COOLING AIR FOR PROPITIOUS SUMMER
SPRING RETURNS WITH WARM AIR FROM RUIDONG

RUIDONG

WATER COOLED SCREW WATER CHILLER

RUIDONG GROUP

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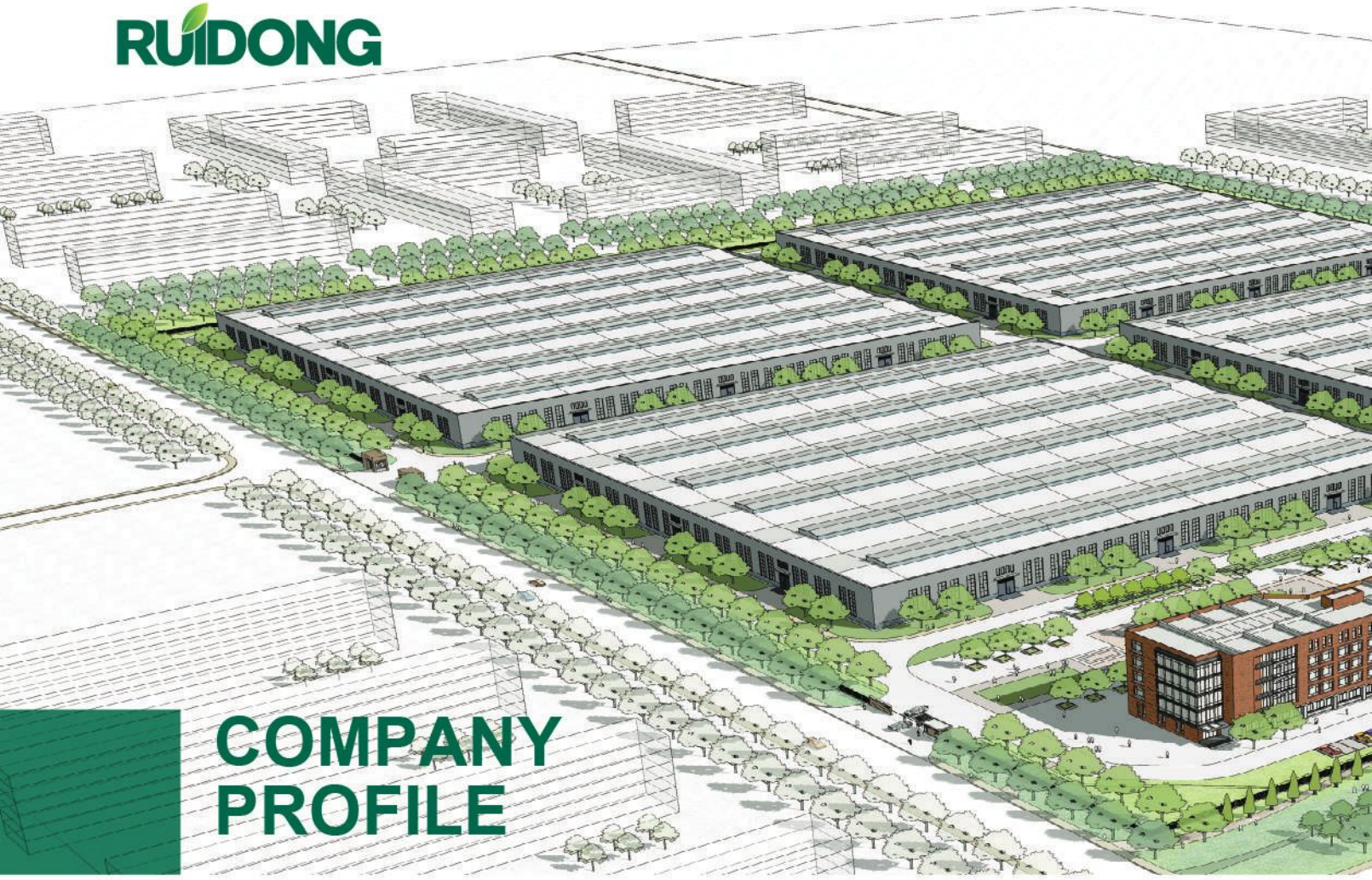


COMPANY PROFILE

Ruidong Group Co., Ltd. Is a professional enterprise, speciallized in HAVC product design, production, sales and installation, with registered capital of 15 million USD. Ruidong is located in beautiful city Dezhou, covers an area more than 300,000 square meters, and construction area more than 180,000 squaremeters.

R & D team consists of high-tech talent people, 22 product engineer and 35 technicians. They continually research new products and ensure product quality by strict technical process, advanced production equipment, and rules of international ISO9001 quality management system. Till now, factory has products more than 30 series, and more than 1,000 models:

1.Chiller and heat pump series:

* Water-cooled series: Centrifugal cold(hot)water units,Screw Ground(water)source heat(cold)units, Scroll Ground(water)source heat(cold)units,Water loop units.

* Air-cooled series: Screw cold(hot) water units,Module cold(hot) water units,Villa-use cold(hot) water unit,VRV series units, Rooftop packaged unit, Rooftop split unit.

* Unit style series: Constant temperature humidity units,Air(water) cooling unitary air conditioning units, Dehumidification units.

2.Terminal series: Purify Air Conditioning,Combined air handling unit,Fresh air handing units, Fan Coil Series.

3.Ventilation series: Fire fighting exhaust fan, Roof ventilator Axial flow fan,Diagonal fan,centrifugal fan and so on.

4.Cooling tower series:All kinds of FRP draft cooling tower,Stainless steel cooling tower.

