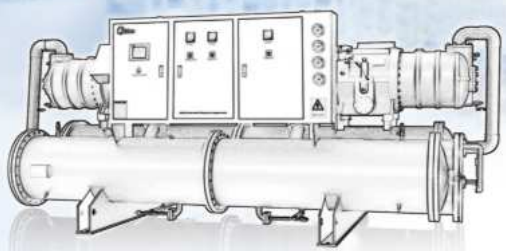
MCAC-2011-16

Midea®

COMMERCIAL AIR CONDITIONERS

DX TYPE WATER COOLED SCREW CHILLER

2011



GD Midea Refrigeration Equipment Co., Ltd.
Have received ISO 9001 certification for quality assurance.
Certificate Registration
NO.01 100 019209

GD Midea Refrigeration Equipment Co., Ltd.
Have received environmental management system
Standard ISO 14001 certification
Certificate NO.CC 1417

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Long history

■ Nearly a half century experience in water chiller manufacturing industry, Midea has been the biggest domestic brand of water chiller. Make satisfying the customers' needs our destination and try our best to build a comfortable and high quality life for human.

Impressive performance

■ Midea water chillers are widely used in plastic industry, electroplating industry, food processing, chemical industry and other technological process which needs a lot of chilled water. The sales get big and steady improvement year by year.

Advanced technology

■ Good technical background and experience in chiller R&D , environment friendly refrigerant and smart control technology makes the products more efficient, reliable and have longer lifespan. Dual oil separators and Venturi tube device guarantee reliable oil return.

Best cost performance

■ Almost the same quality level with those international brands but much lower price makes our products have a very high cost performance. It's the best choice for those who gets a tight budget but needs good performance and long lifespan.

Reliable service

■ Professional after sales service center cooperates with sales department and the factory makes timely service and solving any problem as quickly as possible. Professional technicians and dedication will make the customer no need worrying about the product.

MIDEA CHILLER MANUFACTURING-BASE INTRODUCTION

With 46 years experience in chiller industry, Midea Chongqing chiller manufacturing base is becoming one of the largest chiller company in China. It covers an area of 800 Mu (137 acre), with a registered capital of 12.5 million US $ and a total investment of over 0.6 billion US$. There are 6 product series and over 100 model products including centrifugal chiller, screw water chiller, scroll water chiller, water-cooled packaged unit, and central air-conditioning indoor terminal device(AHU/FCU). Five chiller manufacturing shops with 14 flexible production lines lead an anual manufacturing capacity of 250 units centrifugal chiller, 1000 units of air cooled screw chiller, 2000 units of water cooled screw chiller and 200000 units of AHU product.

Strong R&D and manufacturing capacity makes Midea Chongqing general become the fastest developing company in chiller industry. The chiller test lab which is certified by China National Refrigeration Equipment Inspection Center is the largest refrigeration test capacity in Asia. The engineer team with 100 top engineers and 2 chiller experts who were awarded by the central government in structure, electricity, performance testing and software aspect makes Midea the headship in chiller industry. In the year of 2011 Midea refrigeration group invests another 150 million RMB for test lab as ARI test floor, big capacity air cooled screw life span testing room, 1500kW compressor motor test floor, etc.

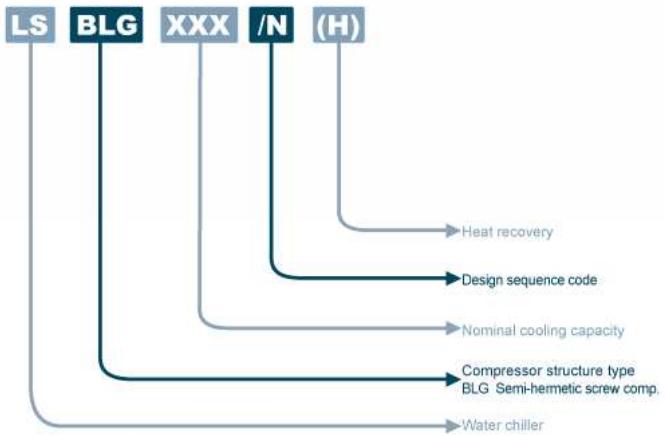
Concentrating on energy-saving and ejection-decreasing, Midea Chongqing chiller factory commits itself to the reliable and high efficiency products for the world. The chiller products are widely used in different countries and obtain good public praise from the clients. The solutions for the Beijing capital international airport ,Jakarta international airport, China rapid transit station won good feedback and commendation. Continuing with the past and opening up the future, Midea chiller brand will go further and create an illustrious future.

BRIEF INTRODUCE

To meet a wide range of application in the medium-tonnage water cooled market, Midea is proud to introduce the C series water cooled screw liquid chiller. It is designed to meet all customers' expectations with ease installation and control precision. It offers high reliability and stable working to provide a good solution to the Medium projects.

Midea water cooled C series chiller is equipped with 1 or 2 twin screw compressors using the latest 5-6 asymmetry dentiform. It is manufactured to satisfy the requirements of the consultant and the end user. Thousands of chillers which installed in the world are unsurpassed in performance and quality that meet the most stringent requirement of comfort cooling, plastic, electroplating, food processing and chemical industrial, etc.

