

THE WORLD'S OBAIR

In the vast global innovation landscape, "Obair" shines like a brilliant star, leading the wave of technological innovation.

We are not just a company, but also advocates and practitioners of the global upgrade in quality of life.

In the world of Obair, technological innovation is not only a driving force but also the soul.

We firmly believe that "Obair" will resonate in every corner of the world, representing excellence, quality, and dreams.

We cross mountains and seas, connecting the five continents, adding a bright color to the global stage of life, becoming a synonym for beauty in the hearts of people around the world, and together writing a glorious chapter in human civilization.



The Obair products shown have passed the relevant certification
and the specific product certification is displayed in the relevant product certification certificate

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Note: There may be discrepancies between all product descriptions, data, and actual products in this catalog.
Please refer to the actual product. Changes will not be notified separately.



Official WeChat
Public Account

OBAIR

SL-LG |

Full Liquid Water-Cooled Screw Chiller



OBAIR
Control air conditioning

Version NO.: OB-202502A
Haojin Oubo Technology CO., LTD

COMPANY PROFILE

Haojin Oubo Technology Co., Ltd. is a large-scale purification central air conditioning national high-tech enterprise integrating research and development, production, sales, and service.

Obair has always adhered to technological innovation, participated in the formulation of national and industry standards as a member unit of China's "Cold Standard Committee", and has obtained multiple invention patents and utility model patents. It has established industry-university-research bases with Nanchang University and Jiangxi University of Science and Technology. It is a key demonstration enterprise for deep integration of informatization and industrialization in Jiangxi Province, a demonstration enterprise for service-oriented manufacturing in Jiangxi Province, and the company has successively won honors such as Jiangxi Province Technology Center, Ganzhou City Industrial Design Center, Jiangxi Famous Brand Product, national green factory, and national specialized and innovative "little giant" enterprise.

Obair currently has two phases in Ganzhou, Jiangxi, using digital park management, with over 120 digital production equipment, achieving an annual production capacity of 100,000 units.

Obair currently has more than 1000 models of high-quality air conditioning products independently developed, and the products have obtained energy-saving certification, CRAA, EU CE certification, American AHRI certification and other authoritative institutions' testing and certification, widely used in hospitals, dust-free workshops, pharmaceutical factories, electronics, tobacco, painting, photovoltaic, new energy, semiconductor, laboratory and other industries, and has the industry reputation of "King of Cleanliness" and "King of Constant Temperature and Humidity Non-standard".

Obair strictly implements the ISO9001/ISO14001/ISO45001 management system, always practices the purpose of "willing to explain the price for a while, but not to apologize for the quality for a lifetime", proposes the "6-hour" on-site service concept for all customers and for all customers, and provides the most professional and high-quality technical support and after-sales service.

From the mission, born for purification!
Obair, your regret-free choice!

170,000
cumulative models
of complete machine production since 1990

70+
National Service Contact Points

1000+
employees

100,000
Pilot Project Air Conditioning Solutions



HONORARY QUALIFICATIONS



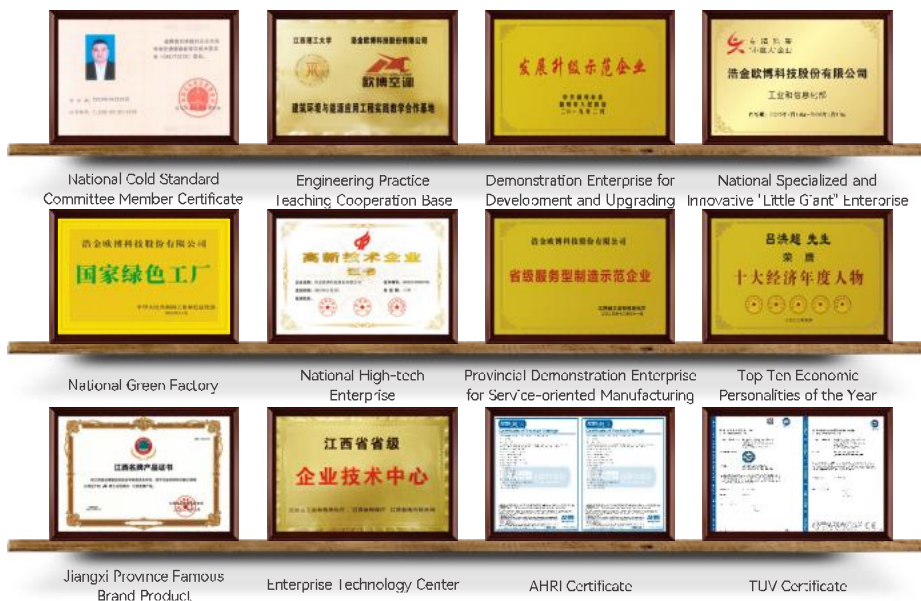
Advanced equipment, professional technology and strict management have created the high quality of "OBAIR" brand products.

It has successively won dozens of honors such as national high-tech enterprise, China's well-known brand, specialized and specialized new enterprise, cold standard committee enterprise, provincial service-oriented manufacturing demonstration enterprise, provincial enterprise technology center, Jiangxi famous brand product, etc.

"OBAIR" products are your reliable choice.



It has obtained more than 10 certifications and more than 100 patents.



**Comprehensive Protection System**

Real-time monitoring of various components during equipment operation, automatic alarm in case of abnormal status, and achieving intelligent control and comprehensive protection of the unit.

**Safe and reliable**

When the unit is equipped with a dual compressor system, independent refrigerant circuits are adopted. Under partial load conditions, they can serve as backups for each other, enhancing the overall reliability and safety.

**Efficient and energy-saving**

Adopting a new generation of high-efficiency semi-hermetic twin-screw compressor, the motor directly drives the rotor, resulting in fewer components, higher volumetric efficiency, and higher energy efficiency.

**Intelligent Control**

Adopting an intelligent control system for central air conditioning, and paired with a true-color high-definition touchscreen, significantly enhances the user experience.

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» Product Overview

The OBAIR SL series full liquid water-cooled screw chiller is an efficient and energy-saving chiller that provides chilled water for combined air conditioning units, fan coils, and various other equipment requiring a cold source. The unit consists of a full liquid-specific semi-enclosed double screw compressor, high-efficiency oil separator, shell-and-tube condenser, full liquid evaporator, electronic expansion valve, oil return system, and PLC intelligent control system. The unit's system is optimized in design and carefully manufactured, ensuring higher reliability. The entire machine is factory-filled with sufficient refrigerant, and only needs to connect the evaporator and condenser water pipes and power lines for debugging and operation. It is easy to install and does not require much complicated work. It is widely used in large commercial office buildings, hotels, hotels, theaters, shopping malls, schools, as well as chemical, nuclear power, food, beverage, and other comfort and process occasions.