View of factory

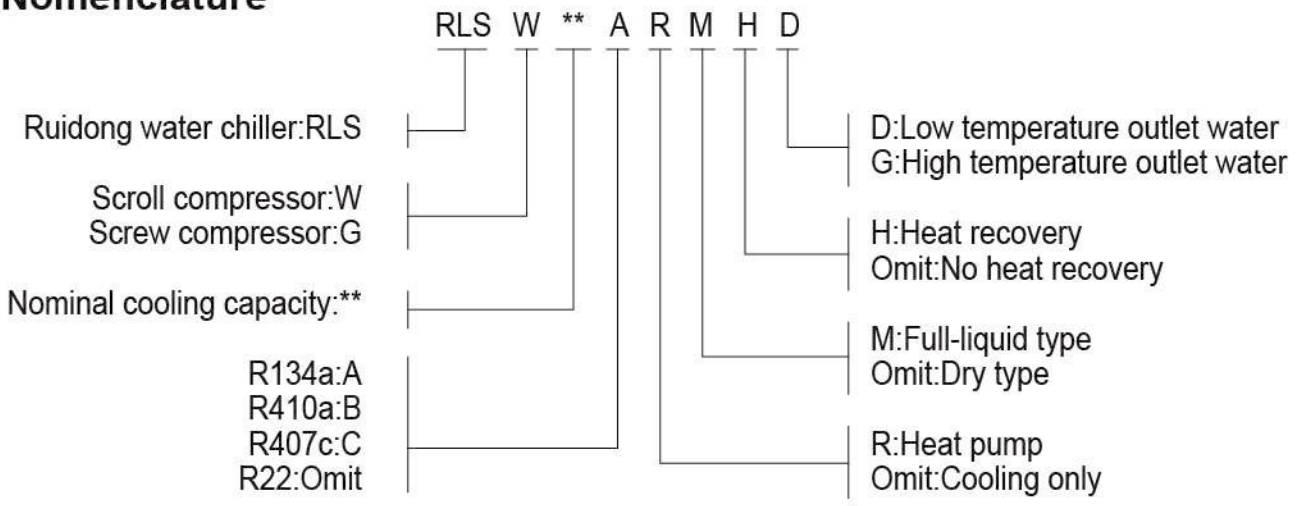
5.Air-conditioning auxiliary:Cyclone desander,Water knockout drum(collector),Dirt separator,Water Softener Plant,Plate heat exchanger units, Constant pressure equipment.

6.Air Conditioning Parts:All kinds of fire dampers,Regulating valves, Tuyere series.

7.Other products:Low temperature industrial water chiller units, Freezing and refrigerating equipment ,Planting and breeding air-conditioning equipment.

In domestic market, Ruidong established a perfect sales and service system, including 18 branch companies all over China. In international market, Ruidong has covered more than 30 countries with high-quality products.

Nomenclature



Products Description

The water cooled screw uses semi seal double screw type compressor, and the chiller using the single return route or the multi-loop design, the module is easy to maintain, putting the protect and control facility into the control box, the main engine's operating conditions shows by the computer monitor.

The unit assembling finishes in the factory, the products can leave the factory after running debugging. This series of chiller applicable scope includes: market, office, commercial building, factory workshop, guesthouse, hospital and civil construction facility.

Main parts

<1>Compressor

The compressor uses the positive displacement double helix design, suitable for many kinds of refrigerant, the compressor contains two spiral rotor, the negative rotor was driven by positive rotor, the double torsion positive displacement makes the pure rotation movement, make the vibration to be minimum, wide adjustment scope, it has the high efficiency and smooth air current's characteristic in the air absorption, compression and air exhaust processes, the compressor's lubrication and the aeroseal selects the differential pressure oil supply method, do not need lubrication oil pump.

The compressor is installed oil separator inside. The oil separator and the compressor is combined, enable the compressor to have the smallest outlook, simplifies the cold intermediary circulation process. There is second oil separator between air exhaust outlet and condenser for full liquid type chiller to let less cooling oil enter onto the system and improve the heat exchange efficiency. The slide valve driven by electric valve and liquid pressure system made into the float capacity adjustable system, it can come true part load operation, and the compressor can reach 25%-100% subsection adjustment. It also can use fuzzy control principle to realize the continuance energy regulation matching with the building load fully.

Semi seal screw type compressor's advantages; comparing to piston compressor. Less operating part (one third-one forth of piston compressor); simple structure;less wear parts; high reliability, long service life. Air suction and air exhausting uniformity and continuation; there is no pulsation; low air exhausting temperature; tiny operation vibration; insensitive for wet compression; strong resistance to liquid force.

<2>Shell & tube evaporator & condenser

Shell: high quality steel plate special for pressure vessel; The manufacturing and the experiment conform to the national standards "Refrigerating unit with Pressure vessel" NB/T47012-2010 rules. Adopting fire and water proof thermal insulation material for outside; the baffle of evaporator is PVC project plastic with strong resistance to corrosion and tight seal, making the cooling water up and down along the baffle to improve the turbulent flow effect and the heat exchanging ability. There is current-sharing equipment for refrigerant inlet to keep the same refrigerant in each heat exchange tube and improve the whole chiller heat exchange efficiency.

Copper tube: high efficiency DAC corrugated type inner thread heat exchange copper tube; strengthening refrigerant side heat exchange ability and improving the heat transfer coefficient to insure the unit good cooling and heating effect.

<3>Expansion valve

Electric expansion control system can reach 2600 step for control accuracy; controlling the refrigerant to air suction super heat and pressure matched with electric system to insure the chiller operation at the best condition and play the chiller biggest ability.

<4>Power distribution control box:

Including compressor start equipment, power protector and micro computer controller.

Famous brand wide temperature type electrical components.

The microcomputer controller uses the well-known brand wide warm electric appliance parts, the microcomputer controller can work stably under the ambient temperature from -15°C to 65°C, it has the automatic control function and has RS-232, the RS-485 standard communication connection joint, may realize the remote control.

Microcomputer control characteristic:

The enactment and show of cold water temperature. Auto energy control and start & stop function. Touching type screen operation mode. Displaying current flow (selected parts) and seted valve, operating state, warming and compressor running hours. It may accept remote starting and off signal.The outer wire failure makes the power off, after the power restores, the unit will be operating automatically. It has password parameter protection function.

<5>Other parts and safety equipment

Power distribution control box:

It has contains the power source protector and the microcomputer controller. The microcomputer controller uses the well-known brand wide warm electric appliance parts, the microcomputer controller can work stably under the ambient temperature from -15 degree to 65 degree, it has the automatic control function and has RS-232, the RS-485 standard communication connection joint, may realize the remote control.

Microcomputer controller characteristic

The enactment and show of the cold water temperature

Auto capacity controlling and start & stop controlling

Touching type screen operating mode.

Showing amperage(selected parts) and setting value, the operating conditions, warming condition, the compressor operation hours.

It may accept remote starting and off signal.

The outside failure makes the power off, after the power restores, the unit will be operating automatically. It has password parameter protection function.

Safety equipment

High and low voltages switch

To protect the compressor avoid the high voltage is excessive high or the low voltage is very low's damage.

Anti-frost temperature control

To protect the system to avoid the cold water frozen to the equipment's damage.