NOMENCLATURE

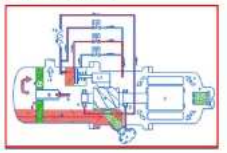


FEATURES AND BENEFITS

Leading technology of twin screw compressor

Midea screw chiller is equipped with the 3rd generation industrial compressor that has the latest advanced 5-6 asymmetry dentiform Semi-hermetic Screw Rotors. The rotors are processed by high-precision CNC and each part is well-proportioned and none-gap matched, which minimizes the friction resistance and clearance lost and also guarantees quiet running and good duration.

Variable capacity adjustment, High efficiency and energy saving



Cooling capacity control is infinitely variable by means of a capacity slide controlled by microprocessor system. Each unit has variable capacity control down to 25%. This modulation allows the compressor capacity to exactly match the building cooling load. The result is a decrease in chiller energy costs, particularly at the part-load conditions at which the chiller operates most of the time.

Intelligent control, easy operation, worry-free management

Microprocessor control as standard on all the units. A display illustrates the machine's operation status and programmable parameters (set point) e.g. water temperature and refrigeration pressure and temperature, allowing the operator to determine the unit status and also allow changes to various set points. The control system adopts PLC with predictive logic to select the most energy efficient combination of compressors.

Easy and fast installation

The unit has passed full factory test before being delivered to ensure the reliable working on the site. The unit can be placed in service only after being connected with power and water supply during field installation. The installation and adjustment are simple .Standard flange connection and wire mesh to the electrical panel. Refrigerant and lubrication oil are provided to the unit in the factory. Only piping connection and power supply connection are required on the site.

Outstanding Reliability Features

Fully factory testing of the unit with water hooku provides a trouble-free start-up. Extensive quality control checking ensure equipment protection and operating control is properly adjusted and operates correctly before dispatched from the factory. Factory-installed options minimize field expenses and startup labor.

MECHANICAL COMPONENTS

OPTIMIZATION DESIGN OF COMPONENTS, RELIABLE AND STABLE

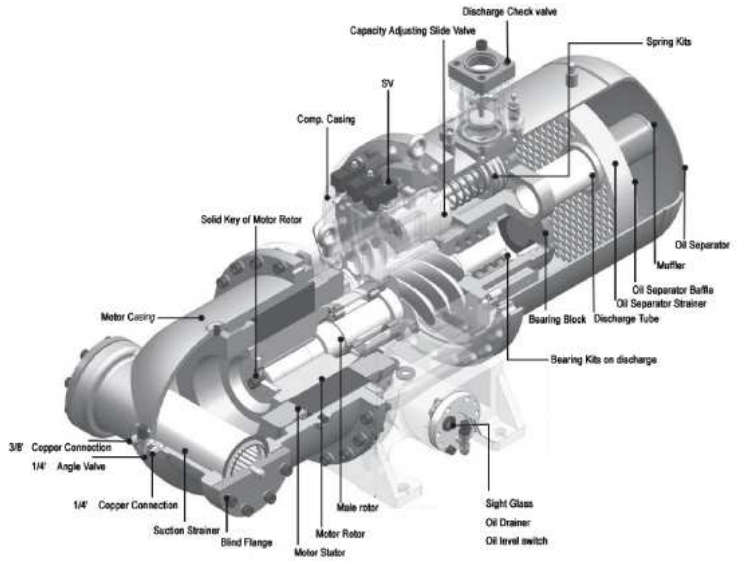
Compressor

■ Comparing with normal screw rotor with 4-6 dentiform, heat efficiency of the rotor with male and female rotor adopting 5-6 dentiform increase by 10-12% and energy saves by 25%, the rotor also gained British and American patent.

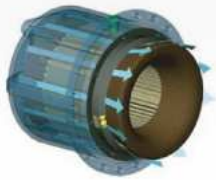
■ The lubricant is supplied automatically by pressure difference inside the compressor. It is unnecessary to add an extra lubricant pump.

■ The bearing of compressor comes from SKF, Sweden gurantee the continuously running more than 60,000 hours.

■ The Oil Separator comes from MANN of Germany and has reliable qualification. The oil content can be controlled below 3ppm (the oil content treated by oil-gas separator of common like screw-type air compressor is no less than 8-10ppm). The oil-gas separator amount is double of same kind of other products. The large oil filtering area reduces refrigerant flux speed, and has better separating affect and long lifespan by the secondary reflux technology adopted.



■ High-precision machining and measurement makes rotor clearance reach μm-class, so it reduces the leakage between high and low pressure. Under continuous operation, the rotors still keep their best clearance and achieve highest efficiency.



■ Semi-hermetic compressor with low running noise and well cooled down by refrigerant, low running temperature, no leakage potential as open compressor.

■ Patented motor-cooling design in ducts of refrigerant flow encompassing stator provides best dissipation of heat and no requirement for computer room AC.

Evaporator

■ Midea Screw Chiller is equipped with high efficiency shell and tube evaporator that are constructed by seamless steel tube with anti-corrosive treatment. The evaporator is a direct expansion type with refrigerant inside the copper tubes and water on the outside. The copper tubes are roll expanded into carbon steel tube plates.

■ Constructed with seamless integrally finned copper, the water pipe system makes the evaporator attain optimal heat exchange efficiency. Piping connection direction can be changed according to the customer requirement.

