MPa, for R410a series is 3.99MPa, while at water side is 1.0MPa. The condenser increases heat transfer with high efficiency, and a subcooler of the bottom, which can increase refrigerant subcooling degree. Each refrigerant system is equipped with high efficiency, and a subcooler of the bottom, which is equipped with safe protection. Water side piping applies flexible damp, easy for on-side installation.

Condenser is designed, manufactured and tested with strict accordance to GB151-1999 and JB/T4750-2003.

Control Panel

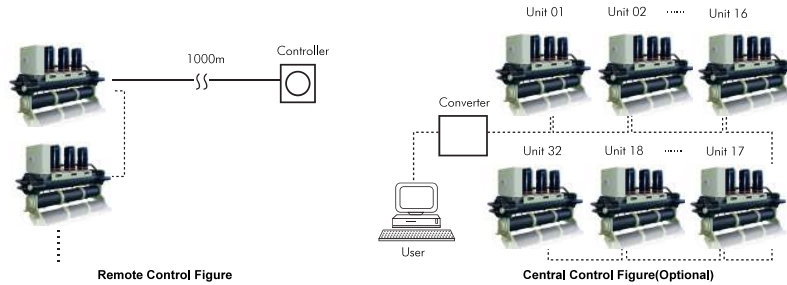
Control cabinet includes supply power part and control part. All components that unit needs for control and motor startup have been connected and functional tested in factory. Control cabinet use single point power connection.

Refrigerant Circuit

Each circuit has included compressor, shell and tube condenser evaporator, thermal expansion valve, dry filter, HP/LP switch, etc. Refrigeration system has gone through pressure-proof and leakage test, then been vacuumized and charged with refrigerant in factory. Low temperature pipes are all insulated by soft PE foam.

Control System

1. System Frame Diagram



2. Controller Display Function

Realtime display(24hrs)	Every Modular Unit output parameter display
Operation mode:cool,heat,automatic & manual	Compressor cut in display
Module temperature setting and indicator display	Compressor accumulate running duration display
Running module amount display	Compressor accumulate start up times display
Communication Status Display	Water pump accumulate operating duration display
Every modular unit input parameter display	Module failure alarm display

3. Controller Control Function

Multiple ON/OFF timer function	Remote control terminal
Compressor wear & tear balancing	Failure alarm dialing function (optional)
Cooling,heating,automatic,manual and other mode function	Remote control function (dry contact control)
Self-diagnosis and protection function	Remote operation,alarm function
Random capacity adjustment control	Multi module controller
Chilled water antifreeze protection	Cooling water low temperature protection
Temperature, pressure transducer short circuit,cut off protection	Power failure last memory function
Unit setting control quantity function	Delay on timer after unit off
Multiple ON/OFF operation mode/method	Compressor oil heat-up control

4.Safety Alarm Function

High Pressure protection	External interlocking protection
Low pressure protection	Information failure alarm
Compressor overload,crankcase heater protection	Failure memory record
Wrong phase,high or low voltage protection	Transducer failure alarm
Air vent protection(high temperature)	Low water outlet temperature alarm.
Minimum chilled water flow rate protection	Minimum cooling water flow rate protection

R22 Series Performance Parameter

Ground Water Condition

Model	WSCR		2020B	3030B
Cooling	Cooling Capacity	kW	72	108
	Input Power	kW	13.2	19.8
	Rated Current	A	28	42
	Chilled Water Flow Rate	m³/h	12.4	18.6
	Chilled Water Pressure Drop	kPa	50	50
	Cooling Water Flow Rate	m³/h	6.6	10
Heating	Cooling Water Pressure Drop	kPa	15	15
	Heating Capacity	kW	78	117
	Input Power	kW	18	27
	Rated Current	A	34	50
	Chilled Water Flow Rate	m³/h	6.6	10
	Chilled Water Pressure Drop	kPa	18	18
Capacity Regulating	Hot Water Flow Rate	m³/h	12.4	18.6
	Hot Water Pressure Drop	kPa	45	45
	Capacity Regulating		0~50%~100%	0~33%~67%~100%
	Power Supply		380V/3N~/50Hz	
	Compressor	Type	Hermetic Scroll Compressor	
		Start Up		Directly Start
Qty		Set	2	3
Refrigerant	Type	R22		
	Charge	kg	13	19.5
	Controlled Type		External Equalizer Thermostic Expansion Valve	
Evaporator	Type	High Efficiency Shell and Tube Heat Exchanger		
	Connection Pipe	DN	65	65
	Connection Type		Soft Hoop	
Condenser	Type	High Efficiency Shell and Tube Heat Exchanger		
	Connection Pipe	DN	65	65
	Connection Type		Soft Hoop	
	Heat Recovery Capacity	kW	10	15
Heat Recovery (Optional)	Water Flow Rate	m³/h	1.7	2.6
	Pressure Drop	kPa	50	50
	Connection Pipe	inch	R1"	R1"
	Type		Plate Heat Exchanger	
Dimension	Length	mm	2000	2000
	Width	mm	565	565
	Height	mm	1350	1350
Weight	Transportation Weight	kg	550	650
	Operation Weight	kg	650	750