» Model Explanation

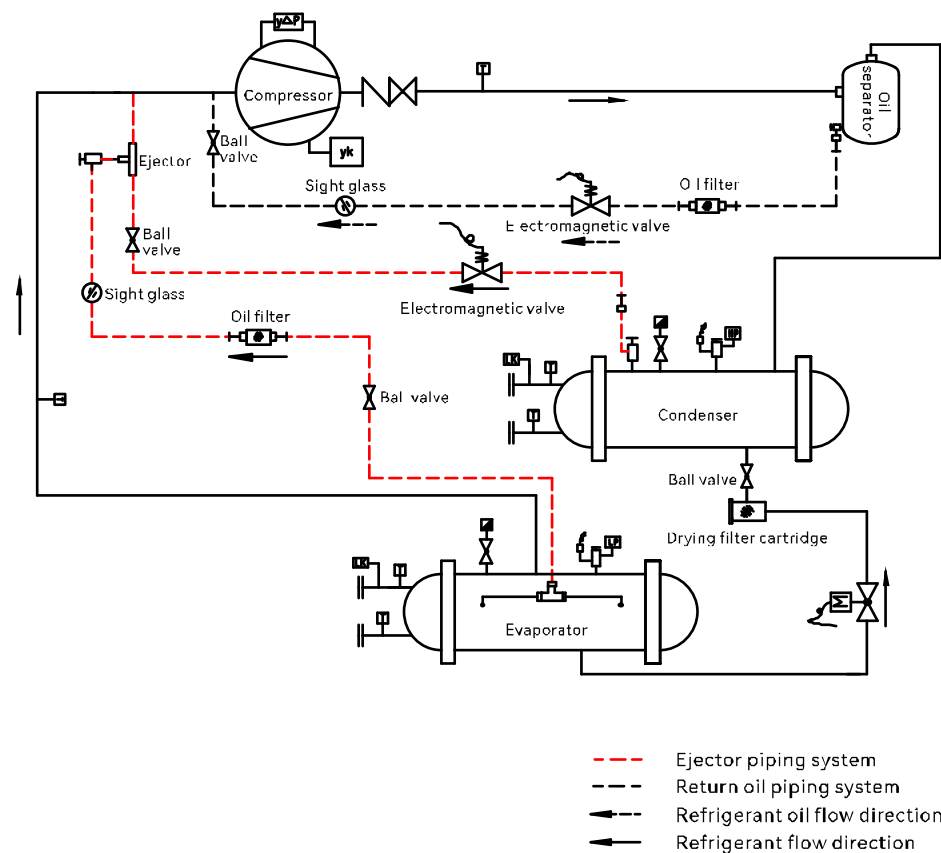
SL-LG	2	—	1080	M	B	—	A	N	
									Whether it is an integrated machine: N: Standard type, Y: Integrated type
									Function code: A: Standard type, Q: Full heat recovery, H: Partial heat recovery, V: Variable frequency compressor, QV: Variable frequency full heat recovery, HV: Variable frequency partial heat recovery
									Refrigerant type: A: R134a, B: R22, F: R513A, I: R1234ze
									Evaporator type: M: Flooded type, J: Falling film type, G: Dry type
									Nominal cooling capacity: kW (positions 3-4)
									Compressor quantity: 1, 2, 3, 4
									Machine type code: Water-cooled screw chiller

For example: SL-LG2-1000MA-A

R134a full liquid water-cooled screw chiller with a cooling capacity of 1000kW and 2 compressors.

» System Principle Diagram

When the unit is operating, the compressor draws in low-temperature, low-pressure refrigerant gas from the evaporator into the cylinder. After the compressor does work, the refrigerant becomes high-temperature, high-pressure superheated steam, which is then sent to the oil separator via the exhaust pipe. After separation in the oil separator, it enters the condenser. The high-temperature, high-pressure superheated steam undergoes heat exchange with the cooling water in the condenser, transferring heat to the cooling water which carries it away, while the refrigerant gas condenses into high-pressure liquid. The high-pressure liquid coming out of the condenser is throttled and depressurized by the expansion valve before entering the evaporator. Inside the evaporator, the low-pressure liquid refrigerant absorbs heat from the chilled water and vaporizes, causing the chilled water to cool and achieve the desired low temperature. The vaporized refrigerant gas is then drawn back into the compressor, compressed, and sent into the condenser, repeating this cycle continuously to achieve the purpose of cooling. The oil return from the oil separator and the ejector oil return line can send the refrigerant oil that is carried out of the compressor during the refrigeration cycle back into the compressor, helping to further ensure the stable operation of the system.



>> Product Features

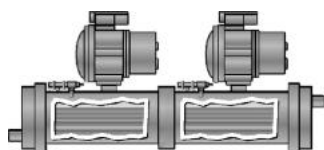
High-efficiency Compressor

The unit uses a semi-enclosed double screw compressor dedicated to full liquid systems. The key components, the rotors, are processed by new high precision dedicated rotor grinding machines, with high precision and stable quality. The new rotor profile has high rigidity and low leakage, maintaining the optimal gap value for the highest volumetric efficiency during long term continuous operation, ensuring the best energy consumption operation under partial load and full load conditions. The compressor uses precise slide valve stepless energy regulation to effectively ensure the precision of the unit's water outlet temperature, providing reliable protection for occasions requiring high precision.

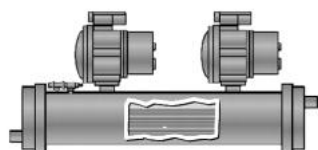


Dual System Independent Design

When the unit has two compressors, it adopts an independent refrigerant circuit. Under partial load, it can serve as a backup for each other, improving the overall reliability and safety.



Independent refrigerant circuit,
good backup capability.



Parallel refrigerant circuits,
no backup capability.

Oil Return Jet Technology

Based on the high-efficiency oil separator built into the compressor, OBAIR has added an independent horizontal large-space oil separator between the compressor exhaust end and the water-cooled condenser, with an oil separation rate as high as 99.9%.

The real-time oil return jet system uses the high-pressure gaseous refrigerant in the condenser as power, adopts a dedicated jet pump, and combines the data acquisition and analysis judgment of the unit's intelligent control system to precisely jet oil back from the full liquid evaporator, ensuring no risk of compressor oil shortage and ensuring no oil film thermal resistance on the heat exchange tube surface, thereby maintaining the best heat exchange efficiency of the evaporator.

Advanced Throttling Device

The unit uses an internationally advanced electronic expansion valve with a wide adjustment range, which can precisely regulate the refrigerant flow under any working conditions such as unit limit conditions, full load, and partial load. OBAIR adopts a scientific logic of joint control of suction superheat and exhaust superheat, which can fully utilize the heat exchange capacity of the full liquid evaporator while ensuring that the compressor always operates in a safe and efficient range.



High-efficiency Full Liquid Evaporator

The heat exchanger uses ultra-high-efficiency double-sided enhanced heat exchange tubes, designed with special heat transfer surfaces for different heat transfer mechanisms and fluid media, optimizing heat transfer efficiency, reducing along-the-way flow pressure loss, and using advanced full liquid evaporation and cooling technologies to achieve minimal temperature difference and high heat exchange efficiency between water and refrigerant, maximizing refrigeration efficiency and energy utilization rate, and reducing energy consumption for users while ensuring optimal cooling effects.



Flooded dedicated high-efficiency heat exchange tubes.

The refrigerant vaporization process in a flooded evaporator.

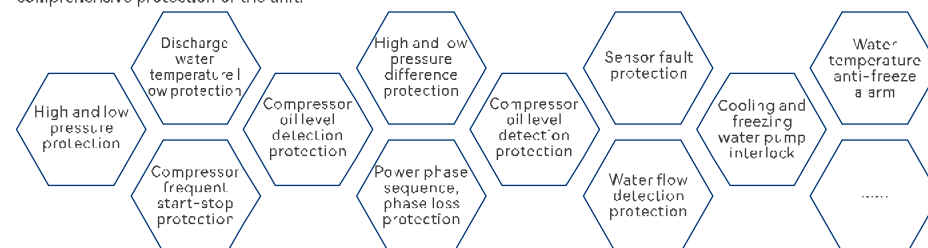
Intelligent Control System

The unit is equipped with a PLC intelligent control system and a color touch screen as the local operation human-machine interface (HMI). Customers can monitor and control the entire machine through the local HMI, ensuring high automation and simple, fast operation, greatly enhancing the user experience. The industrial-grade microcomputer controller, combined with the color touch screen, forms the core of the unit's control, and the electrical control components are all from internationally renowned brands, with high reliability and excellent anti-interference capabilities, adapting to various complex and harsh working environments.



Comprehensive Protection System

The unit is equipped with pressure sensors, temperature sensors, flow switches, safety valves, electromagnetic valves, oil pressure difference controllers, high and low pressure switches, and other data acquisition sensors, forming a precise automatic control system with the unit's intelligent controller. During equipment operation, it monitors each component in real-time, automatically alarms when abnormal conditions occur, and automatically operates the unit through various control protection switches when abnormal parameters reach the protection set values, achieving intelligent control and comprehensive protection of the unit.