■ The design working pressure for both evaporator and condenser are 1.0MPa, higher pressure demand can be customized.

Condenser

■ Shell and tube operates with refrigerant in shell and water in tubes. Replaceable water tubes are fabricated from integral finned cooper and mechanically bonded to steel tube sheets. The condenser is designed, constructed, inspected and stamped according to strict standard. Water side working pressure is designed for 1.0Mpa.

■ The condenser is used high-efficient tubes to enhance its transfer performance. Meanwhile, the system's COP can be increased largely by adding the subcooler.

Throttle valve

■ Famous brand electronic expansion valve(EXV) which control by drive module control.

■ The drive module controller controls the valve according to evaporator suction superheat.

■ PID arithmetic control the open degree of the valve.

REFRIGERANT CIRCUIT

The chiller operating principle is: Increase the pressure and temperature of refrigerant vapor by compressor, then process it with condensing, throttling procedures to turn it into refrigerant liquid of low pressure and temperature; with its evaporation into vapor in the evaporator, it absorbs heat from the surrounding environment (refrigerant medium, such as chilled water) to cool down the temperature of refrigerant medium, thus achieving the goal of artificial refrigeration. Evidently, the cycle of vapor-compress refrigeration includes four indispensable processes: compressing, condensing, throttling and evaporating.

DIRECT EXPANSION SCREW CHILLER

Single compressor superpose type unit

Single compressor parataxis type unit

Dual compressors parataxis type unit

SPECIFICATION

Single compressor

Model			LSBLG150/N	LSBLG190/N	LSBLG270/N	LSBLG320/N	LSBLG400/N
Nominal Cooling Capacity		RT	42.1	53.7	77.9	90.7	113.7
		kW	148	189	274	319	400
		kcal/h	127,108	162,540	235,296	274,426	344,000
Power Supply			380V/3N /50Hz (400/415V as option)				
Power input		kW	32.7	39.4	58.8	68.6	82
Rated current		A	55.8	67.2	100.3	117	140
Compressor	Type	/	Semi-hermetical twin screw compressor				
	Starter Mode	/	Y-Δ	Y-Δ	Y-Δ	Y-Δ	Y-Δ
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)				
	Quantity	/	1	1	1	1	1
Refrigerant	Type	/	R22	R22	R22	R22	R22
	Charge volume	kg	30	35	50	60	80
Evaporator	Type	/	Direct Expansion Evaporator				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	25	33	47	55	69
	Pressure Drop	kPa	69	45	80	36	73
	Inlet/Outlet	mm	DN80	DN80	DN100	DN100	DN100
Condenser	Type	/	Tube-and-shell condenser				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	31	39	57	67	83
	Pressure Drop	kPa	20	38	30	41	22
	Inlet/Outlet	mm	DN80	DN80	DN100	DN100	DN100
Unit Dimension	Length	mm	2650	3050	3080	3080	3080
	Width	mm	650	650	720	750	820
	Height	mm	1860	1860	1920	1960	2100
Shipping Weight		kg	1300	1400	1750	1870	2250
Running Weight		kg	1450	1550	1930	2070	2550

Notes:

1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃.
Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 m2 •℃ / kW.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.

Model			LSBLG485/N	LSBLG570/N	LSBLG630/N	LSBLG740/N	LSBLG860/N
Nominal Cooling Capacity		RT	137.9	162.6	178.6	210.4	244.2
		kW	485	572	628	740	859
		kcal/h	417,100	491,920	540,080	636,400	738,740
Power Supply			380V/3N /50Hz (400/415V as option)				
Power input		kW	101.8	115.8	124.3	152.6	164.6
Rated current		A	173.8	197.6	212.2	260.5	281
Compressor	Type	/	Semi-hermetical twin screw compressor				
	Starter Mode	/	Y-Δ	Y-Δ	Y-Δ	Y-Δ	Y-Δ
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)				
	Quantity	/	1	1	1	1	1
Refrigerant	Type	/	R22	R22	R22	R22	R22
	Charge volume	kg	90	100	120	150	180
Evaporator	Type	/	Direct Expansion Evaporator				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	83	98	108	127	148
	Pressure Drop	kPa	54	67	65	62	65
	Inlet/Outlet	mm	DN125	DN125	DN125	DN150	DN150
Condenser	Type	/	Tube-and-shell condenser				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	101	118	129	154	176
	Pressure Drop	kPa	49	21	81	85	41
	Inlet/Outlet	mm	DN125	DN125	DN125	DN150	DN150
Unit Dimension	Length	mm	3090	3090	3650	3650	3650
	Width	mm	1420	1420	1420	1480	1530
	Height	mm	1600	1600	1600	1660	1730
Shipping Weight		kg	2610	2870	3220	3730	3780
Running Weight		kg	2910	3220	3620	4130	4180

Notes:

1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃.
Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 m2 •℃ / kW.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.