Note:

- Design, manufacture and test comply with GB/T19409-2003
- Nominal cooling condition: chilled water inlet/outlet 12/7℃, cooling water inlet/outlet 18/29℃.
- Nominal heating condition: chilled water inlet 15℃, hot water inlet 40℃.
- Cooling operation mode: chilled water outlet temperature range 5-15℃,cooling water outlet temperature range 25-40℃.
- Heating operation mode: chilled water outlet temperature range 5-17℃,hot water outlet temperature range 30-50℃.
- Heat recovery water inlet temperature 40℃.
- When water temperature is different from nominal condition, please calibrate it by 'different condition parameter correction factor' in page 16.

Underground Loop Condition

Model		WSCR	2020B	3030B
Cooling	Cooling Capacity	kW	72	108
	Input Power	kW	13.2	19.8
	Rated Current	A	28	42
	Chilled Water Flow Rate	m³/h	12.4	18.6
	Chilled Water Pressure Drop	kPa	50	50
	Cooling Water Flow Rate	m³/h	14.7	22
Heating	Cooling Water Pressure Drop	kPa	50	50
	Heating Capacity	kW	78	117
	Input Power	kW	18	27
	Rated Current	A	34	50
	Chilled Water Flow Rate	m³/h	14.7	22
	Chilled Water Pressure Drop	kPa	65	65
	Hot Water Flow Rate	m³/h	12.4	18.6
	Hot Water Pressure Drop	kPa	36	36
Capacity Regulating		0~50%~100% 0~33%~67%~100%		
Power Supply		380V/3N~/50Hz		
Compressor	Type		Hermetic Scroll Compressor	
	Start Up		Directly Start	
Refrigerant	Qty	Set	2	3
	Type		R22	
Evaporator	Charge	kg	13	19.5
	Controlled Type		External Equalizer Thermostic Expansion Valve	
	Type	High Efficiency Shell and Tube Heat Exchanger		
Condenser	Connection Pipe	DN	65	65
	Connection Type		Soft Hoop	
	Type	High Efficiency Shell and Tube Heat Exchanger		
	Connection Pipe	DN	65	65
	Connection Type		Soft Hoop	
Heat Recovery (Optional)	Heat Recovery Capacity	kW	10	15
	Water Flow Rate	m³/h	1.7	2.6
	Pressure Drop	kPa	50	50
	Connection Pipe	inch	R1"	R1"
	Type	Plate Heat Exchanger		
Dimension	Length	mm	2000	2000
	Width	mm	565	565
	Height	mm	1350	1350
Weight	Transportation Weight	kg	550	650
	Operation Weight	kg	650	750

Note:

- Design, manufacture and test comply with GB/T19409-2003
- Nominal cooling condition: chilled water inlet/outlet 12/7℃, cooling water inlet/outlet 25/30℃.
- Nominal heating condition: chilled water inlet 10℃, hot water inlet 40℃.
- Cooling operation mode: chilled water outlet temperature range 5-15℃,cooling water outlet temperature range 25-40℃.
- Heating operation mode: chilled water outlet temperature range -10-17℃,hot water outlet temperature range 30-50℃. If chilled water temperature is less than 3℃, pls make comments in order.
- Heat recovery inlet temperature 40℃.
- When water temperature is different from nominal condition, please calibrate it by 'different condition parameter correction factor' in page 17.