The machine oil heater

Each compressor installs with an electric heater, when the compressor stops, the machine oil heater will heating for the oil or the next time's starting to protect the system avoid dilutes by the cold intermediary and the oil mixture.

Liquid checking glass

Install fluid glass with humidity instruction on the fluid tube, in the fluid glass has one moisture indicator, may check by the fluid glass to know whether the cold intermediary is enough or the water or moisture is exceeding when the system is operating.

The high pressure put out check valve

Prevent high pressure cold intermediary returns to the compressor's valve when the engine is off.

Dry filter with the filter element can be exchanged type

In the filtration system the cold intermediary contains the impurity, the acid and the oiliness particle and can absorb the cold intermediary system moisture, each dry filter has extremely big active area and the extremely low pressure drop characteristic.

High temperature expansion valve

Fluid spraying expansion valve, using for the compressor , using under high pressure compression ratio or hig super-heat degree, adopt cooled thermal energy expansion valve. To control the discharge temperature.

Voltage gauge

Show the unit's operation or the high and low voltage from the engine off, to help the operations to understand the unit operating conditions,

Emergency stop switch

Under the emergency conditions urgent engine off by manual way.

Overload protector

When the electric motor load current surpasses the rated value, stop the electric motor operation, protect the electric motor to avoid burning.

Power source protector

A protecting equipment which prevents the compressor excessively low voltage or high voltage to cause phase-converse or phase-owes.

The cold intermediary cooled equipment

Prevent compressor exhaust is excessively high, spray liquid and cooled to the compressor's equipment.

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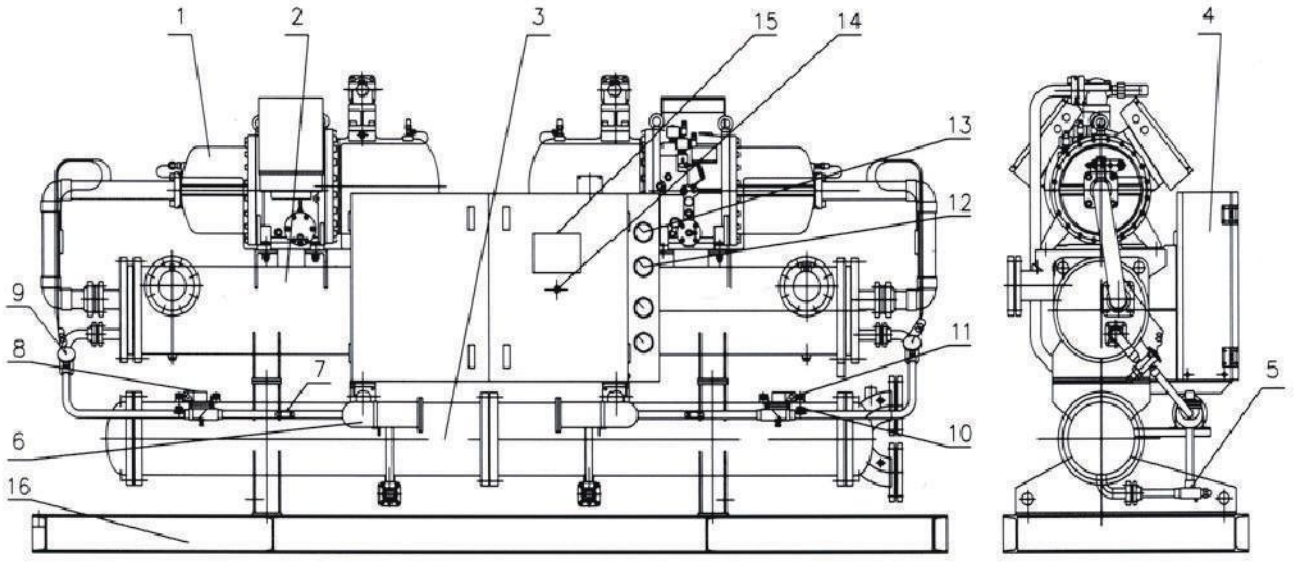
Schematic diagram



NO.	Part	NO.	Part
1	Compressor	9	Expansion Valve
2	Evaporator	10	Safety Valve
3	Condenser	11	Vent Valve
4	Control Box	12	Low Pressure Gauge
5	Angle Valve	13	High Pressure Gauge
6	Dry Filter	14	Emergency Switch
7	Sight Glass	15	Display
8	Electromagnetic Valve	16	Equipment Base

TECHNICAL SPECIFICATION

Cooling tower condition, R22 type

No. / Model			RLSG 200	RLSG240	RLSG280	RLSG320	RLSG380	RLSG460
Cooling capacity		KW	198	246	281	317	379	452
Input power		KW	41	52	59	63	75	90
Power supply			380V / 3PH / 50HZ					
Energy control			25% ~ 100%					
Compressor	Type		Semi Hermeis Screw Type					
	Qty		1					
	Start model		Y-△					
		Type	R22 /R407c					
	Refrigerant	Charge(kg)	34	49	56	60	62	74
		Control	EXV					
Evaporator	Type		Shell & Tube					
	Pressure drop	KPa	70 ~ 90					
	Pipe connection size (DN)		80	100	100	100	100	125
	Water in/out temp.	℃	12/7					
	Cooled water flow	m³/h	33.4	42.3	48.3	54.5	65	77
Condenser	Type		Shell & Tube					
	Pressure drop	KPa	70 ~ 90					
	Pipe connection size (DN)		80	100	100	100	100	125
	Water in/out temp.	℃	30/35					
	Cooling water flow	m³/h	41.7	51.3	58.5	66	78	93
	Structure		Vertical					
Dimension	L	mm	2500	2500	2500	3050	3050	3050
	W	mm	1120	1120	1120	1120	1120	1120
	H	mm	1920	1920	1920	1920	1920	2000
Net weight		KG	1560	1650	1750	1750	1750	2370
Running weight		KG	1660	1750	1870	1950	1950	2570
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve					