SPECIFICATION

Dual compressors

Model			LSBLG970/N	LSBLG1060/N	LSBLG1145/N	LSBLG1260/N
Nominal Cooling Capacity		RT	275.8	300.5	325.3	357.1
		kW	970	1057	1144	1256
		kcal/h	834,200	909,020	983,840	1,080,160
Power Supply			380V/3N /50Hz (400/415V as option)			
Power input		kW	203.6	217.6	231.6	248.6
Rated current		A	347.6	371.4	395.2	424.4
Compressor	Type	/	Semi-hermetical twin screw compressor			
	Starter Mode	/	Y-Δ	Y-Δ	Y-Δ	Y-Δ
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)			
	Quantity	/	2	2	2	2
Refrigerant	Type	/	R22	R22	R22	R22
	Charge volume	kg	90×2	90+100	100×2	120×2
Evaporator	Type	/	Direct Expansion Evaporator			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	167	182	197	216
	Pressure Drop	kPa	83	85	81	87
	Inlet/Outlet	mm	DN150	DN150	DN150	DN200
Condenser	Type	/	Tube-and-shell condenser			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	202	219	237	259
	Pressure Drop	kPa	40	99	99	56
	Inlet/Outlet	mm	DN150	DN150	DN150	DN200
Unit Dimension	Length	mm	4310	4310	4310	4650
	Width	mm	1570	1570	1680	1680
	Height	mm	1680	1680	1760	1760
Shipping Weight		kg	4630	4870	5100	5840
Running Weight		kg	5080	5320	5600	6340

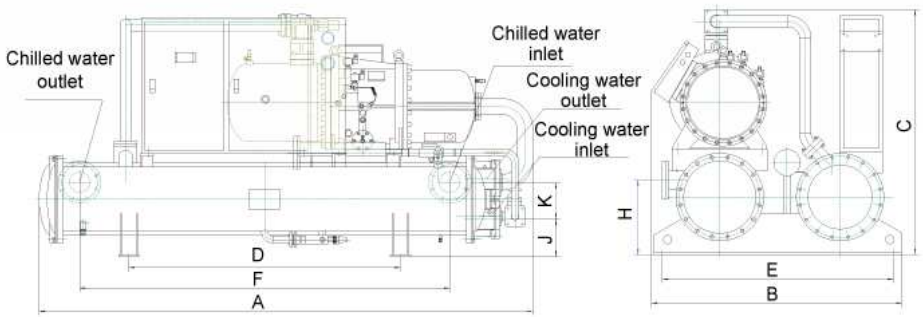
Notes:
1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃.
Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 m2 •℃ / kW.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.

Model			LSBLG1370/N	LSBLG1490/N	LSBLG1620/N	LSBLG1720/N
Nominal Cooling Capacity		RT	389.0	422.8	460.6	488.5
		kW	1368	1487	1620	1718
		kcal/h	1176480	1,278,820	1,397,500	1,477,480
Power Supply			380V/3N /50Hz (400/415V as option)			
Power input		kW	276.9	288.9	327.6	329.2
Rated current		A	472.7	493.2	559.2	562
Compressor	Type	/	Semi-hermetical twin screw compressor			
	Starter Mode	/				
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)			
	Quantity	/	2	2	2	2
Refrigerant	Type	/	R22	R22	R22	R22
	Charge volume	kg	120+150	120+180	150×2	180×2
Evaporator	Type	/	Direct Expansion Evaporator			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	235	256	279	295
	Pressure Drop	kPa	79	76	79	78
	Inlet/Outlet	mm	DN200	DN200	DN200	DN200
Condenser	Type	/	Tube-and-shell condenser			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	283	305	335	352
	Pressure Drop	kPa	99	99	99	55
	Inlet/Outlet	mm	DN200	DN200	DN200	DN200
Unit Dimension	Length	mm	4650	4650	4650	4650
	Width	mm	1680	1770	1770	1770
	Height	mm	1780	1900	1900	1900
Shipping Weight		kg	6240	6490	6620	6930
Running Weight		kg	6790	7090	7220	7630

Notes:
1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃.
Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 m2 •℃ / kW.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.

PHYSICAL DIMENSION

Single compressor parataxis type unit

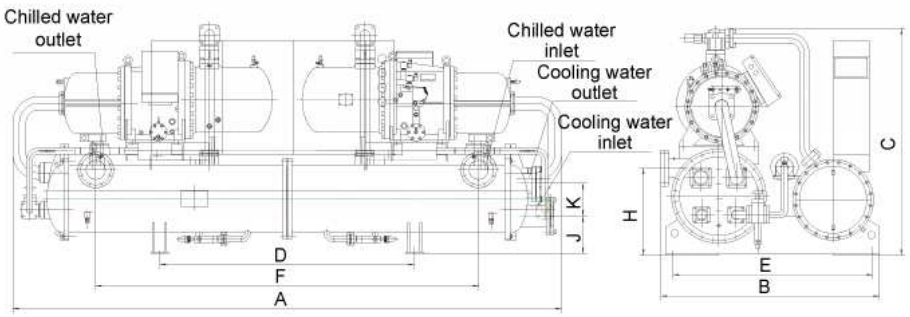


Unit:mm

Model	A	B	C	D	E	F	H	J	K	Cooled Water In/outlet	Chilled Water In/outlet
LSBLG485/N	3090	1420	1600	1600	1250	2180	450	215	250	DN125	DN125
LSBLG570/N	3090	1420	1600	1600	1250	2180	470	245	250	DN125	DN125
LSBLG630/N	3650	1420	1600	1800	1250	2680	460	235	250	DN125	DN125
LSBLG740/N	3650	1480	1660	1800	1350	2680	545	258	285	DN150	DN150
LSBLG860/N	3650	1530	1730	1800	1360	2680	550	258	285	DN150	DN150