R410a Series Performance Parameter

Ground Water Condition

Model	WSCR		2020A3X	2020A3	3030A3	2055A3	2070A3
Cooling	Cooling Capacity	kW	78.5	78.5	117.5	215.5	268
	Input Power	kW	13.9	13.9	20.8	36.1	44.9
	Rated Current	A	25.6	25.6	38.4	61.1	76.1
	Chilled Water Flow Rate	m³/h	13.5	13.5	20.2	37.1	46.1
	Chilled Water Pressure Drop	kPa	50	50	50	50	50
	Cooling Water Flow Rate	m³/h	7.2	7.2	10.8	19.7	24.4
Heating	Cooling Water Pressure Drop	kPa	16	16	16	16	16
	Heating Capacity	kW	85	85	127.5	229.5	283.5
	Input Power	kW	19.6	19.6	29.4	52	63.9
	Rated Current	A	34	34	51	83.8	104.5
	Chilled Water Flow Rate	m³/h	7.2	7.2	10.8	19.7	24.4
	Chilled Water Pressure Drop	kPa	16	16	16	16	16
Capacity Regulating	Hot Water Flow Rate	m³/h	13.5	13.5	20.2	37.1	46.1
	Hot Water Pressure Drop	kPa	50	50	50	50	50
Capacity Regulating			0—50%—100%		0—33%—66%—100%		0—50%—100%
Power Supply			380/3N ~ /50Hz				
Compressor	Type		Hermetic Scroll Compressor				
	Start Up		Directly Start				
	Qty	Set	2	2	3	2	2
	Type		R410a				
	Charge	kg	10	12	18	33	42
	Controlled Type		External Equalizer Thermostic Expansion Valve				
Evaporator	Type		Plate Heat Exchanger		High Efficiency Shell and Tube Heat Exchanger		
	Connection Pipe	DN	50	65	65	80	80
	Connection Type		2" Inner Taper Pipe Thread	Soft Hoop		Flange	
Condenser	Type		High Efficiency Shell and Tube Heat Exchanger				
	Connection Pipe	DN	50	65	65	100	100
	Connection Type		2" Inner Taper Pipe Thread	Soft Hoop		Flange	
Heat Recovery (Option)	Heat Recovery Capacity	kW	10	10	15	28	35
	Water Flow Rate	m³/h	1.7	1.7	2.6	4.8	6.0
	Pressure Drop	kPa	50	50	50	50	50
	Connection Pipe	inch	R1"	R1"	R1"	R1"1/4	R1"1/4
	Type		Plate Heat Exchanger				
Dimension	Length	mm	1260	2000	2000	2400	2400
	Width	mm	580	565	565	770	770
	Height	mm	1215	1380	1380	1840	1840
Weight	Transportation Weight	kg	550	550	630	1330	1330
	Operation Weight	kg	650	650	730	1450	1450

Note:

- Design, manufacture and test comply with GB/T19409-2003
- Nominal cooling condition: chilled water inlet/outlet 12/7℃,cooling water inlet/outlet 18/29℃.
- Nominal heating condition: chilled water inlet 15℃,hot water inlet 40℃.
- Cooling operation mode: chilled water outlet temperature range 5-15℃,cooling water outlet temperature range 25-40℃.
- Heating operation mode: chilled water outlet temperature range 5-17℃,hot water outlet temperature range 30-50℃.
- Heat recovery inlet temperature 40℃.
- For model WSCR R2020A3X is with case, hence it can be installed outside the room.
- When water temperature is different from nominal condition, please calibrate it by 'different condition parameter correction factor' in page 16.

R410a Series Performance Parameter

Underground Loop Condition

Model	WSCR		2020A3X	2020A3	3030A3	2055A3	2070A3
Cooling	Cooling Capacity	kW	78.5	78.5	117.5	215.5	268
	Input Power	kW	13.9	13.9	20.8	36.1	44.9
	Rated Current	A	25.6	25.6	38.4	61.1	76.1
	Chilled Water Flow Rate	m³/h	13.5	13.5	20.2	37.1	46.1
	Chilled Water Pressure Drop	kPa	50	50	50	50	50
	Cooling Water Flow Rate	m³/h	15.9	15.9	23.8	43.3	53.8
Heating	Cooling Water Pressure Drop	kPa	50	50	50	50	50
	Heating Capacity	kW	85	85	127.5	229.5	283.5
	Input Power	kW	19.6	19.6	29.4	52	63.9
	Rated Current	A	34	34	51	83.8	104.5
	Chilled Water Flow Rate	m³/h	15.9	15.9	23.8	43.3	53.8
	Chilled Water Pressure Drop	kPa	60	60	60	60	60
	Hot Water Flow Rate	m³/h	13.5	13.5	20.2	37.1	46.1
	Hot Water Pressure Drop	kPa	40	40	40	40	40
Capacity Regulating			0—50%—100%		0—33%—66%—100%		0—50%—100%
Power Supply			380/3N ~ /50Hz				
Compressor	Type	Hermetic Scroll Compressor					
	Start Up	Directly Start					
	Qty	Set	2	2	3	2	2
Refrigerant	Type	R410a					
	Charge	kg	10	12	18	33	42
	Controlled Type	External Equalizer Thermostic Expansion Valve					
Evaporator	Type	Plate Heat Exchanger		High Efficiency Shell and Tube Heat Exchanger			
	Connection Pipe	DN	50	65	65	80	80
	Connection Type	2" Inner Taper Pipe Thread	Soft Hoop			Flange	
Condenser	Type	High Efficiency Shell and Tube Heat Exchanger					
	Connection Pipe	DN	50	65	65	100	100
	Connection Type	2" Inner Taper Pipe Thread	Soft Hoop			Flange	
Heat Recovery (Option)	Heat Recovery Capacity	kW	10	10	15	28	35
	Water Flow Rate	m³/h	1.7	1.7	2.6	4.8	6.0
	Pressure Drop	kPa	50	50	50	50	50
	Connection Pipe	inch	R1"	R1"	R1"	R1"1/4	R1"1/4
	Type	Plate Heat Exchanger					
Dimension	Length	mm	1260	2000	2000	2400	2400
	Width	mm	580	565	565	770	770
	Height	mm	1215	1380	1380	1840	1840
Weight	Transportation Weight	kg	550	550	630	1330	1330
	Operation Weight	kg	650	650	730	1450	1450