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

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TECHNICAL SPECIFICATION

Cooling tower condition, R22 type

No. / Model			RLSG 500	RLSG 580	RLSG700	RLSG 820	RLSG 940	RLSG 1100
Cooling capacity		KW	503	577	704	817	934	1066
Input power		KW	98	110	136	154	172	195
Power supply			380V / 3PH / 50HZ					
Energy control			25% ~ 100%					
Compressor	Type		Semi Hermeic Screw Type					
	Qty		1					
	Start model		Y-△					
		Type	R22 /R407c					
	Refrigerant	Charge(kg)	81	92	111	128	145	164
		Control	EXV					
Evaporator	Type		Shell & Tube					
	Pressure drop	KPa	70 ~ 90					
	Pipe connection size (DN)		125		150			
	Water in/out temp.	℃	12/7					
	Cooled water flow	m³/h	86	99	121	140	161	183
Condenser	Type		Shell & Tube					
	Pressure drop	KPa	70 ~ 90					
	Pipe connection size (DN)		125		150			
	Water in/out temp.	℃	30/35					
	Cooling water flow	m³/h	103	118	145	167	190	217
	Structure		Vertical	Horizontal				
Dimension	L	mm	3050	3440	3440	3440	3440	3480
	W	mm	1120	1220	1340	1340	1340	1340
	H	mm	2000	1620	1650	1650	1650	1680
Net weight		KG	2760	2880	3400	3500	3780	4250
Running weight		KG	3000	3100	3700	3850	4050	4600
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve					

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

TECHNICAL SPECIFICATION

Cooling tower condition, R22 type

No. / Model			RLSG 760	RLSG 920	RLSG1000	RLSG1160	RLSG 1400	RLSG 1640	RLSG1880	RLSG 2200
Cooling capacity		KW	757	899	1005	1153	1409	1633	1868	2131
Input power		KW	150	181	195	220	272	308	345	390
Power supply			380V / 3PH / 50HZ							
Energy control			25% ~ 100%							
Compressor	Type		Semi Hermeic Screw Type							
	Qty		2							
	Start model		Y-△							
	Refrigerant	Type	R22 /R407c							
		Charge (kg)	124	148	162	184	222	256	290	328
		Control	EXV							
Evaporator	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		150				200			
	Water in/out temp.	℃	12/7							
	Cooled water flow	m³/h	130	155	173	198	242	281	321	367
Condenser	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)			150				200		
	Water in/out temp.	℃	30/35							
	Cooling water flow	m³/h	156	186	207	236	289	334	381	434
Structure			Vertical			Horizontal				
Dimension	L	mm	4300	4550	4550	4550	4550	4550	4550	4550
	W	mm	1230	1200	1200	1580	1680	1680	1680	1680
	H	mm	2200	2250	2250	1750	1920	1920	1920	1920
Net weight		KG	4200	4400	4560	5200	5250	5700	6230	7100
Running weight		KG	4650	4850	5000	5700	5800	6300	6900	7800
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve							

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

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TECHNICAL SPECIFICATION

Cooling tower condition, R134a type

No. / Model			RLSG200	RLSG240	RLSG280	RLSG320	RLSG380	RLSG440	RLSG500	RLSG540	RLSG680
Cooling capacity		KW	196	243	271	310	373	430	493	540	685
Input power		KW	44.6	53	59	67	79	87	98	108	134
Power supply			380V / 3PH / 50HZ								
Energy control			25% ~ 100%								
Compressor	Type		Semi Hermeic Screw Type								
	Qty		1								
	Start model		Y-△								
	Refrigerant	Type	R134a								
		Charge(kg)	35	41	45	51	61	68	79	85	107
		Control	EXV								
Evaporator	Type		Shell & Tube								
	Pressuredrop	KPa	70 ~ 90								
	Pipe connection size (DN)		100	100	100	100	100	100	125	125	150
	Water in/out temp.	℃	12/7								
	Cooled water flow	m³/h	29.2	42	46	53	64	73	85	93	118
Condenser	Type		Shell & Tube								
	Pressure drop	KPa	70 ~ 90								
	Pipe connection size (DN)		100	100	100	100	100	100	125	125	150
	Water in/out temp.	℃	30/35								
	Cooling water flow	m³/h	35.9	51	56	65	78	88	102	112	141
Structure			Vertical				Horizontal				
Dimension	L	mm	2500	3480	3480	3050	3480	3480	3480	3480	3480
	W	mm	1000	1300	1300	1150	1300	1340	1340	1340	1340
	H	mm	1600	1600	1600	1930	1600	1680	1680	1680	1680
Net weight		KG	1650	1800	2450	2850	2950	3500	3600	3900	4360
Running weight		KG	1850	1950	2600	3020	3120	3650	3750	4100	4560
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve								

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

TECHNICAL SPECIFICATION

Cooling tower condition, R134a type

No. / Model			RLSG 480	RLSG 560	RLSG 640	RLSG 760	RLSG 880	RLSG 1000	RLSG 1200	RLSG 1360
Cooling capacity		KW	486	535	621	746	850	986	1081	1371
Input power		KW	105	119	133	158	175	196	216	267
Power supply			380V / 3PH / 50HZ							
Energy control			25% ~ 100%							
Compressor	Type		Semi Hermeic Screw Type							
	Qty		2							
	Start model		Y-△							
	Refrigerant	Type	R134a							
		Charge (kg)	82	90	102	122	136	158	170	214
		Control	EXV							
Evaporator	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		125	125	150	150	150	150	200	200
	Water in/out temp.	℃	12/7							
	Cooled water flow	m³/h	84	92	107	128	146	170	186	236
Condenser	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		125	125	150	150	150	150	200	200
	Water in/out temp.	℃	30/35							
	Cooling water flow	m³/h	102	112	130	155	176	203	223	282
Structure			Vertical			Horizontal				
Dimension	L	mm	4550	4550	4550	4550	4550	4550	4550	4550
	W	mm	1200	1200	1200	1500	1500	1500	1500	1620
	H	mm	2000	2100	2150	1770	1820	1850	1850	1920
Net weight		KG	4380	4580	4720	5380	5420	5920	6450	7150
Running weight		KG	4500	4800	4950	5620	5660	6220	6750	7500
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve							