PHYSICAL DIMENSION

Dual compressors parataxis type unit



Unit:mm

Model	A	B	C	D	E	F	H	J	K	Cooled Water In/outlet	Chilled Water In/outlet
LSBLG970/N	4310	1570	1680	1800	1440	2680	575	248	285	DN150	DN150
LSBLG1060/N	4310	1570	1680	1800	1440	2680	575	248	285	DN150	DN150
LSBLG1145/N	4310	1680	1760	1800	1540	2680	615	273	285	DN150	DN150
LSBLG1260/N	4650	1680	1760	2000	1540	3080	615	240	350	DN200	DN200
LSBLG1370/N	4650	1680	1780	2000	1540	3080	615	240	350	DN200	DN200
LSBLG1490/N	4650	1770	1900	2000	1640	3080	650	298	345	DN200	DN200
LSBLG1620/N	4650	1770	1900	2000	1640	3080	650	315	340	DN200	DN200
LSBLG1720/N	4650	1770	1900	2000	1640	3080	650	325	320	DN200	DN200

HEAT RECOVERY SCREW CHILLER

Single compressor superpose type unit

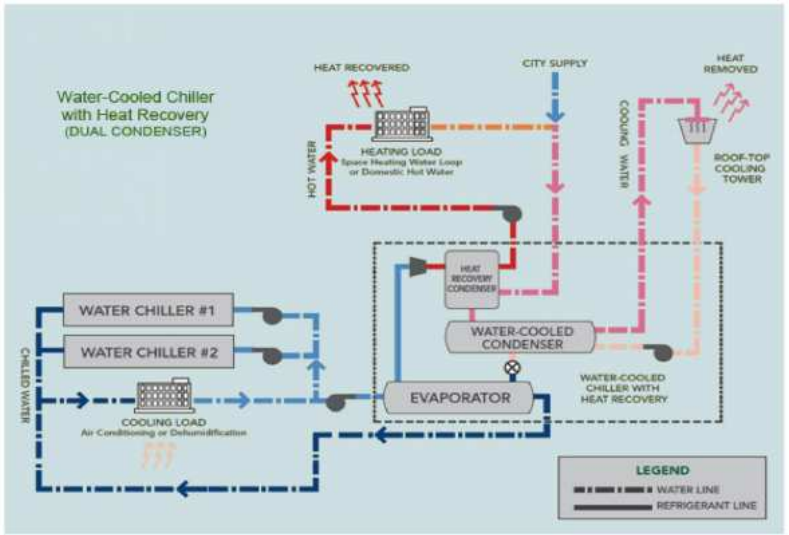
Single compressor parataxis type unit

Dual compressors parataxis type unit

HEAT RECOVERY PRINCIPLE

Water-cooled chillers reject a significant amount of heat through cooling towers. All of the building heat and the heat generated by the compressor work leave the building in this manner. Reclaiming this heat and using it to heat the building or the domestic hot water can potentially offer huge energy saving. Heat recovery is the capture of energy and transfer to hot water.

Heat recovery system will collect the heat from the compressor before it goes to the condenser. In a normal system 35% of cooling capacity heat can be collected when the chiller working at 100% and the hot water in water temp in designed condition. In a one way system hot water temp can reach 45℃. In a circulate system the hot water can reach 60℃ or more.



SPECIFICATION

Single compressor

Model			LSBLG150/N(H)	LSBLG190/N(H)	LSBLG270/N(H)	LSBLG320/N(H)	LSBLG400/N(H)
Nominal Cooling Capacity		RT	42.1	53.7	77.9	90.7	113.7
		kW	148	189	274	319	400
		kcal/h	127,108	162,540	235,296	274,426	344,000
Heat Recycle Capacity		kW	52	66	96	112	140
Power Supply			380V/3N /50Hz (400/415V as option)				
Power input		kW	32.7	39.4	58.8	68.6	82
Rated current		A	55.8	67.2	100.3	117	140
Compressor	Type	/	Semi-hermetical twin screw compressor				
	Starter Mode	/	Y-Δ	Y-Δ	Y-Δ	Y-Δ	Y-Δ
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)				
	Quantity	/	1	1	1	1	1
Refrigerant	Type	/	R22	R22	R22	R22	R22
	Charge volume	kg	30	35	50	60	80
Evaporator	Type	/	Direct Expansion Evaporator				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	25	33	47	55	69
	Pressure Drop	kPa	69	45	80	36	73
	Inlet/Outlet	mm	DN80	DN80	DN100	DN100	DN100
Condenser	Type	/	Tube-and-shell condenser				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	31	39	57	67	83
	Pressure Drop	kPa	20	38	30	41	22
	Inlet/Outlet	mm	DN80	DN80	DN100	DN100	DN100
Heat Recovery	Type	/	Tube-and-shell exchanger				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	4.5	5.7	8.2	9.6	12.0
	Pressure Drop	kPa	11	11	11	23	23
	Inlet/Outlet	mm	DN40	DN40	DN40	DN40	DN40
Unit Dimension	Length	mm	2700	3100	3130	3130	3130
	Width	mm	850	850	920	950	1020
	Height	mm	1860	1860	1920	1960	2100
Shipping Weight		kg	1560	1680	2100	2244	2700
Running Weight		kg	1720	1850	2310	2470	2970