Note:

- Design, manufacture and test comply with GB/T19409-2003
- Nominal cooling condition: chilled water inlet/outlet 12/7℃,cooling water inlet/outlet 25/30℃.
- Nominal heating condition: chilled water inlet 10℃,hot water inlet 40℃.
- Cooling operation mode: chilled water outlet temperature range 5-15℃,cooling water outlet temperature range 25-40℃.
- Heating operation mode: chilled water outlet temperature range -10-17℃,hot water outlet temperature range 30-50℃.
- Heat recovery inlet temperature 40℃.
- For model WSCR R2020A3X is with case, hence it can be installed outside the room.
- When water temperature is different from nominal condition, please calibrate it by 'different condition parameter correction factor' in page 17.

Different Conditions Performance Parameter Correction Factor

Cooling (Ground Water Condition)

Ground Water Entering Temp.	Cooling Capacity (kW)							Unit Input Power(kW)						
	Chilled Water Leaving Temperature							Chilled Water Leaving Temperature						
	5°C	6°C	7°C	8°C	9°C	10°C	11°C	5°C	6°C	7°C	8°C	9°C	10°C	11°C
15°C	0.97	1.00	1.03	—	—	—	—	0.94	0.94	0.95	—	—	—	—
16°C	0.96	0.99	1.02	1.05	—	—	—	0.95	0.96	0.96	0.97	—	—	—
17°C	0.95	0.98	1.01	1.04	1.08	—	—	0.97	0.98	0.98	0.99	0.99	—	—
18°C	0.94	0.97	1.00	1.03	1.07	1.10	1.13	0.99	1.00	1.00	1.01	1.01	1.02	1.02
19°C	0.93	0.96	0.99	1.02	1.05	1.09	1.12	1.01	1.01	1.01	1.02	1.02	1.03	1.04
20°C	0.92	0.95	0.98	1.01	1.04	1.08	1.11	1.03	1.03	1.04	1.04	1.05	1.05	1.06
21°C	0.91	0.94	0.97	1.00	1.03	1.07	1.10	1.04	1.05	1.05	1.06	1.07	1.07	1.08
22°C	0.90	0.93	0.96	0.99	1.02	1.06	1.09	1.06	1.07	1.07	1.08	1.08	1.09	1.10
23°C	0.89	0.92	0.95	0.98	1.01	1.05	1.08	1.08	1.09	1.09	1.10	1.10	1.11	1.12
24°C	0.88	0.91	0.94	0.97	1.00	1.03	1.07	1.10	1.11	1.11	1.12	1.12	1.13	1.14
25°C	0.87	0.90	0.93	0.96	0.99	1.02	1.06	1.12	1.13	1.13	1.14	1.14	1.15	1.16

Heating (Ground Water Condition)

Hot Water Entering Temp.	Cooling Capacity (kW)							Unit Input Power(kW)						
	Ground Water(Source Water) Entering Temperature							Ground Water(Source Water) Entering Temperature						
	13°C	14°C	15°C	16°C	17°C	18°C	19°C	13°C	14°C	15°C	16°C	17°C	18°C	19°C
35°C	0.99	1.01	1.03	1.05	1.08	1.10	1.12	0.89	0.90	0.90	0.91	0.91	0.92	0.92
36°C	0.98	1.00	1.02	1.05	1.07	1.09	1.12	0.91	0.92	0.92	0.93	0.93	0.94	0.94
37°C	0.97	1.00	1.02	1.04	1.06	1.09	1.11	0.93	0.94	0.94	0.95	0.95	0.96	0.96
38°C	0.97	0.99	1.01	1.03	1.06	1.08	1.10	0.95	0.96	0.96	0.97	0.97	0.97	0.98
39°C	0.96	0.98	1.01	1.03	1.05	1.07	1.10	0.97	0.98	0.98	0.98	0.99	0.99	1.00
40°C	0.96	0.98	1.00	1.02	1.04	1.07	1.09	0.99	1.00	1.00	1.01	1.01	1.02	1.02
41°C	0.95	0.97	0.99	1.02	1.04	1.06	1.08	1.01	1.02	1.02	1.03	1.03	1.04	1.04
42°C	0.95	0.97	0.99	1.01	1.03	1.05	1.08	1.03	1.04	1.04	1.05	1.05	1.06	1.07
43°C	0.94	0.96	0.98	1.00	1.03	1.05	1.07	1.06	1.06	1.07	1.07	1.08	1.08	1.09
44°C	0.93	0.95	0.98	1.00	1.02	1.04	1.06	1.08	1.09	1.09	1.10	1.10	1.11	1.11
45°C	0.93	0.95	0.97	0.99	1.01	1.04	1.06	1.10	1.11	1.11	1.12	1.13	1.13	1.14