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

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TECHNICAL SPECIFICATION

Cooling tower condition, Flooded R22 type

No. / Model			RLSG400W	RLSG500W	RLSG560W	RLSG640W	RLSG760W	RLSG920W	RLSG1100W	RLSG1200W
Cooling capacity		KW	402	487	561	637	747	910	1044	1190
Input power		KW	74	87	98	114	128	155	175	197
Power supply			380V / 3PH / 50HZ							
Energy control			25% ~ 100%							
Compressor	Type		Semi Hermeic Screw Type							
	Qty		1							
	Start model		Y-△							
	Refrigerant	Type	R22 /R407c							
		Charge (kg)	66	80	90	101	118	142	162	183
		Control	EXV							
Evaporator	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		100	100	125	125	150	150	150	150
	Water in/out temp.	℃	12/7							
	Cooled water flow	m³/h	69	84	97	110	128	157	180	205
Condenser	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		100	100	125	125	150	150	150	150
	Water in/out temp.	℃	30/35							
	Cooling water flow	m³/h	82	99	113	129	150	183	210	239
Structure			Vertical							
Dimension	L	mm	3400	3400	3400	3400	3400	3400	3400	3400
	W	mm	1320	1400	1400	1460	1650	1650	1720	1720
	H	mm	1650	1680	1680	1700	1810	1810	1850	1850
Net weight		KG	1800	2450	2850	2950	3500	3600	3900	4360
Running weight		KG	1950	2600	3020	3120	3650	3750	4100	4560
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve							

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

TECHNICAL SPECIFICATION

Cooling tower condition, Flooded R22 type

No. / Model			RLSG800	RLSG1000	RLSG1120	RLSG1280	RLSG1520	RLSG1840	RLSG2200	RLSG2400
Cooling capacity		KW	804	974	1122	1274	1493	1820	2087	2381
Input power		KW	149	174	196	228	256	311	349	394
Power supply			380V / 3PH / 50HZ							
Energy control			25% ~ 100%							
Compressor	Type		Semi Hermeic Screw Type							
	Qty		2							
	Start model		Y-△							
	Refrigerant	Type	R22 /R407c							
		Charge (kg)	132	160	180	202	236	284	324	366
		Control	EXV							
Evaporator	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		150	150	150	200	200	200	250	250
	Water in/out temp.	℃	12/7							
	Cooled water flow	m³/h	138	168	193	219	257	313	359	410
Condenser	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		150	150	150	200	200	200	250	250
	Water in/out temp.	℃	30/35							
	Cooling water flow	m³/h	164	198	227	258	301	366	419	477
Structure						Vertical				
Dimension	L	mm	4100	4200	4200	4200	4460	4950	5150	5200
	W	mm	1500	1550	1550	1650	1750	1750	1750	1900
	H	mm	1820	1860	1860	1900	1970	1970	1970	2020
Net weight		KG	4380	4580	4720	5380	5420	5920	6450	7150
Running weight		KG	4500	4800	4950	5620	5660	6220	6750	7500
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve							

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

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TECHNICAL SPECIFICATION

Cooling tower condition, Flooded R134a type

No. / Model			RLSG260	RLSG300	RLSG340	RLSG400	RLSG460	RLSG 560	RLSG600	RLSG760
Cooling capacity		KW	267	294	342	411	468	543	595	755
Input power		KW	52	59	66	78	87	97	107	132
Power supply			380V / 3PH / 50HZ							
Energy control			25% ~ 100%							
Compressor	Type		Semi Hermeic Screw Type							
	Qty		1							
	Start model		Y-△							
		Type	R134a							
	Refrigerant	Charge (kg)	45	49	56	67	75	86	94	118
		Control	EXV							
Evaporator	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		100	100	100	100	100	125	125	150
	Water in/out temp.	℃	12/7							
	Cooled water flow	m³/h	46	51	59	71	81	93	102	130
Condenser	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		100	100	100	100	100	125	125	150
	Water in/out temp.	℃	30/35							
	Cooling water flow	m³/h	55	61	70	84	95	110	121	153
Structure						Vertical				
Dimension	L	mm	3400	3400	3400	3400	3400	3400	3400	3400
	W	mm	1320	1400	1400	1460	1650	1650	1720	1720
	H	mm	1650	1680	1680	1700	1810	1810	1850	1850
Net weight		KG	1800	2450	2850	2950	3500	3600	3900	4360
Running weight		KG	1950	2600	3020	3120	3650	3750	4100	4560
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve							

Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

TECHNICAL SPECIFICATION

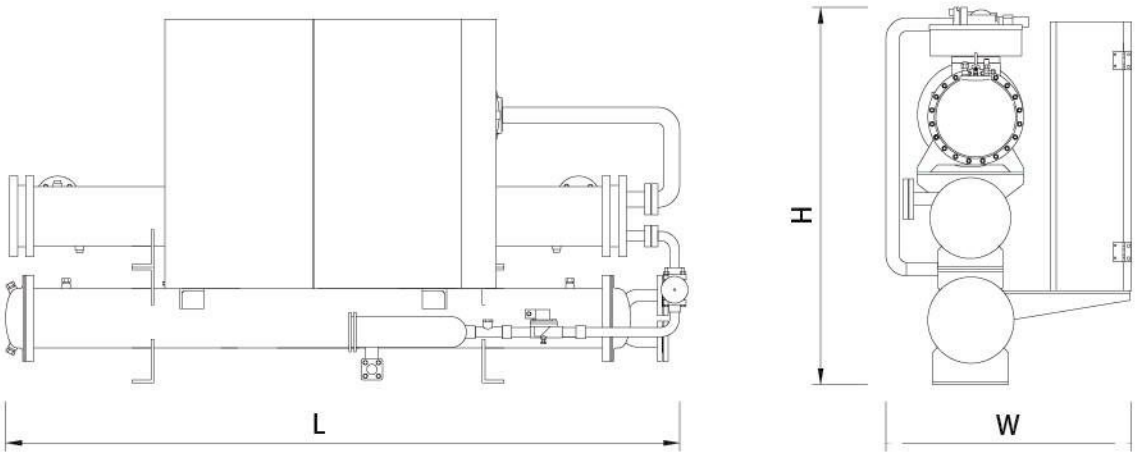
Cooling tower condition,Flooded R134a type