Multiple Customized Configurations (Optional)

Secondary Display	Unit Variable Frequency (Dual Variable Frequency)	380V 50Hz Power Supply	Compressor Soft Start	6KV High Voltage Unit
460V 60Hz Power Supply	Unit Variable Frequency (1 Variable + 1 Fixed)	10KV High Voltage Unit	Three-phase Four-wire System	

» Operating Range of the Unit (Under Rated Water Flow)

Project	Chilled Water		Cooling Water	
Refrigeration Condition	Inlet Water Temperature	Outlet Water Temperature	Inlet Water Temperature	Outlet Water Temperature
	10~20℃	5~15℃	19~35℃	23~40℃

*Note: When the actual operating conditions of the unit exceed the range in the table above, please contact us for customized condition design.

» Water Quality Requirements

Due to the different water qualities in various regions, water quality inspection should be conducted before it enters the unit's heat exchanger. If the water quality does not meet the requirements for air conditioning water, water treatment is necessary. The water quality should comply with the requirements in the table below and undergo regular sampling tests.

Our company does not guarantee the use of improperly treated or untreated water that does not meet standards, nor do we guarantee that this series of units can use brine.

Project	Unit	Supplementary Water	Chilled Water
pH Value (25℃)	—	6.5~8.0	6.5~8.0
Conductivity (25℃)	uS/cm	<200	<800
Chloride Ion	mgCl /L	<50	<200
Sulfate Ion	mgSO ₄ ²⁻ /L	<50	<200
Acid Consumption (PH4.8)	mgCaCO ₃ /L	<50	<100
Total Hardness	mgCaCO ₃ /L	<70	<200
Iron	mgFe/L	<0.3	<1.0
Sulfide Ion	mgSO ₄ ²⁻ /L	Not Detectable	Not Detectable
Ammonium Ion	mgNH ₄ ⁺ /L	<1.0	<1.0
Silicon Dioxide	mgSiO ₂ /L	<30	<50

» Technical Parameters (R134a Single Compressor)

Model SL-LG1-***MA-A			230	270	300	350	390	420	460	500	560
Cooling Capacity		kW	231	272	295	352	390	420	460	500	556
Rated Cooling Input Power		kW	39	46	50	59	66	71	79	84	91
Power Supply			Three-phase five-wire system AC380V/50Hz								
Compressor	Type		Semi-enclosed Double Screw Compressor								
	Starting Method		Y-Δ								
	Quantity	Unit	1								
Evaporator	Type / Design Withstanding Water Pressure		High-efficiency Full Liquid Evaporator / 1.0MPa								
	Water flow rate	m³/h	40	47	51	61	67	72	79	86	96
	Pipe Connection Diameter	DN	100	100	100	100	125	125	125	125	125
	Water Pressure Drop	kPa	40	41	38	42	54	57	57	55	54
Condenser	Type / Design withstanding water pressure		Horizontal Shell and Tube Condenser / 1.0MPa								
	Water Flow Rate	m³/h	50	58	63	76	84	90	99	108	120
	Pipe Connection Diameter	DN	100	100	100	100	125	125	125	125	125
	Water Pressure Drop	kPa	48	48	50	49	52	56	56	54	52
Refrigerant	Type		R134a								
	Throttling Method		Electronic Expansion Valve								
Dimensions	A (L)	mm	3000	3000	3000	3000	3010	3010	3010	3010	3010
	B (W)	mm	1300	1300	1300	1350	1350	1350	1350	1350	1350
	C (H)	mm	1700	1700	1700	1700	1750	1750	1750	1750	1750
Unit Weight		kg	2300	2430	2550	2630	2800	3100	3300	3400	3600
Operating Weight		kg	2430	2560	2690	2770	2970	3280	3490	3610	3830

Note:

1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7℃; Cooling water inlet / outlet temperature 30/35℃;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of +10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

» Technical Parameters (R134a Single Compressor)

Model SL-LG1-***MA-A			620	650	710	780	880	980	1050	1170	1380
Cooling Capacity		kW	618	650	720	780	880	980	1054	1166	1379
Rated Cooling Input Power		kW	102	107	116	125	144	157	169	183	216
Power Supply			Three-phase Five-wire System AC380V/50Hz								
Compressor	Type		Semi-enclosed Double Screw Compressor								
	Starting Method		Y-Δ								
	Quantity	Unit	1								
Evaporator	Type / Design Withstanding Water Pressure		High-efficiency Full Liquid Evaporator /1.0MPa								
	Water Flow Rate	m³/h	106	112	124	134	151	169	181	201	237
	Pipe Connection Diameter	DN	150	150	150	150	200	200	200	200	200
	Water Pressure Drop	kPa	54	54	56	56	56	60	58	60	59
Condenser	Type / Design Withstanding Water Pressure		Horizontal Shell-and-tube Condenser /1.0MPa								
	Water Flow Rate	m³/h	133	140	155	168	189	211	227	251	296
	Pipe Connection Diameter	DN	150	150	150	150	200	200	200	200	200
	Water Pressure Drop	kPa	54	52	52	54	54	59	56	62	62
Refrigerant	Type		R134a								
	Throttling Method		Electronic Expansion Valve								
Dimensions	A (L)	mm	3350	3350	3350	3350	3350	3550	3550	3550	3750
	B (W)	mm	1400	1400	1400	1400	1400	1550	1550	1550	1550
	C (H)	mm	1800	1800	1800	1800	1800	1960	2050	2050	2050
Unit Weight		kg	3750	3800	4200	4400	4600	4800	5350	5460	5730
Operating Weight		kg	4000	4070	4490	4720	4940	5210	5780	5910	6210

Note:

1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of +10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

» Technical Parameters (R134a Dual Compressor)

Model SL-LG2-***MA-A			460	540	590	700	780	840	920	1000	1120
Cooling Capacity		kW	462	544	590	704	780	840	920	1000	1122
Rated Cooling Input Power		kW	79	88	96	113	127	136	149	161	180
Power Supply			Three-phase five-wire system AC380V/50Hz								
Compressor	Type		Semi-enclosed double screw compressor								
	Starting Method		Y-Δ								
	Quantity	Unit	2								
Evaporator	Type / Design Withstanding Water Pressure		High-efficiency Full Liquid Evaporator / 1.0MPa								
	Water flow rate	m³/h	79	94	101	121	134	144	158	172	193
	Pipe Connection Diameter	DN	125	125	125	150	150	150	200	200	200
	Water Pressure Drop	kPa	56	59	62	69	72	71	76	73	71
Condenser	Type / Design withstanding water pressure		Horizontal Shell and Tube Condenser / 1.0MPa								
	Water Flow Rate	m³/h	99	117	127	151	168	181	198	215	241
	Pipe Connection Diameter	DN	125	125	125	150	150	150	200	200	200
	Water Pressure Drop	kPa	62	61	59	78	76	80	81	82	80
Refrigerant	Type		R134a								
	Throttling Method		Electronic Expansion Valve								
Dimensions	A (L)	mm	3565	3565	4150	4150	4150	4150	4460	4460	4460
	B (W)	mm	1300	1350	1350	1350	1400	1400	1400	1400	1600
	C (H)	mm	1970	1970	1970	2100	2100	2100	2100	2130	2130
Unit Weight		kg	3850	4150	4400	4600	4700	5550	6300	6950	7010
Operating Weight		kg	4080	4400	4670	4880	5020	5890	6660	7330	7420

Note:

1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of +10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

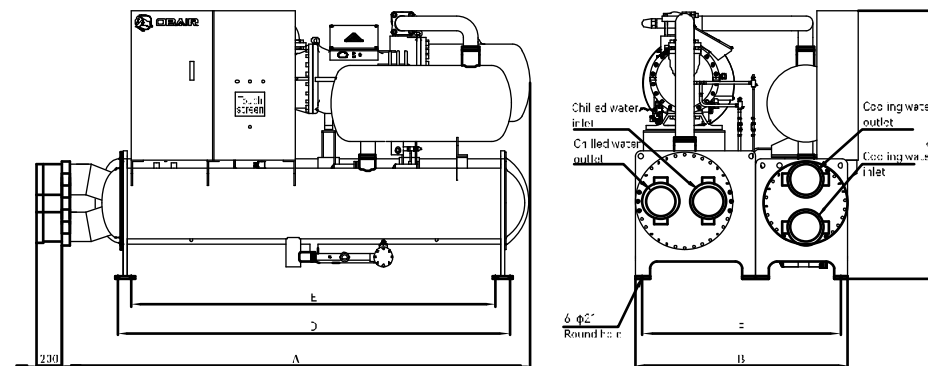
» Technical Parameters (R134a Dual Compressor)