Notes:

1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃; Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 $m^2 \cdot ℃ / kW$.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.
3. The hot water's temperature rang from 35-60℃ (86F/140F)

SPECIFICATION

Single compressor

Model			LSBLG485/N(H)	LSBLG570/N(H)	LSBLG630/N(H)	LSBLG740/N(H)	LSBLG860/N(H)
Nominal Cooling Capacity		RT	137.9	162.6	178.6	210.4	244.2
		kW	485	572	628	740	859
		kcal/h	417,100	491,920	540,080	636,400	738,740
Heat Recycle Capacity		kW	170	200	220	259	301
Power Supply			380V/3N /50Hz (400/415V as option)				
Power input		kW	101.8	115.8	124.3	152.6	164.6
Rated current		A	173.8	197.6	212.2	260.5	281
Compressor	Type	/	Semi-hermetical twin screw compressor				
	Starter Mode	/	Y-Δ	Y-Δ	Y-Δ	Y-Δ	Y-Δ
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)				
	Quantity	/	1	1	1	1	1
Refrigerant	Type	/	R22	R22	R22	R22	R22
	Charge volume	kg	90	100	120	150	180
Evaporator	Type	/	Direct Expansion Evaporator				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	83	98	108	127	148
	Pressure Drop	kPa	54	67	65	62	65
	Inlet/Outlet	mm	DN125	DN125	DN125	DN150	DN150
Condenser	Type	/	Tube-and-shell condenser				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	101	118	129	154	176
	Pressure Drop	kPa	49	21	81	85	41
	Inlet/Outlet	mm	DN125	DN125	DN125	DN150	DN150
Heat Recovery	Type	/	Tube-and-shell exchanger				
	Quantity	/	1	1	1	1	1
	Flow Rate	m^3/h	14.6	17.2	18.9	22.3	25.9
	Pressure Drop	kPa	24	25	25	31	31
	Inlet/Outlet	mm	DN40	DN65	DN65	DN65	DN65
Unit Dimension	Length	mm	3090	3090	3650	3650	3650
	Width	mm	1420	1420	1420	1480	1530
	Height	mm	1600	1600	1600	1660	1730
Shipping Weight		kg	3132	3444	3864	4476	4536
Running Weight		kg	3445	3788	4250	4923	4990

Notes:

1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃; Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 $m^2 \cdot ℃ / kW$.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.
3. The hot water's temperature rang from 35-60℃(86F/140F)

Dual compressors

Model			LSBLG970/N(H)	LSBLG1060/N(H)	LSBLG1145/N(H)	LSBLG1260/N(H)
Nominal Cooling Capacity		RT	275.8	300.5	325.3	357.1
		kW	970	1057	1144	1256
		kcal/h	834,200	909,020	983,840	1,080,160
Heat Recycle Capacity		kW	340	370	400	440
Power Supply			380V/3N /50Hz (400/415V as option)			
Power input		kW	203.6	217.6	231.6	248.6
Rated current		A	347.6	371.4	395.2	424.4
Compressor	Type	/	Semi-hermetical twin screw compressor			
	Starter Mode	/	Y-Δ	Y-Δ	Y-Δ	Y-Δ
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)			
	Quantity	/	2	2	2	2
Refrigerant	Type	/	R22	R22	R22	R22
	Charge volume	kg	90×2	90+100	100×2	120×2
Evaporator	Type	/	Direct Expansion Evaporator			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	167	182	197	216
	Pressure Drop	kPa	83	85	81	87
	Inlet/Outlet	mm	DN150	DN150	DN150	DN200
Condenser	Type	/	Tube-and-shell condenser			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	202	219	237	259
	Pressure Drop	kPa	40	99	99	56
	Inlet/Outlet	mm	DN150	DN150	DN150	DN200
Heat Recovery	Type	/	Tube-and-shell exchanger			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	29.2	31.8	34.4	37.8
	Pressure Drop	kPa	34	34	35	35
	Inlet/Outlet	mm	DN65	DN65	DN65	DN80
Unit Dimension	Length	mm	4310	4310	4310	4650
	Width	mm	1770	1770	1880	1880
	Height	mm	1680	1680	1760	1760
Shipping Weight		kg	5093	5357	5610	6424
Running Weight		kg	5602	5893	6171	7066

Notes:

1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃; Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 $m^2 \cdot ℃ / kW$.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.
3. The hot water's temperature rang from 35-60℃(86F/140F)