No. / Model			RLSG520	RLSG600	RLSG680	RLSG800	RLSG920	RLSG1120	RLSG1200	RLSG1520
Cooling capacity		KW	535	589	683	821	936	1086	1190	1510
Input power		KW	104	118	132	156	173	194	214	265
Power supply			380V / 3PH / 50HZ							
Energy control			25% ~ 100%							
Compressor	Type		Semi Hermeic Screw Type							
	Qty		2							
	Start model		Y-△							
	Refrigerant	Type	R134a							
		Charge (kg)	90	98	112	134	150	172	188	236
		Control	EXV							
Evaporator	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		125	125	150	150	150	150	200	200
	Water in/out temp.	℃	12/7							
	Cooled water flow	m³/h	92	101	118	141	161	187	205	260
Condenser	Type		Shell & Tube							
	Pressure drop	KPa	70 ~ 90							
	Pipe connection size (DN)		125	125	150	150	150	150	200	200
	Water in/out temp.	℃	30/35							
	Cooling water flow	m³/h	110	122	140	168	191	220	242	305
Structure						Vertical				
Dimension	L	mm	4100	4200	4200	4200	4460	4950	5150	5200
	W	mm	1500	1550	1550	1650	1750	1750	1750	1900
	H	mm	1820	1860	1860	1900	1970	1970	1970	2020
Net weight		KG	4380	4580	4720	5380	5420	5920	6450	7150
Running weight		KG	4500	4800	4950	5620	5660	6220	6750	7500
Protection measures			1.High &low voltage protection; 2.Anti-freezing protection; 3.Temperature control; 4.Owe anti-phase protection; 5.High & low pressure protection; 6.High pressure exhaust temperature protection; 7.Built-in motor overheating protection; 8.Over-current protection; 9. Safe valve; 10.Check valve							

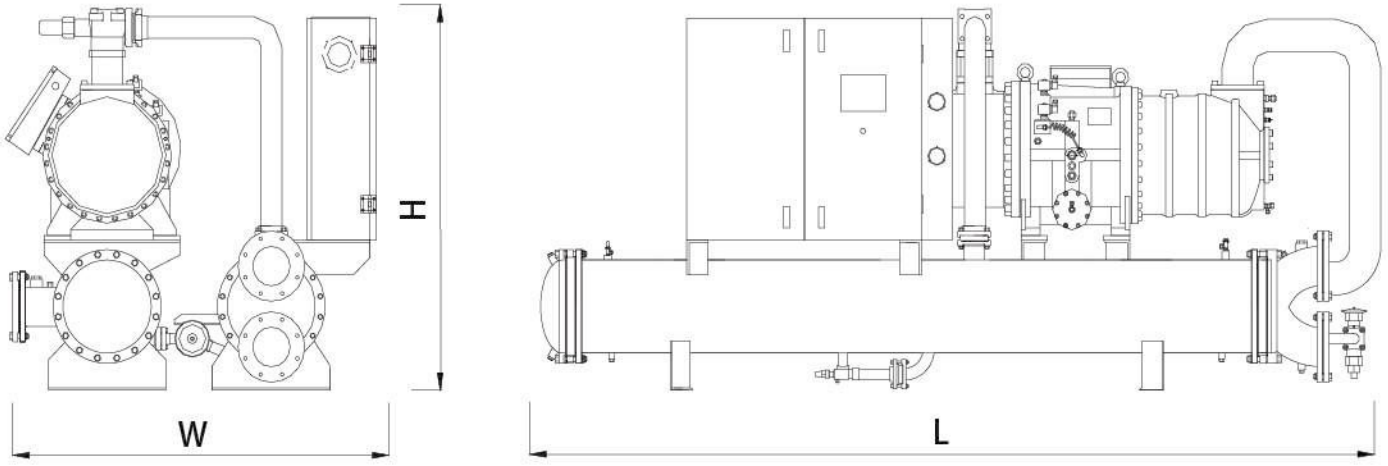
Notes:
1. Water side max.bearing pressure 1.MPa;
2. Partial or total heat recovery are optional;
3. Different power supply are optional;