Model SL-LG2-***MA-A		1250	1300	1440	1580	1770	1960	2110	2330
Cooling Capacity	kW	1250	1300	1440	1580	1770	1960	2108	2332
Rated Cooling Input Power	kW	198	206	227	249	279	307	330	366
Power Supply		Three-phase five-wire system AC380V/50Hz							
Compressor	Type	Semi-enclosed double screw compressor							
	Starting Method	Y-Δ							
	Quantity	Unit	2	2	2	2	2	2	2
Evaporator	Type / Design Withstanding Water Pressure	High-efficiency Full Liquid Evaporator / 1.0MPa							
	Water flow rate	m ³ /h	215	224	248	272	304	337	401
	Pipe Connection Diameter	DN	200	200	200	250	250	250	250
	Water Pressure Drop	kPa	75	75	73	71	79	76	69
Condenser	Type / Design withstanding water pressure	Horizontal Shell and Tube Condenser / 1.0MPa							
	Water Flow Rate	m ³ /h	269	280	310	340	381	421	501
	Pipe Connection Diameter	DN	200	200	200	250	250	250	250
	Water Pressure Drop	kPa	80	79	76	80	85	86	89
Refrigerant	Type	R134a							
	Throttling Method	Electronic Expansion Valve							
Dimensions	A (L)	mm	4900	4900	4900	4900	4900	4950	4950
	B (W)	mm	1600	1600	1600	1600	1600	1800	1800
	C (H)	mm	2130	2130	2130	2130	2130	2240	2240
Unit Weight		kg	7180	7370	7550	8170	9210	10130	11030
Operating Weight		kg	7640	7880	8090	8760	9840	10890	11860

Note:

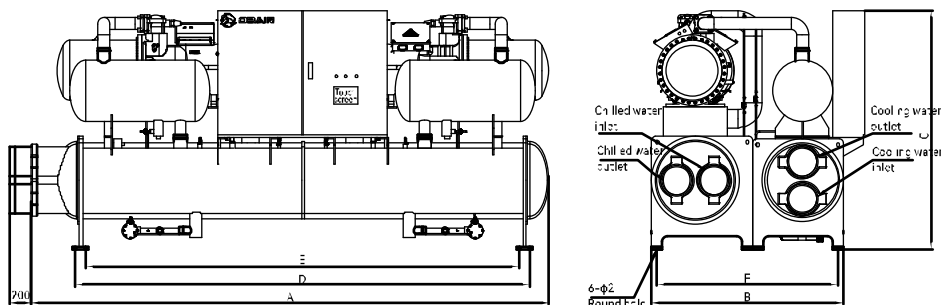
1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of +10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

» Unit Outline Drawing (R134a Single Compressor)



Model	Dimensions mm						Pipe Connection Diameter mm	
	A	B	C	D	E	F	Evaporator	Condenser
SL-LG1-230MA	3000	1300	1700	2540	2340	1200	DN100	DN100
SL-LG1-270MA	3000	1300	1700	2540	2340	1200	DN100	DN100
SL-LG1-300MA	3000	1300	1700	2540	2340	1200	DN100	DN100
SL-LG1-350MA	3000	1350	1700	2540	2340	1250	DN100	DN100
SL-LG1-390MA	3010	1350	1750	2540	2340	1250	DN125	DN125
SL-LG1-420MA	3010	1350	1750	2540	2340	1250	DN125	DN125
SL-LG1-460MA	3010	1350	1750	2540	2340	1250	DN125	DN125
SL-LG1-500MA	3010	1350	1750	2540	2340	1250	DN125	DN125
SL-LG1-560MA	3010	1350	1750	2540	2340	1250	DN125	DN125
SL-LG1-620MA	3350	1400	1800	2870	2670	1300	DN150	DN150
SL-LG1-650MA	3350	1400	1800	2870	2670	1300	DN150	DN150
SL-LG1-710MA	3350	1400	1800	2870	2670	1300	DN150	DN150
SL-LG1-780MA	3350	1400	1800	2870	2670	1300	DN150	DN150
SL-LG1-880MA	3350	1400	1800	2870	2670	1300	DN200	DN200
SL-LG1-980MA	3550	1550	1960	2870	2670	1450	DN200	DN200
SL-LG1-1050MA	3550	1550	2050	2870	2670	1450	DN200	DN200
SL-LG1-1170MA	3550	1550	2050	2870	2670	1450	DN200	DN200
SL-LG1-1380MA	3750	1550	2050	2870	2670	1450	DN200	DN200

Unit Outline Drawing (R134a Dual Compressor)



Model	Dimensions mm						Pipe Connection Diameter mm	
	A	B	C	D	E	F	Evaporator	Condenser
SL-LG2-460MA	3565	1300	1970	3070	2870	1200	DN125	DN125
SL-LG2-540MA	3565	1350	1970	3070	2870	1250	DN125	DN125
SL-LG2-590MA	4150	1350	1970	3570	3370	1250	DN125	DN125
SL-LG2-700MA	4150	1350	2100	3570	3370	1250	DN150	DN150
SL-LG2-780MA	4150	1400	2100	3570	3370	1300	DN150	DN150
SL-LG2-840MA	4150	1400	2100	3570	3370	1300	DN150	DN150
SL-LG2-920MA	4600	1400	2100	4070	3870	1300	DN200	DN200
SL-LG2-1000MA	4600	1400	2130	4070	3870	1300	DN200	DN200
SL-LG2-1120MA	4600	1600	2130	4070	3870	1500	DN200	DN200
SL-LG2-1250MA	4900	1600	2130	4270	4070	1500	DN200	DN200
SL-LG2-1300MA	4900	1600	2130	4270	4070	1500	DN200	DN200
SL-LG2-1440MA	4900	1600	2130	4270	4070	1500	DN200	DN200
SL-LG2-1580MA	4900	1600	2130	4270	4070	1500	DN250	DN250
SL-LG2-1770MA	4900	1600	2130	4270	4070	1500	DN250	DN250
SL-LG2-1960MA	4950	1800	2240	4270	4070	1700	DN250	DN250
SL-LG2-2110MA	4950	1800	2240	4270	4070	1700	DN250	DN250
SL-LG2-2330MA	5450	1850	2240	4670	4470	1750	DN250	DN250

Technical Parameters (R22 Single Compressor)

Model SL-LG1-***MB-A			280	330	410	450	540	620	660	720	750
Cooling Capacity		kW	280	331	410	452	540	616	660	719	750
Rated Cooling Input Power		kW	49	58	71	77	91	102	109	117	126
Power Supply			Three-phase five-wire system AC380V/50Hz								
Compressor	Type		Semi-enclosed double screw compressor								
	Starting Method		Y-Δ								
	Quantity	Unit	1								
Evaporator	Type/Design Withstanding Water Pressure		High-efficiency Full Liquid Evaporator / 1.0MPa								
	Water flow rate	m³/h	48	57	71	78	93	106	114	124	129
	Pipe Connection Diameter	DN	100	100	125	125	125	150	150	150	150
	Water Pressure Drop	kPa	50	52	55	55	57	57	65	65	72
Condenser	Type / Design withstanding water pressure		Horizontal Shell and Tube Condenser / 1.0MPa								
	Water Flow Rate	m³/h	60	71	88	97	116	132	142	155	161
	Pipe Connection Diameter	DN	100	100	125	125	125	150	150	150	150
	Water Pressure Drop	kPa	55	55	60	60	60	60	70	70	70
Refrigerant	Type		R22								
	Throttling Method		Electronic Expansion Valve								
Dimensions	A (L)	mm	2940	2940	2940	3010	3010	3010	3010	3350	3350
	B (W)	mm	1160	1160	1160	1350	1350	1350	1350	1400	1400
	C (H)	mm	1650	1650	1650	1850	1850	1850	1850	1850	1850
Unit Weight		kg	2250	2280	2550	2620	2750	2940	3200	3400	3640
Operating Weight		kg	2360	2410	2700	2800	2950	3160	3430	3670	3930