Note:

- 1.When actual water temperature is different from nominal condition, calibrate it with above data.
- 2.The actual cooling (heating) capacity or input power is the value that nominal cooling capacity or input power multiply by the correction factor

Different Conditions Performance Parameter Correction Factor

Cooling (Underground Loop Condition)

Ground Loop Entering Temp.	Cooling Capacity (kW)							Unit Input Power(kW)						
	Chilled Water Leaving Temperature							Chilled Water Leaving Temperature						
	5°C	6°C	7°C	8°C	9°C	10°C	11°C	5°C	6°C	7°C	8°C	9°C	10°C	11°C
20°C	0.98	1.02	1.05	1.08	1.12	1.16	1.19	0.90	0.91	0.91	0.92	0.92	0.93	0.93
21°C	0.98	1.01	1.04	1.07	1.11	1.14	1.18	0.92	0.93	0.93	0.93	0.94	0.94	0.95
22°C	0.97	1.00	1.03	1.06	1.10	1.13	1.17	0.94	0.94	0.95	0.95	0.96	0.96	0.97
23°C	0.96	0.99	1.02	1.05	1.09	1.12	1.16	0.95	0.96	0.96	0.97	0.97	0.98	0.98
24°C	0.95	0.98	1.01	1.04	1.08	1.11	1.15	0.97	0.98	0.98	0.99	0.99	1.00	1.00
25°C	0.94	0.97	1.00	1.03	1.07	1.10	1.13	0.99	1.00	1.00	1.01	1.01	1.02	1.02
26°C	0.93	0.96	0.99	1.02	1.05	1.09	1.12	1.01	1.01	1.02	1.02	1.03	1.03	1.04
27°C	0.92	0.95	0.98	1.01	1.04	1.08	1.11	1.03	1.03	1.04	1.04	1.05	1.05	1.06
28°C	0.91	0.94	0.97	1.00	1.03	1.07	1.10	1.04	1.05	1.05	1.06	1.07	1.07	1.08
29°C	0.90	0.93	0.96	0.99	1.02	1.05	1.09	1.07	1.07	1.08	1.08	1.09	1.09	1.10
30°C	0.88	0.91	0.94	0.97	1.00	1.03	1.08	1.09	1.09	1.10	1.10	1.11	1.11	1.12
31°C	0.87	0.90	0.93	0.96	0.99	1.02	1.07	1.11	1.11	1.12	1.13	1.13	1.14	1.14
32°C	0.86	0.88	0.91	0.94	0.97	1.00	1.06	1.13	1.14	1.14	1.15	1.15	1.16	1.16
33°C	0.84	0.87	0.90	0.93	0.96	0.99	1.05	1.15	1.16	1.16	1.17	1.18	1.18	1.19
34°C	0.83	0.86	0.89	0.91	0.94	0.97	1.04	1.18	1.18	1.19	1.19	1.20	1.21	1.21
35°C	0.82	0.84	0.87	0.90	0.93	0.96	1.03	1.20	1.21	1.21	1.22	1.22	1.23	1.24

Heating (Underground Loop Condition)

Hot Water Entering Temp.	Cooling Capacity (kW)							Unit Input Power(kW)						
	Underground Loop (Source Water) Entering Temperature							Underground Loop(Source Water) Entering Temperature						
	8°C	9°C	10°C	11°C	12°C	13°C	14°C	8°C	9°C	10°C	11°C	12°C	13°C	14°C
35°C	0.99	1.01	1.03	1.05	1.08	1.10	1.12	0.89	0.90	0.90	0.91	0.91	0.92	0.92
36°C	0.98	1.00	1.02	1.05	1.07	1.09	1.12	0.91	0.92	0.92	0.93	0.93	0.94	0.94
37°C	0.97	1.00	1.02	1.04	1.06	1.09	1.11	0.93	0.94	0.94	0.95	0.95	0.96	0.96
38°C	0.97	0.99	1.01	1.03	1.06	1.08	1.10	0.95	0.96	0.96	0.97	0.97	0.97	0.98
39°C	0.96	0.98	1.01	1.03	1.05	1.07	1.10	0.97	0.98	0.98	0.98	0.99	0.99	1.00
40°C	0.96	0.98	1.00	1.02	1.04	1.07	1.09	0.99	1.00	1.00	1.01	1.01	1.02	1.02
41°C	0.95	0.97	0.99	1.02	1.04	1.06	1.08	1.01	1.02	1.02	1.03	1.03	1.04	1.04
42°C	0.95	0.97	0.99	1.01	1.03	1.05	1.08	1.03	1.04	1.04	1.05	1.05	1.06	1.07
43°C	0.94	0.96	0.98	1.00	1.03	1.05	1.07	1.06	1.06	1.07	1.07	1.08	1.08	1.09
44°C	0.93	0.95	0.98	1.00	1.02	1.04	1.06	1.08	1.09	1.09	1.10	1.10	1.11	1.11
45°C	0.93	0.95	0.97	0.99	1.01	1.04	1.06	1.10	1.11	1.11	1.12	1.13	1.13	1.14