SPECIFICATION

Dual compressors

Model			LSBLG1370/N(H)	LSBLG1490/N(H)	LSBLG1620/N(H)	LSBLG1720/N(H)
Nominal Cooling Capacity		RT	389	422.8	460.6	488.5
		kW	1368	1487	1620	1718
		kcal/h	1176480	1,278,820	1,397,500	1,477,480
Heat Recycle Capacity		kW	478.8	520.45	567	601.3
Power Supply			380V/3N /50Hz (400/415V as option)			
Power input		kW	276.9	288.9	327.6	329.2
Rated current		A	472.7	493.2	559.2	562
Compressor	Type	/	Semi-hermetical twin screw compressor			
	Starter Mode	/				
	Capacity Control	%	25%、50%、75%、100% four steps (25%,50%-100% Stepless as Option)			
	Quantity	/	2	2	2	2
Refrigerant	Type	/	R22	R22	R22	R22
	Charge volume	kg	120+150	120+180	150×2	180×2
Evaporator	Type	/	Direct Expansion Evaporator			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	235	256	279	295
	Pressure Drop	kPa	79	76	79	78
	Inlet/Outlet	mm	DN200	DN200	DN200	DN200
Condenser	Type	/	Tube-and-shell condenser			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	283	305	335	352
	Pressure Drop	kPa	99	99	99	55
	Inlet/Outlet	mm	DN200	DN200	DN200	DN200
Heat Recovery	Type	/	Tube-and-shell exchanger			
	Quantity	/	1	1	1	1
	Flow Rate	m^3/h	41.2	44.8	48.8	51.7
	Pressure Drop	kPa	38	38	39	40
	Inlet/Outlet	mm	DN80	DN80	DN80	DN80
Unit Dimension	Length	mm	4650	4650	4650	4650
	Width	mm	1880	1970	1970	1970
	Height	mm	1780	1900	1900	1900
Shipping Weight		kg	5115	5115	5115	5115
Running Weight		kg	5627	5627	5627	5627

Notes:

1. All parameters are under standard condition: Entering / leaving chilled water temperature: 12 / 7℃; Entering /leaving cooling water temperature: 30/35℃; Fouling factor is 0.086 $m^2 \cdot ℃ / kW$.
2. Specifications are subject to change with product improvement, please take chiller nameplate as final.
3. The hot water's temperature rang from 35-60℃(86F/140F)

CAPACITY TABLE

Items / Model	Evaporator LCWT ℃	Condenser EWT ℃									
		25		28		30		32		35	
		Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW
LSBLG150/N(H)	5	151	27	146	28.5	137	32.1	134	33.4	129	35.0
	6	157	27.1	151	28.7	143	32.5	139	33.5	134	35.4
	7	163	27.2	158	28.8	148	32.7	144	33.8	138	35.7
	8	169	27.4	164	29	153	33.0	150	34.2	144	36.0
	9	176	27.5	170	29.1	160	33.4	155	34.5	149	36.3
	10	182	27.6	176	29.3	165	33.5	161	34.8	155	36.6
LSBLG190/N(H)	5	189	32.5	182	34.3	176	38.7	171	40.1	164	42.2
	6	196	32.7	189	34.5	182	39.1	178	40.4	171	42.6
	7	204	32.8	196	34.7	189	39.4	184	40.7	177	42.9
	8	211	33	204	34.9	196	39.7	191	41.1	184	43.3
	9	219	33.1	211	35.1	203	40.1	198	41.5	191	43.7
	10	227	33.3	219	35.2	211	40.4	206	41.9	198	44.0
LSBLG270/N(H)	5	280	48.5	270	51.3	254	57.8	248	59.8	238	63.0
	6	289	48.8	280	51.6	265	58.3	257	60.4	248	63.6
	7	300	49	291	51.9	274	58.8	267	60.9	256	64.1
	8	312	49.2	302	52.1	284	58.0	277	61.3	266	64.7
	9	324	49.5	312	52.4	295	57.3	287	61.8	276	65.3
	10	335	49.7	324	52.6	306	59.1	298	62.4	286	65.8
LSBLG320/N(H)	5	339	57	326	60.3	296	67.4	289	69.7	277	73.5
	6	352	57.3	339	60.7	308	68.0	300	70.3	288	74.1
	7	365	57.6	352	61	319	68.6	311	71.0	299	74.7
	8	379	57.9	365	61.3	331	69.2	323	71.6	310	75.4
	9	393	58.1	373	61.6	343	69.7	334	72.2	321	76.1
	10	407	58.4	392	61.9	356	70.3	347	72.8	334	76.7
LSBLG400/N(H)	5	394	67.2	383	71.1	372	80.6	362	83.4	348	87.9
	6	408	67.5	396	71.5	386	81.3	376	84.2	361	88.7
	7	423	67.9	411	71.9	400	82.0	390	84.9	375	89.4
	8	438	68.2	426	72.2	415	82.8	405	85.6	389	90.2
	9	454	68.5	441	72.6	430	83.4	419	86.3	403	91.0
	10	469	68.8	457	72.9	446	84.2	435	87.1	418	91.7
LSBLG485/N(H)	5	495	83.8	480	88.6	451	100.0	439	103.6	421	109.1
	6	513	84.2	498	89.1	468	100.9	456	104.4	438	110.0
	7	532	84.6	516	89.6	485	101.8	473	105.4	454	111.0
	8	552	85	535	90.1	503	102.7	491	106.3	471	112.0
	9	573	85.4	555	90.5	521	103.6	509	107.2	489	112.9
	10	595	85.8	576	90.9	541	104.4	528	108.1	507	113.8