Note:

1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of ±10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

» Technical Parameters (R22 Single Compressor)

Model SL-LG1-***MB-A			830	950	1060	1180	1320	1430	1550	1730
Cooling Capacity		kW	830	950	1056	1180	1320	1432	1550	1728
Rated Cooling Input Power		kW	136	160	169	189	209	230	246	272
Power Supply			Three-phase five-wire system AC380V/50Hz							
Compressor	Type		Semi-enclosed double screw compressor							
	Starting Method		Y-Δ							
	Quantity	Unit	1							
Evaporator	Type / Design Withstanding Water Pressure		High-efficiency Full Liquid Evaporator / 1.0MPa							
	Water flow rate	m³/h	143	163	182	203	227	246	267	297
	Pipe Connection Diameter	DN	150	200	200	200	200	200	200	250
	Water Pressure Drop	kPa	72	75	75	75	75	80	80	80
Condenser	Type / Design withstanding water pressure		Horizontal Shell and Tube Condenser / 1.0MPa							
	Water Flow Rate	m³/h	1/8	204	227	254	284	308	333	3/2
	Pipe Connection Diameter	DN	150	200	200	200	200	200	200	250
	Water Pressure Drop	kPa	70	75	75	75	80	80	80	80
Refrigerant	Type		R22							
	Throttling Method		Electronic Expansion Valve							
Dimensions	A (L)	mm	3350	3550	3550	3550	3550	3550	3550	3550
	B (W)	mm	1400	1550	1550	1550	1550	1550	1600	1600
	C (H)	mm	1850	1970	1970	1970	1970	2150	2150	2230
Unit Weight		kg	3750	3950	4180	4350	4800	5000	5150	5240
Operating Weight		kg	4060	4350	4620	4820	5310	5570	5750	5930

Note:

1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of ±10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

» Technical Parameters (R22 Dual Compressor)

Model SL-LG2-***MB-A			560	660	820	900	1080	1230	1320	1440
Cooling Capacity		kW	560	662	820	904	1080	1232	1320	1438
Rated Cooling Input Power		kW	95	109	136	147	175	198	212	228
Power Supply			Three-phase five-wire system AC380V/50Hz							
Compressor	Type		Semi-enclosed double screw compressor							
	Starting Method		Y-Δ							
	Quantity	Unit	2							
Evaporator	Type/ Design Withstanding Water Pressure		High efficiency Full Liquid Evaporator / 1.0MPa							
	Water flow rate	m³/h	96	114	141	155	186	212	227	247
	Pipe Connection Diameter	DN	125	150	150	200	200	200	200	200
	Water Pressure Drop	kPa	80	72	72	72	72	72	72	77
Condenser	Type/ Design withstanding water pressure		Horizontal Shell and Tube Condenser / 1.0MPa							
	Water Flow Rate	m³/h	120	142	176	194	232	265	284	309
	Pipe Connection Diamcter	DN	125	150	150	200	200	200	200	200
	Water Pressure Drop	kPa	80	75	75	75	75	75	75	80
Refrigerant	Type		R22							
	Throttling Method		Electronic Expansion Valve							
Dimensions	A (L)	mm	3800	3800	3800	4720	4720	4720	4750	4800
	B (W)	mm	1400	1400	1400	1500	1500	1500	1600	1600
	C (H)	mm	1800	1800	1800	1900	1900	1900	1900	2150
Unit Weight		kg	3800	4000	4600	5000	5200	5600	6000	6400
Operating Weight		kg	4050	4280	4930	5370	5620	6050	6490	6920

Note:

1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of ±10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

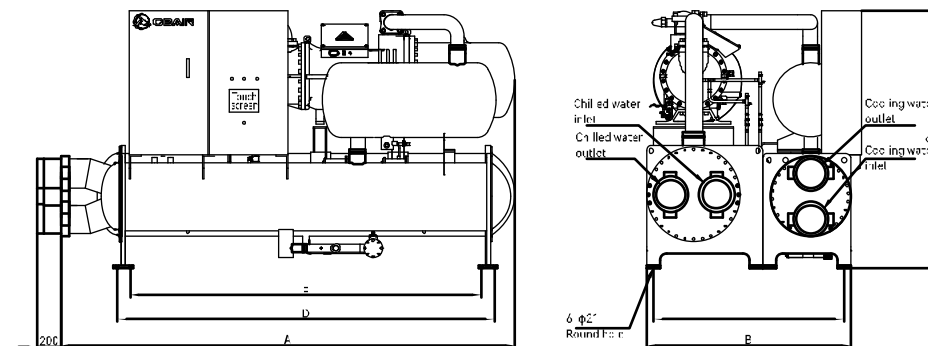
» Technical Parameters (R22 Dual Compressor)

Model SL-LG2-***MB-A		1500	1660	1900	2110	2360	2630	2864	
Cooling Capacity	kW	1500	1660	1900	2112	2360	2630	2864	
Rated Cooling Input Power	kW	245	271	304	337	382	419	461	
Power Supply		Three-phase five-wire system AC380V/50Hz							
Compressor	Type		Semi-enclosed double screw compressor						
	Starting Method		Y-Δ						
	Quantity	Unit	2						
Evaporator	Type / Design Withstanding Water Pressure		High-efficiency Full Liquid Evaporator / 1.0MPa						
	Water flow rate	m³/h	258	286	327	363	406	452	493
	Pipe Connection Diameter	DN	200	250	250	250	250	300	300
	Water Pressure Drop	kPa	77	77	77	80	80	80	80
Condenser	Type / Design withstanding water pressure		Horizontal Shell and Tube Condenser / 1.0MPa						
	Water Flow Rate	m³/h	323	357	409	454	507	565	616
	Pipe Connection Diameter	DN	200	250	250	250	250	300	300
	Water Pressure Drop	kPa	80	80	80	80	80	80	80
Refrigerant	Type		R22						
	Throttling Method		Electronic Expansion Valve						
Dimensions	A (L)	mm	4800	4800	4800	4800	4800	4800	5400
	B (W)	mm	1850	1850	1850	1850	1850	1850	1900
	C (H)	mm	2170	2170	2170	2170	2170	2170	2200
Unit Weight		kg	6800	7400	7800	8300	8800	9600	10100
Operating Weight		kg	7390	8040	8590	9150	9730	10600	11200

Note:

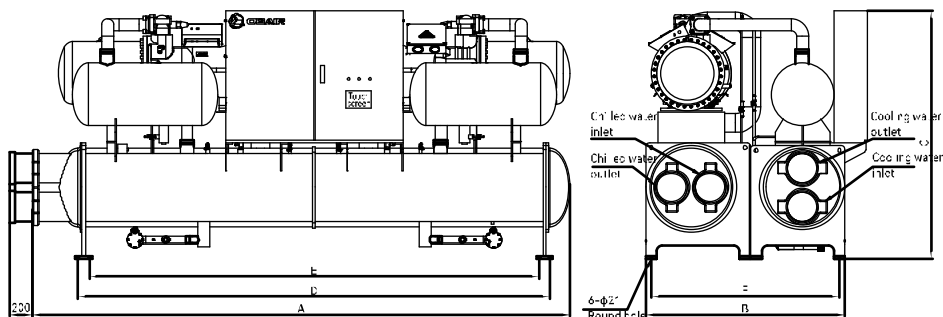
1. Refrigeration condition: Chilled water inlet / outlet temperature 12/7°C; Cooling water inlet / outlet temperature 30/35°C;
2. The power supply of the unit is three-phase five-wire system, 380V 50Hz, with allowable voltage fluctuation of ±10%;
3. If there are special requirements for the technical parameters, please contact us to provide a specific technical solution;
4. If the specifications are changed due to product improvement, we will not notify you separately.