Unit diagram

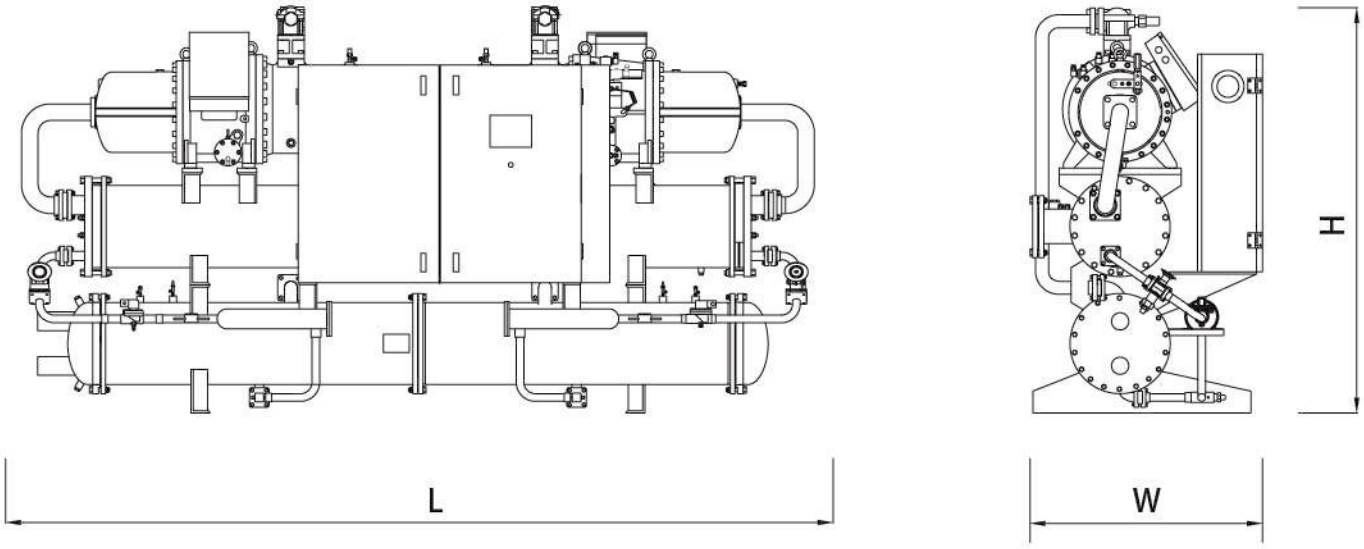
Single compressor vertical type



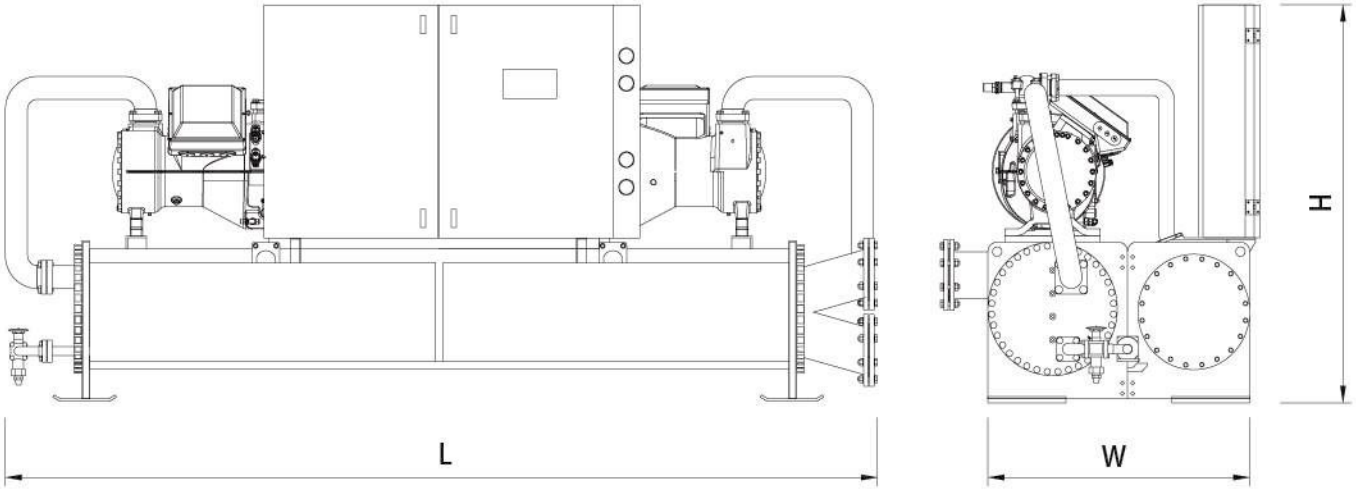
Single compressor horizontal type



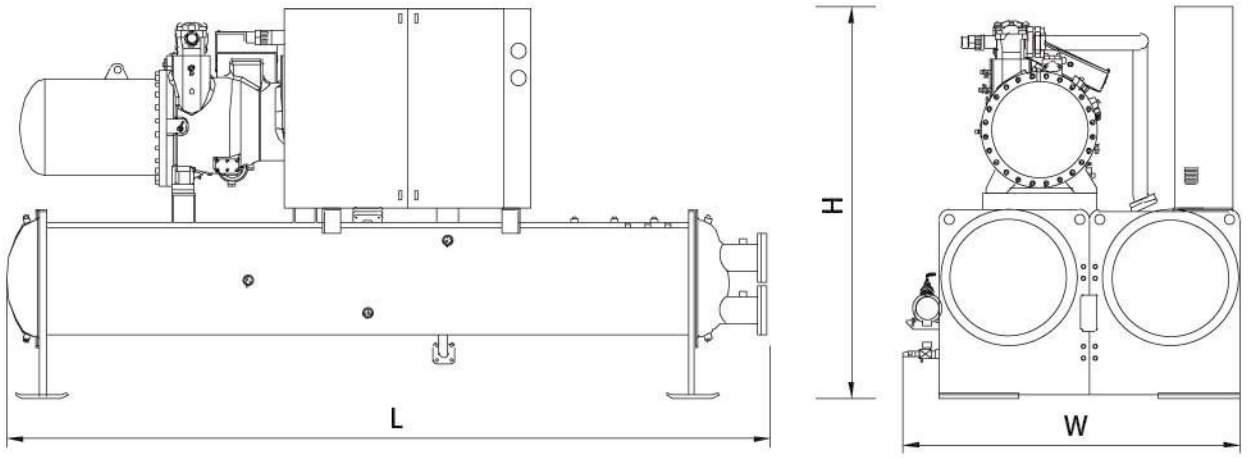
Double compressor vertical type



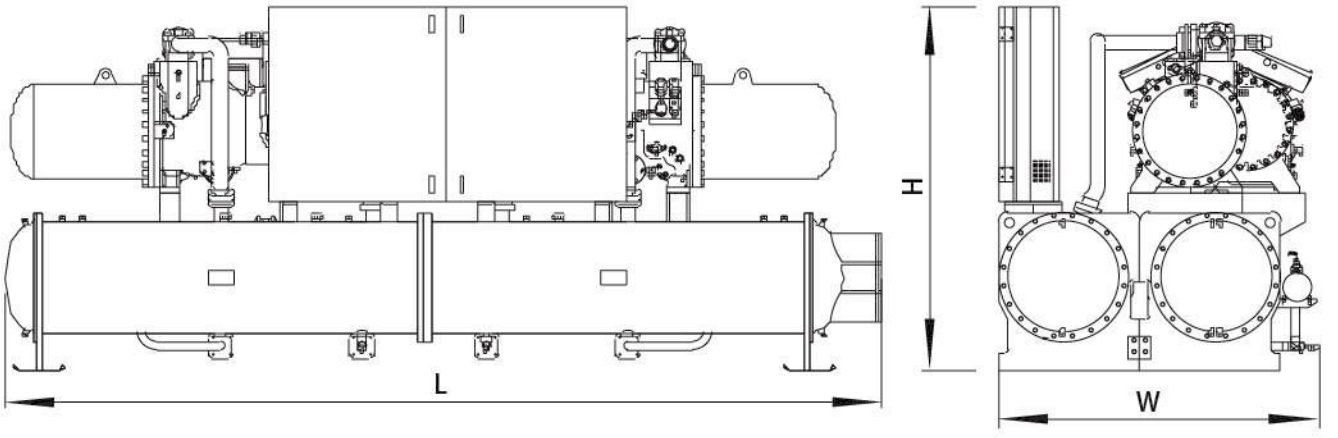
Double compressor horizontal type



Single compressor flooded type



Double compressor flooded type



Acceptance and carrying

1. Checking if the good is same as the order with all parts, and if there is any damage during the transport.If it is different from the order or lack of parts, even damage, please contact the transporter or our group.
2. Before installation, less carriage, less damage, don't hang the unit with the parts, and never stand on the parts, such as control box, pipes, and pipe accessories.
3. When hanging by forklift or hoist, it can hang the hanging hole at the base and use hanging support and pay attention to electrical control box, pipe, pipe accessories. Avoiding to scratch the surface and putting protect pad between cable wire and the unit by hanging. Keep the unit vertical, the angularity less than 30°, preventing slide. Pay attention to put on and off lightly.

Installation

1. Foundation: Concrete or steel plate, it must can sustain the operating weight of the unit, the levelness shall be within 3%.
2. Shock proof

The foundation must be enough strong to reduce the vibration. Vibration damper is required to avoid the noise and reduce the vibration.