Note:

- 1.When actual water temperature is different from nominal condition, calibrate it with above data.
- 2.The actual cooling (heating) capacity or input power is the value that nominal cooling capacity or input power multiply by the correction factor

Water Piping System

Modular Scroll Water Source Heat Pump System Process Diagram

- When source water above 18°C in Summer and below 22°C in Winter, it suggested to use source water directly supply to unit (Diagram D)
- When source water below 18°C in Summer and source water above 22°C in Winter, it suggested to use system like Diagram E/F or other
- When water quality can't meet the chiller's requirement, please use middle heat exchange such as Diagram G.

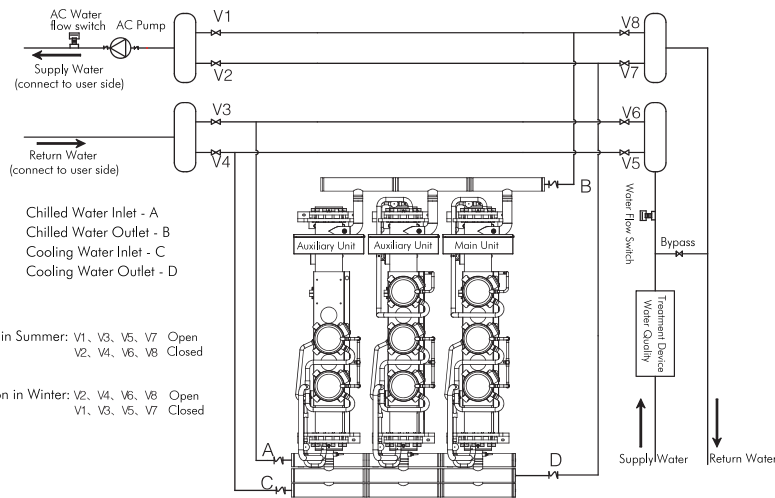


Diagram D Modular scroll water source heat pump piping

Water Piping System

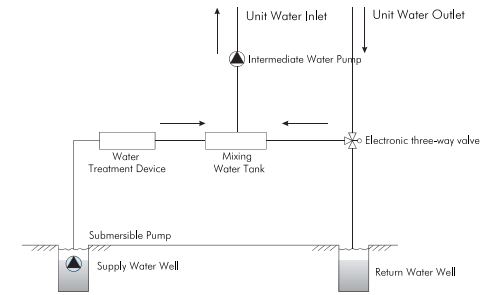


Diagram E Water side mixing water tank mix water diagram

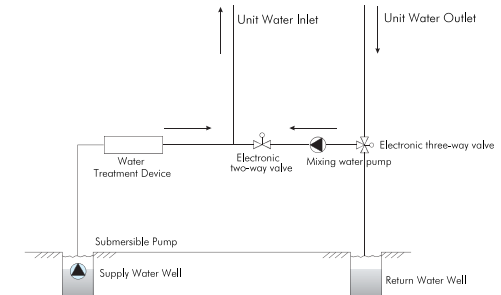


Diagram F Water side mixing water pump mix water diagram

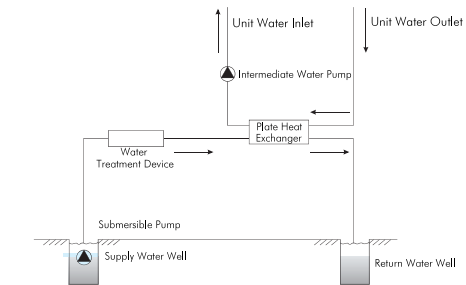
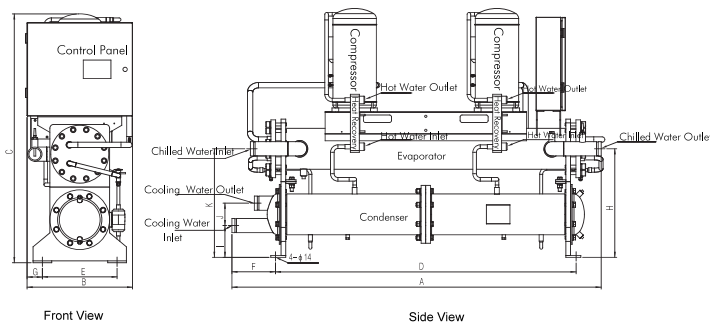