» Unit Outline Drawing (R22 Single Compressor)



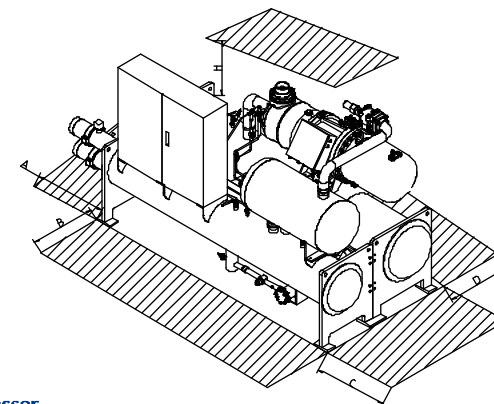
Model	Dimensions mm						Pipe Connection Diameter mm	
	A	B	C	D	E	F	Evaporator	Condenser
SL-LG1-280MB	2940	1160	1650	2540	2340	1060	DN100	DN100
SL-LG1-330MB	2940	1160	1650	2540	2340	1060	DN100	DN100
SL-LG1-410MB	2940	1160	1650	2540	2340	1060	DN125	DN125
SL-LG1-450MB	3010	1350	1850	2540	2340	1250	DN125	DN125
SL-LG1-540MB	3010	1350	1850	2540	2340	1250	DN125	DN125
SL-LG1-620MB	3010	1350	1850	2540	2340	1250	DN150	DN150
SL-LG1-660MB	3010	1350	1850	2540	2340	1250	DN150	DN150
SL-LG1-720MB	3350	1400	1850	2870	2670	1300	DN150	DN150
SL-LG1-750MB	3350	1400	1850	2870	2670	1300	DN150	DN150
SL-LG1-830MB	3350	1400	1850	2870	2670	1300	DN150	DN150
SL-LG1-950MB	3550	1550	1970	2870	2670	1450	DN200	DN200
SL-LG1-1060MB	3550	1550	1970	2870	2670	1450	DN200	DN200
SL-LG1-1180MB	3550	1550	1970	2870	2670	1450	DN200	DN200
SL-LG1-1320MB	3550	1550	1970	2870	2670	1450	DN200	DN200
SL-LG1-1430MB	3550	1550	2150	2870	2670	1450	DN200	DN200
SL-LG1-1550MB	3550	1600	2150	2870	2670	1500	DN200	DN200
SL-LG1-1730MB	3550	1600	2230	2870	2670	1500	DN250	DN250

Unit Outline Drawing (R22 Dual Compressor)



Model	Dimensions mm						Pipe Connection Diameter mm	
	A	B	C	D	E	F	Evaporator	Condenser
SL-LG2-560MB	3800	1400	1800	3270	3070	1300	DN125	DN125
SL-LG2-660MB	3800	1400	1800	3270	3070	1300	DN150	DN150
SL-LG2-820MB	3800	1400	1800	3270	3070	1300	DN150	DN150
SL-LG2-900MB	4720	1500	1900	4070	3870	1400	DN200	DN200
SL-LG2-1080MB	4720	1500	1900	4070	3870	1400	DN200	DN200
SL-LG2-1230MB	4720	1500	1900	4070	3870	1400	DN200	DN200
SL-LG2-1320MB	4720	1500	1900	4070	3870	1400	DN200	DN200
SL-LG2-1440MB	4800	1600	2150	4070	3870	1500	DN200	DN200
SL-LG2-1500MB	4800	1600	2150	4070	3870	1500	DN200	DN200
SL-LG2-1660MB	4800	1600	2150	4070	3870	1500	DN250	DN250
SL-LG2-1900MB	4800	1850	2170	4070	3870	1750	DN250	DN250
SL-LG2-2110MB	4800	1850	2170	4070	3870	1750	DN250	DN250
SL-LG2-2360MB	4800	1850	2170	4070	3870	1750	DN250	DN250
SL-LG2-2630MB	4800	1850	2170	4070	3870	1750	DN300	DN300
SL-LG2-2860MB	5400	1900	2200	4470	4270	1800	DN300	DN300

Unit Installation Space Schematic Diagram



R134a Single Compressor

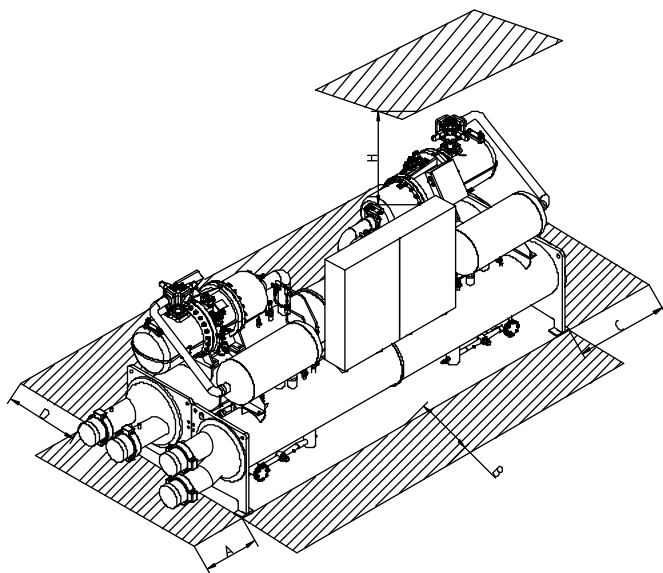
Unit: mm

Model	A	B	C	D	H
SL-LG1-230MA-A	600	600	2470	1000	500
SL-LG1-270MA-A	600	600	2470	1000	500
SL-LG1-300MA-A	600	600	2470	1000	500
SL-LG1-350MA-A	600	600	2470	1000	500
SL-LG1-390MA-A	600	600	2470	1000	500
SL-LG1-420MA-A	600	600	2470	1000	500
SL-LG1-460MA-A	600	600	2470	1000	500
SL-LG1-500MA-A	600	600	2470	1000	500
SL-LG1-560MA-A	600	600	2470	1000	500
SL-LG1-620MA-A	600	600	2800	1000	500
SL-LG1-650MA-A	600	600	2800	1000	500
SL-LG1-710MA-A	600	600	2800	1000	500
SL-LG1-780MA-A	600	600	2800	1000	500
SL-LG1-880MA-A	600	600	2800	1000	500
SL-LG1-980MA-A	600	600	2800	1000	500
SL-LG1-1050MA-A	600	600	2800	1000	500
SL-LG1-1170MA-A	600	600	2800	1000	500
SL-LG1-1380MA-A	600	600	2800	1000	500

R22 Single Compressor

Unit: mm

Model	A	B	C	D	H
SL-LG1-280MB-A	600	600	2470	1000	500
SL-LG1-330MB-A	600	600	2470	1000	500
SL-LG1-410MB-A	600	600	2470	1000	500
SL-LG1-450MB-A	600	600	2470	1000	500
SL-LG1-540MB-A	600	600	2470	1000	500
SL-LG1-620MB-A	600	600	2470	1000	500
SL-LG1-660MB-A	600	600	2470	1000	500
SL LG1 720MB A	600	600	2800	1000	500
SL-LG1-750MB-A	600	600	2800	1000	500
SL-LG1-830MB-A	600	600	2800	1000	500
SL-LG1-950MB-A	600	600	2800	1000	500
SL LG1 1060MB A	600	600	2800	1000	500
SL-LG1-1180MB-A	600	600	2800	1000	500
SL-LG1-1320MB-A	600	600	2800	1000	500
SL-LG1-1430MB-A	600	600	2800	1000	500
SL-LG1-1550MB-A	600	600	2800	1000	500
SL-LG1-1730MB-A	600	600	2800	1000	500



R134a Dual Compressor

Unit: mm

Model	A	B	C	D	H
SL-LG2-460MA-A	600	600	3000	1000	500
SL-LG2-540MA-A	600	600	3000	1000	500
SL-LG2-590MA-A	600	600	3500	1000	500
SL LG2 700MA A	600	600	3500	1000	500
SL-LG2-780MA-A	600	600	3500	1000	500
SL-LG2-840MA-A	600	600	3500	1000	500
SL-LG2-920MA-A	600	600	4000	1000	500
SL LG2 1000MA A	600	600	4000	1000	500
SL-LG2-1120MA-A	600	600	4000	1000	500
SL-LG2-1250MA-A	600	600	4200	1000	500
SL-LG2-1300MA-A	600	600	4200	1000	500
SL-LG2-1440MA-A	600	600	4200	1000	500
SL-LG2-1580MA-A	600	600	4200	1000	500
SL-LG2-1770MA-A	600	600	4200	1000	500
SL-LG2-1960MA-A	600	600	4200	1000	500
SL-LG2-2110MA-A	600	600	4200	1000	500
SL-LG2-2330MA-A	600	600	4600	1000	500