3. Installation space

Ensure there is enough space to move the unit and maintain, keep enough space at both side in order to wash the condenser and evaporator

4. There shall be good ventilation in the room.
5. Drainage, it must install drainage pipe around the foundation to discharge the water in the pipe and equipment.
6. Water proof, The unit must not install equipment under the pipe with condensate water or water leakage. Water proof is very important for the safety of equipment.

Install water pipe for condenser and evaporator

1. After horizontal adjustment of the equipment, install the water pipes. Shall install vent valve on the top of all pipes. Water pipe of evaporator need thermal insulation to prevent condensation. Thermal insulation of condenser is depend on local condition.
2. Install water pipes for condenser and evaporator correctly.
3. It is better to install temperature gauge and pressure gauge to monitor the running state of equipment. 4. It must install filter on the inlet of water pump to avoid damage caused by the impurity in the pipe.
5. Install drain valve at the lowest point of the water pipe of condenser and evaporator, easily to discharge the water inside the condenser and evaporator when maintain or shut down.
6. Install flexible connection between water pipe and inlet/outlet of condenser and evaporator to reduce the vibration and avoid the unit bearing the weight of the pipes.
7. Install flow switch on the inlet pipe of condenser to ensure enough water during the running of the equipment.
8. Install cycle pump at the inlet of condenser and evaporator.
9. Must discharge the air in the pipe before start the equipment, avoid any damage.
10. Must discharge all water from condenser and evaporator if not use in winter, to avoid damage caused by frozen.

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Correction coefficient table

R22/R407c Cooling capacity correction coefficient

Cooling capacity		outlet cooling water temperature ℃									
		30	31	32	33	34	35	36	37	38	39
outlet cooled water temperature ℃	4	0.950	0.939	0.928	0.917	0.906	0.895	0.883	0.872	0.860	0.848
	5	0.986	0.975	0.964	0.952	0.941	0.929	0.917	0.905	0.893	0.881
	6	1.023	1.011	1.000	0.988	0.976	0.964	0.952	0.939	0.927	0.914
	7	1.060	1.049	1.037	1.025	1.012	1.000	0.987	0.975	0.962	0.949
	8	1.099	1.087	1.075	1.062	1.050	1.036	1.024	1.011	0.998	0.985
	9	1.139	1.127	1.114	1.101	1.088	1.075	1.062	1.049	1.035	1.021
	10	1.180	1.167	1.154	1.141	1.128	1.115	1.101	1.087	1.073	1.059
	11	1.223	1.209	1.196	1.182	1.169	1.155	1.141	1.127	1.113	1.098
	12	1.266	1.252	1.239	1.225	1.211	1.196	1.182	1.167	1.153	1.138

R22/R407c Input power correction coefficient

Input power		outlet cooling water temperature ℃									
		30	31	32	33	34	35	36	37	38	39
outlet cooled water temperature ℃	4	0.895	0.911	0.926	0.942	0.958	0.975	0.991	1.009	1.026	1.044
	5	0.903	0.916	0.934	0.949	0.966	0.982	1.000	1.018	1.035	1.054
	6	0.911	0.926	0.942	0.958	0.975	0.991	1.009	1.026	1.044	1.062
	7	0.918	0.934	0.950	0.966	0.983	1.000	1.018	1.035	1.053	1.071
	8	0.927	0.943	0.958	0.975	0.991	1.009	1.026	1.044	1.062	1.081
	9	0.935	0.950	0.967	0.983	1.000	1.018	1.035	1.053	1.071	1.089
	10	0.943	0.959	0.975	0.991	1.009	1.024	1.044	1.061	1.080	1.099
	11	0.951	0.967	0.983	1.000	1.018	1.035	1.053	1.071	1.089	1.108
	12	0.959	0.976	0.992	1.009	1.026	1.044	1.061	1.080	1.098	1.118

R134a Cooling capacity correction coefficient											
Cooling capacity		outlet cooling water temperature℃									
		30	31	32	33	34	35	36	37	38	39
outlet cooled water temperature ℃	4	0.939	0.928	0.918	0.908	0.897	0.886	0.875	0.864	0.852	0.841
	5	0.977	0.967	0.956	0.945	0.934	0.923	0.912	0.900	0.888	0.876
	6	1.017	1.006	0.995	0.984	0.972	0.961	0.949	0.937	0.925	0.913
	7	1.058	1.047	1.035	1.024	1.012	1.000	0.988	0.976	0.963	0.950
	8	1.101	1.089	1.077	1.065	1.053	1.040	1.028	1.015	1.002	0.989
	9	1.144	1.132	1.120	1.107	1.095	1.082	1.069	1.056	1.043	1.029
	10	1.189	1.176	1.164	1.151	1.138	1.125	1.112	1.098	1.084	1.070
	11	1.235	1.222	1.209	1.196	1.182	1.169	1.155	1.141	1.127	1.114
	12	1.282	1.269	1.256	1.242	1.228	1.214	1.200	1.185	1.171	1.156

R134a Input power correction coefficient											
Input power		outlet cooling water temperature℃									
		30	31	32	33	34	35	36	37	38	39
outlet cooled water temperature ℃	4	0.914	0.923	0.936	0.948	0.961	0.975	0.991	1.006	1.024	1.042
	5	0.920	0.931	0.943	0.956	0.969	0.983	0.998	1.016	1.033	1.052
	6	0.928	0.939	0.950	0.964	0.976	0.992	1.008	1.024	1.042	1.060
	7	0.936	0.947	0.958	0.970	0.984	1.000	1.058	1.033	1.050	1.069
	8	0.942	0.953	0.965	0.978	0.992	1.008	1.024	1.041	1.058	1.077
	9	0.948	0.961	0.973	0.986	1.000	1.016	1.031	1.049	1.068	1.086
	10	0.956	0.967	0.980	0.994	1.008	1.024	1.039	1.057	1.075	1.094
	11	0.962	0.975	0.987	1.000	1.016	1.031	1.047	1.064	1.083	1.104
	12	0.969	0.981	0.994	1.008	1.024	1.039	1.055	1.074	1.093	1.111

Copper conductor section area and safety current relationship																		
Rated current		6	8	10	12	16	20	25	32	40	63	80	100	125	160	200	250	315
Conductor section area(mm^2)	Min	1	1.5	1.5	1.5	2.5	2.5	4	6	10	10	16	25	35	50	75	95	120
	Max	1.5	2.5	2.5	2.5	4	6	6	10	16	25	35	50	70	95	120	150	240

RUIDONG

For more information, please visit: www.cnrd155.com
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