Diagram G Water side plate heat exchanger heat exchange diagram

Unit Outlook Dimension

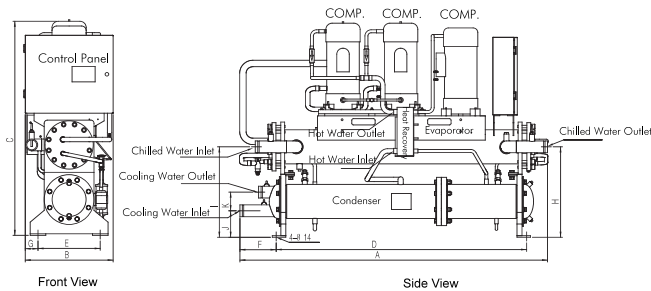
2020B、3030B(Unit: mm)



Example: WSCR2020B(Heat recovery is optional)

Model WSC	Dimension										
	A	B	C	D	E	F	G	H	I	J	K
(R)2020B	2000	565	1350	1610	400	233	83	580	580	170	120
(R)3030B	2000	565	1350	1610	400	233	83	580	580	170	120

2020A3、3030A3 (Unit: mm)

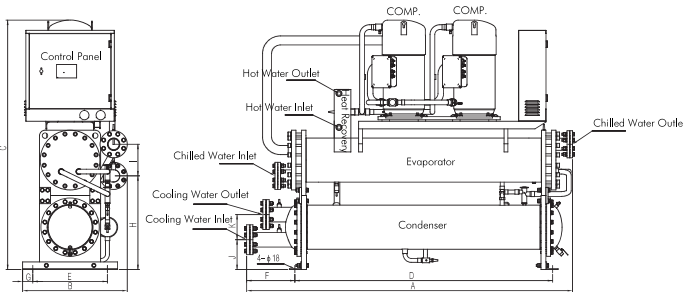


Example: HAWSCR3030A3(Heat recovery is optional)

Model WSC	Dimension										
	A	B	C	D	E	F	G	H	I	J	K
(R)2020A3	2000	565	1380	1610	400	233	83	580	580	170	120
(R)3030A3	2000	565	1380	1610	400	233	83	580	580	170	120

Unit Outlook Dimension

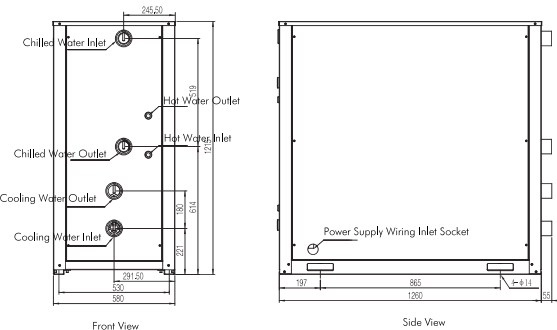
2055A3、2070A3 (Unit: mm)



Example WSCR2070A3(Heat recovery is optional)

Model WSC	Dimension										
	A	B	C	D	E	F	G	H	I	J	K
(R)2055A3	2400	770	1840	1900	550	355	75	690	233	220	185
(R)2070A3	2400	770	1840	1900	550	355	75	690	233	220	185

2020A3X (Unit: mm)



Example: WSCR2020A3X(Heat recovery is optional)

Recommended Combination

2020B、3030B

Cooling Capacity	Combine Method		Recommended Pipe Dia.	
	WSC(R)2020B	WSC(R)3030B	Evaporator	Condenser
40RT	2 Sets	—	DN80	DN80
50RT	1 Set	1 Set	DN80	DN80
60RT	—	2 Sets	DN80	DN80
70RT	2 Sets	1 Set	DN80	DN80
80RT	1 Set	2 Sets	DN80	DN80
90RT	—	3 Sets	DN100	DN100
100RT	2 Sets	2 Sets	DN100	DN100
110RT	1 Set	3 Sets	DN125	DN125
120RT	—	4 Sets	DN125	DN125
...

Note:

1. When there is only one module, it should be main unit.
2. It necessary to set a mainframe and standby units, when there are more than one units.
3. It can be assembled less than 8 modules.

2020A3、3030A3

Cooling Capacity	Combine Method		Recommended Pipe Dia.	
	WSC(R)2020A3	WSC(R)3030A3	Evaporator	Condenser
40RT	2 Sets	—	DN80	DN80
50RT	1 Set	1 Set	DN80	DN80
60RT	—	2 Sets	DN80	DN80
70RT	2 Sets	1 Set	DN80	DN80
80RT	1 Set	2 Sets	DN80	DN80
90RT	—	3 Sets	DN100	DN100
100RT	2 Sets	2 Sets	DN100	DN100
110RT	1 Set	3 Sets	DN125	DN125
120RT	—	4 Sets	DN125	DN125
...