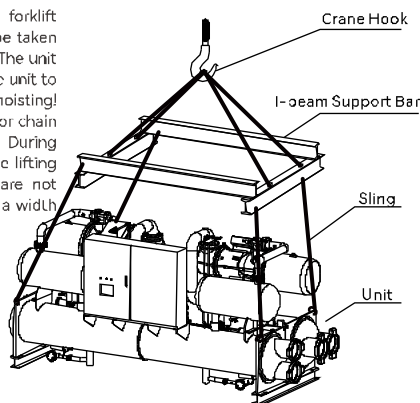
R22 Dual Compressor

Unit: mm

Model	A	B	C	D	H
SL-LG2-560MB-A	600	600	3200	1000	500
SL LG2 660MB A	600	600	3200	1000	500
SL-LG2-820MB-A	600	600	3200	1000	500
SL-LG2-900MB-A	600	600	4000	1000	500
SL-LG2-1080MB-A	600	600	4000	1000	500
SL-LG2-1230MB-A	600	600	4000	1000	500
SL-LG2-1320MB-A	600	600	4000	1000	500
SL-LG2-1440MB-A	600	600	4000	1000	500
SL-LG2-1500MB-A	600	600	4000	1000	500
SL-LG2-1660MB-A	600	600	4000	1000	500
SL-LG2-1900MB-A	600	600	4000	1000	500
SL-LG2-2110MB-A	600	600	4000	1000	500
SL-LG2-2360MB-A	600	600	4000	1000	500
SL-LG2-2630MB-A	600	600	4000	1000	500
SL-LG2-2864MB-A	600	600	4400	1000	500

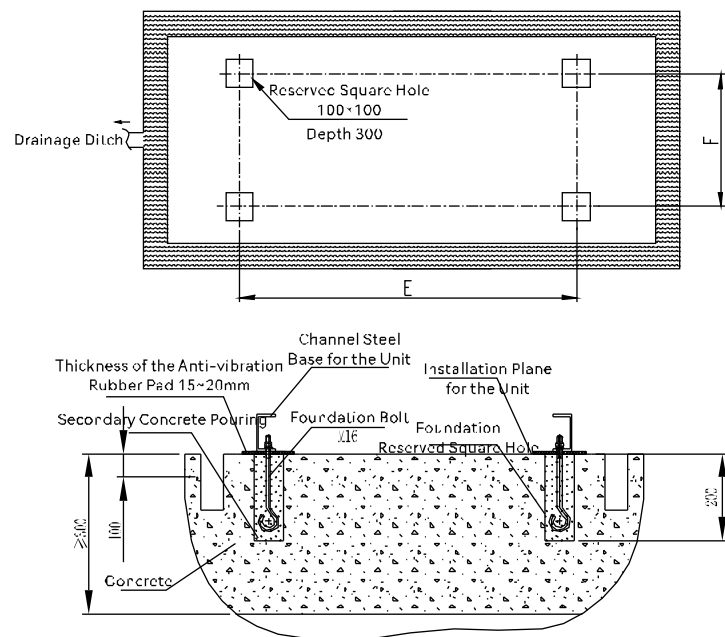
Unit Hoisting and Handling

When handling the unit, hoisting operations should be used, and forklift operations are not recommended. Shock-absorbing measures must be taken to prevent collisions and damage to the external coating of the unit. The unit should be kept in a vertical position, and it is strictly forbidden for the unit to tilt more than 30°. No one should stand under the machine during hoisting! When lifting the unit, it must be hoisted by securely fastening a rope or chain with sufficient load bearing capacity to the lifting holes of the unit. During lifting, it is essential to operate according to the requirements on the lifting diagram, ensuring that the unit's casing and other components are not damaged. When hoisting, pay attention to using a support rod with a width larger than the unit's width.



Installation Foundation

1. The foundation drawing is for reference only. Users should make specific design modifications based on the concrete strength and local foundation conditions.
2. The construction of the foundation should ensure flatness, with the maximum horizontal height difference of the foundation platform being ≤5mm.
3. When the unit is installed on the intermediate or top floor of a building, vibration dampers should be installed to prevent the transmission of noise and vibration.
4. During unit maintenance, it may be necessary to drain water from the condenser or evaporator. It is recommended to set up a circular drainage groove around the foundation.
5. The installation foundation and fixing method of the unit can refer to the example in the following figure.



Computer Room Requirements

The unit should have a dedicated room and must not be installed outdoors in the open air. Measures should be taken to dissipate the heat generated by the unit during operation from the room, a ways keeping the room temperature from exceeding 40°C.

Sufficient space should be left around the unit to facilitate its maintenance and repair. Pipelines and conduit should not be laid above the unit.

The unit should be installed on a rigid base or concrete foundation that will not deform, and the foundation should be able to withstand the weight of the unit during operation.

The computer room should have enough space to facilitate the installation and maintenance of the unit, so that service personnel can have unrestricted access to the unit or easily lift the compressor components during maintenance. At the same time, the computer room should have enough space for pipe removal.

The computer room should have a sufficient number of well - installed, outward - opening doors with a fire - resistance rating of more than 1 hour (if the door is on the inside of the building, it should be able to close automatically), to ensure that personnel can leave freely in emergency situations.

The computer room on the ground should have natural ventilation openings, and the area of the ventilation openings should not be less than the area calculated according to the formula $0.14G^{1/2}$ (square meters), where G is the weight of the refrigerant charged in the unit installed in the computer room (kg). The airflow of natural ventilation should not be obstructed by the surrounding environment.

When the computer room is a basement, a mechanical ventilation device should be installed, and the exhaust volume should not be less than the volume calculated by the formula $13.88G^{2/3}$ (liters / second), where G is the weight of the refrigerant charged in the unit installed in the computer room. In order to reduce the exhaust volume in non - emergency situations, it is recommended to use multi - speed fans. The intake end or duct of the exhaust fan should be near the unit and have appropriate protective measures.

An emergency shutdown or power - off switch should be installed near the computer room outside the room. There should be a switch to control the emergency operation of the fan for mechanical ventilation.

Except for the refrigerant charged in the unit, other flammable and explosive substances cannot be stored in the computer room. The amount of refrigerant allowed to be stored should not exceed 150kg.

The design of the computer room should facilitate the discharge of water, and when the safety valve is activated, the refrigerant should be able to discharge outward smoothly.

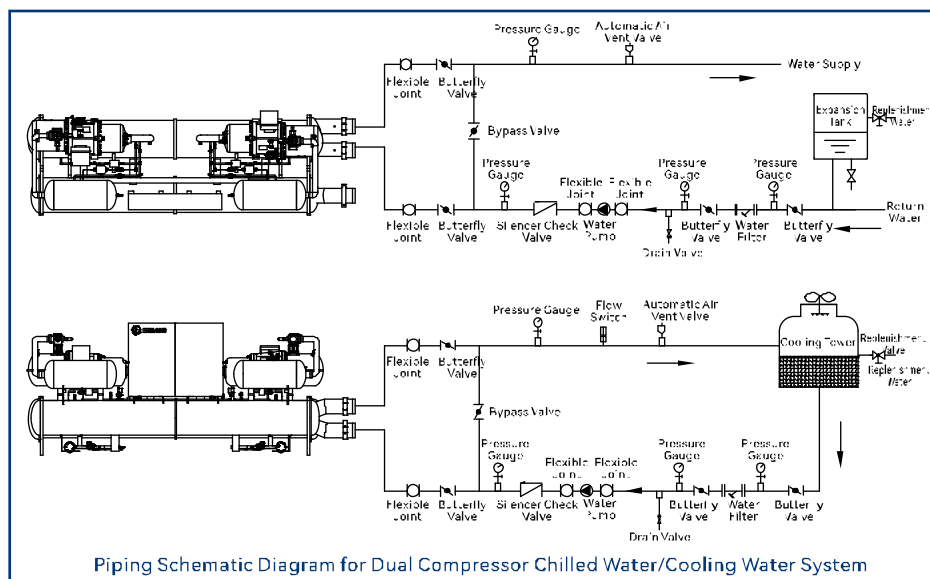
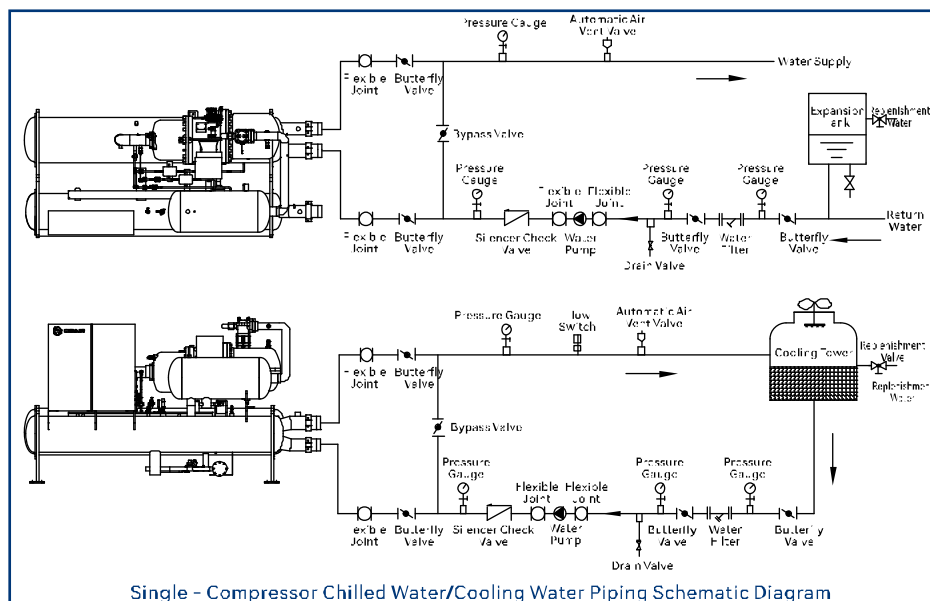
The design of the computer room should meet the noise level requirements of the area, and measures should be taken to prevent the transmission of vibrations during the installation of the unit and the laying of pipelines.

Water System Piping

Chilled Water and Cooling Water System Installation Instructions:

- The pipes and valves for the inlet and outlet of the unit should be properly insulated to prevent cold loss and the occurrence of condensation.
- To ensure that the water - side heat exchanger and the piping system have sufficient water flow, and to avoid high - pressure during cooling due to water shortage in the heat exchanger, as well as the phenomenon of internal cold water freezing, too low - pressure and poor oil return in the system, a water flow switch should be installed on the outlet side of the unit's chilled water and cooling water, and it should be interlocked with the unit's control system.
- When two or more heat exchangers are used in parallel with a chiller, in order to keep the cold water flow of each heat exchanger the same and to prevent flow deviation, the resistance of the piping from the chiller to each heat exchanger should be made as equal as possible. If necessary, a balancing valve needs to be installed.
- For the water piping of the evaporator, if a closed - loop system is used, in order to balance the expansion or contraction of water volume caused by water temperature changes and to isolate the influence of makeup water pressure on the water piping, an expansion water tank should be installed. Its location must be at the highest point, of the entire water piping system, and the water level in the expansion water tank must be at least 1m higher than the highest point of the water piping.
- The chilled water pump should be installed on the inlet side of the evaporator. To prevent air from staying in the pipe, an automatic air vent valve should be installed at the highest point of the water piping. Moreover, the horizontal water pipes of the water piping system should be constructed with an upward slope of 1/250. Anti - vibration hoses should be installed at the inlet and outlet of the water piping to reduce the vibration of the unit transmitted to each room through the water pipes. At the same time, the water pipes should be properly fixed, and their weight should not be borne by the unit. When the inlet and outlet of the water pump unit are connected to the corresponding water pipes, they should all be isolated with anti - vibration hoses or rubber joints to avoid the transmission of vibration and noise and mutual interference.
- It is recommended to install thermometers and pressure gauges at the inlet and outlet of the unit for easy inspection during daily operation.
- When the chiller is in operation, the chilled water flow should not be less than 70% of the rated water flow of the unit to prevent accidents.
- The piping accessories for the inlet and outlet of chilled water and cooling water should be equipped with pipe seats so that they can be easily separated from the water piping during future maintenance.
- For the piping of chilled water for a single chiller unit, please refer to the piping shown in Figure A.
- For the piping of cooling water for a single chiller unit, please refer to the piping shown in Figure B.
- For the piping of cooling water for a single chiller unit in full - year cooling mode, please refer to the piping shown in Figure C.

» Water System Piping Diagram



» Electrical Connection

The power supply must comply with the rated values on the unit's nameplate, with the standard product being 380V/3N~/50Hz. When the unit is operating, the power supply voltage must remain stable, and the power supply frequency should be maintained within $\pm 2\%$ of the unit's nameplate rated value. The unit's operating voltage needs to be kept within $\pm 10\%$ of the rated value, and the inter-phase voltage difference should not exceed $\pm 2\%$ of the rated value. The difference between the highest and lowest phase currents should be less than 3% of the rated value.

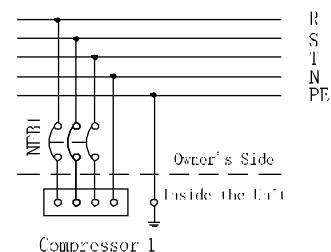
The wiring from the power supply to the unit must be strictly carried out in accordance with electrical regulations and standards, and the insulation must be good. After the unit is wired, the insulation between the electrical accessory terminals and the unit body should be tested with a 500V high resistance meter, and the insulation resistance should be no less than $5M\Omega$.

To protect personal safety and avoid the risk of electric shock due to unit leakage, the unit's casing should have a good and reliable grounding protection device to prevent electric shock accidents, and it must be strictly carried out in accordance with electrical regulations.

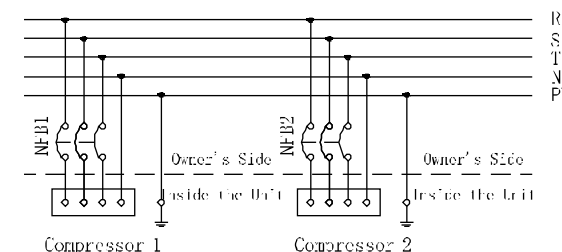
The wiring should use a three-phase five-wire system, and only copper conductors are allowed.

All on-site wiring and component installation must be carried out by licensed electricians.

The unit's grounding must comply with local and national regulations.



The wiring diagram for a single compressor unit



The wiring diagram for a dual compressor unit

» Freezing Protection for the Unit

For units that are not used or not operated for long periods during winter, the water in the unit's chilled water and cooling water systems should be drained to prevent equipment damage caused by water freezing when the temperature drops below the freezing point.

If cooling is required during winter, a unit designed for year-round cooling must be selected, and electric heaters should be installed in the cooling tower to heat the cooling water and prevent it from freezing.

For units that operate during winter, when the ambient temperature is below 5°C , ethylene glycol solution of an appropriate concentration should be added to the chilled water to ensure that the chilled water side does not freeze throughout the low-temperature season.

When the unit operates intermittently during the low-temperature season, please keep the unit's power supply connected and the chilled water path unobstructed. The unit will automatically engage the chilled water pump for antifreeze circulation.

OBAIR Central Air Conditioning Intelligent Service System

Quick Service, Customer First



For specific operations regarding the installation, use, and maintenance of the unit, please refer to the **Installation and Operation Manual** and **Electrical Operation Instructions** provided with the unit.

Note: Since OBAIR products are subject to continuous improvement and innovation, any changes to the product models, specifications, and parameters shown in this material will not be notified separately. Your understanding is appreciated.