Note:

1. When there is only one module, it should be main unit.
2. It necessary to set a mainframe and standby units, when there are more than one units.
3. It can be assembled less than 8 modules.

Module Combination

2055A3、2070A3

Cooling Capacity	Combine Method		Recommended Pipe Dia.	
	WSC(R)2055A3	WSC(R)2070A3	Evaporator	Condenser
110RT	2 Sets	—	DN125	DN125
125RT	1 Set	1 Set	DN125	DN125
140RT	—	2 Sets	DN125	DN125
165RT	3 Sets	—	DN150	DN150
180RT	2 Sets	1 Set	DN150	DN150
195RT	1 Set	2 Sets	DN150	DN150
210RT	—	3 Sets	DN150	DN150
220RT	4 Sets	—	DN150	DN150
250RT	2 Sets	2 Sets	DN150	DN150
265RT	1 Set	3 Sets	DN150	DN150
280RT	—	4 Sets	DN150	DN150
...

Note:

1. When there is only one module, it should be main unit.
2. It necessary to set a mainframe and standby units, when there are more than one units.
3. It can be assembled less than 8 modules.

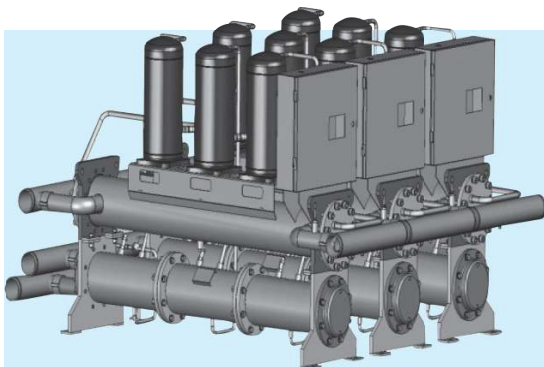
2020A3X

Cooling Capacity	Combine Method	Recommended Pipe Dia.	
	WSC(R)2020A3X	Evaporator	Condenser
40RT	2 Sets	DN80	DN80
60RT	3 Sets	DN80	DN80
80RT	4 Sets	DN80	DN80
100RT	5 Sets	DN100	DN100
120RT	6 Sets	DN125	DN125
140RT	7 Sets	DN125	DN125
160RT	8 Sets	DN150	DN150
...

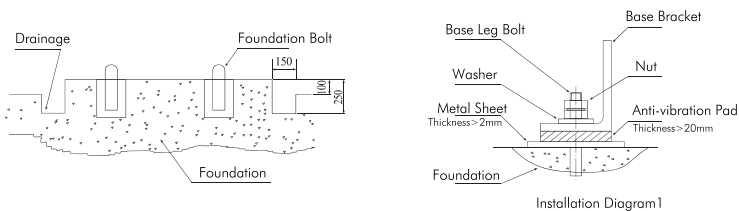
Note:

1. When there is only one module, it should be main unit.
2. It necessary to set a mainframe and standby units, when there are more than one units.
3. It can be assembled less than 8 modules.

Module Combination Figure



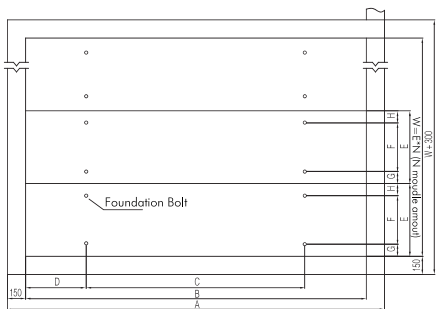
Unit Installation Foundation



Unit Installation Foundation

Installation Foundation

- 1) Additional consideration must be taken for the unit installation foundation, especially the intermediate floor or rooftop of the unit. Extra attention must also be paid to strength of the floor slab and noise pollution. Please refer to the architect first before the unit installation.
- 2) The foundation must come with drainage for cooling water and chilled water discharge.
- 3) For unit installation foundation and fixing methods, please refer to figures below.
- 4) Please consider the service space when set the foundation.



Installation Foundation

Model WSC	Dimension (mm)								
	A	B	C	D	E	F	G	H	Base Leg Bolt
(R)2020B	2910	2610	1610	500	650	400	125	125	M12
(R)3030B	2910	2610	1610	500	650	400	125	125	M12
(R)2020A3	2910	2610	1610	500	650	400	125	125	M12
(R)3030A3	2910	2610	1610	500	650	400	125	125	M12
(R)2055A3	3650	3350	1900	600	800	550	160	90	M16
(R)2070A3	3650	3350	1900	600	800	550	160	90	M16
R)2020A3X	2300	2000	865	500	730	530	100	100	M12