CAPACITY TABLE

Items / Model	Evaporator LCWT ℃	Condenser EWT ℃									
		25		28		30		32		35	
		Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW
LSBLG150/N	5	151	27	146	28.5	137	32.1	134	33.4	129	35.0
	6	157	27.1	151	28.7	143	32.5	139	33.5	134	35.4
	7	163	27.2	158	28.8	148	32.7	144	33.8	138	35.7
	8	169	27.4	164	29	153	33.0	150	34.2	144	36.0
	9	176	27.5	170	29.1	160	33.4	155	34.5	149	36.3
	10	182	27.6	176	29.3	165	33.5	161	34.8	155	36.6
LSBLG190/N	5	189	32.5	182	34.3	176	38.7	171	40.1	164	42.2
	6	196	32.7	189	34.5	182	39.1	178	40.4	171	42.6
	7	204	32.8	196	34.7	189	39.4	184	40.7	177	42.9
	8	211	33	204	34.9	196	39.7	191	41.1	184	43.3
	9	219	33.1	211	35.1	203	40.1	198	41.5	191	43.7
	10	227	33.3	219	35.2	211	40.4	206	41.9	198	44.0
LSBLG270/N	5	280	48.5	270	51.3	254	57.8	248	59.8	238	63.0
	6	289	48.8	280	51.6	265	58.3	257	60.4	248	63.6
	7	300	49	291	51.9	274	58.8	267	60.9	256	64.1
	8	312	49.2	302	52.1	284	58.0	277	61.3	266	64.7
	9	324	49.5	312	52.4	295	57.3	287	61.8	276	65.3
	10	335	49.7	324	52.6	306	59.1	298	62.4	286	65.8
LSBLG320/N	5	339	57	326	60.3	296	67.4	289	69.7	277	73.5
	6	352	57.3	339	60.7	308	68.0	300	70.3	288	74.1
	7	365	57.6	352	61	319	68.6	311	71.0	299	74.7
	8	379	57.9	365	61.3	331	69.2	323	71.6	310	75.4
	9	393	58.1	373	61.6	343	69.7	334	72.2	321	76.1
	10	407	58.4	392	61.9	356	70.3	347	72.8	334	76.7
LSBLG400/N	5	394	67.2	383	71.1	372	80.6	362	83.4	348	87.9
	6	408	67.5	396	71.5	386	81.3	376	84.2	361	88.7
	7	423	67.9	411	71.9	400	82.0	390	84.9	375	89.4
	8	438	68.2	426	72.2	415	82.8	405	85.6	389	90.2
	9	454	68.5	441	72.6	430	83.4	419	86.3	403	91.0
	10	469	68.8	457	72.9	446	84.2	435	87.1	418	91.7
LSBLG485/N	5	495	83.8	480	88.6	451	100.0	439	103.6	421	109.1
	6	513	84.2	498	89.1	468	100.9	456	104.4	438	110.0
	7	532	84.6	516	89.6	485	101.8	473	105.4	454	111.0
	8	552	85	535	90.1	503	102.7	491	106.3	471	112.0
	9	573	85.4	555	90.5	521	103.6	509	107.2	489	112.9
	10	595	85.8	576	90.9	541	104.4	528	108.1	507	113.8

CAPACITY TABLE

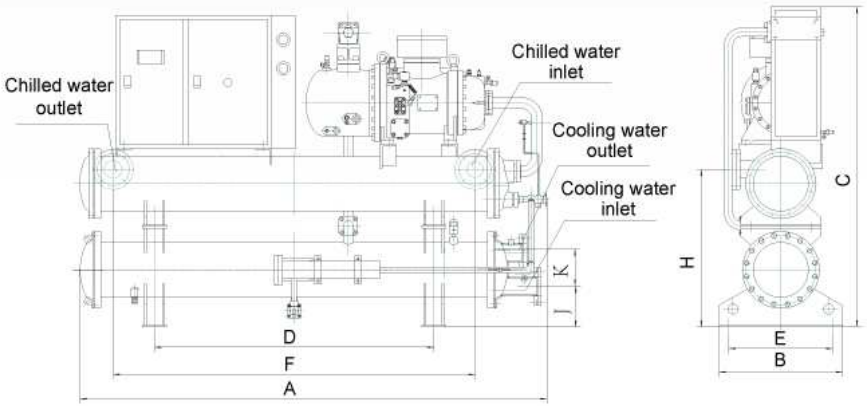
Items / Model	Evaporator LCWT ℃	Condenser EWT									
		25		28		30		32		35	
		Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW
LSBLG570/N	5	572	95.5	560	101	531	113.9	518	117.7	497	124.0
	6	594	96	576	101.6	552	114.8	538	118.8	516	125.1
	7	612	96.5	597	102.1	572	115.8	558	119.9	535	126.3
	8	638	96.9	619	102.7	594	116.8	579	120.9	556	127.3
	9	660	97.4	641	103.2	615	117.7	600	121.9	576	128.4
	10	684	97.8	664	103.7	638	118.8	622	122.9	598	129.5
LSBLG630/N	5	615	101.9	597	107.8	583	122.2	568	126.5	545	133.2
	6	637	102.4	619	108.4	606	123.2	590	127.6	567	134.3
	7	660	103	642	109	628	124.3	630	128.7	588	135.5
	8	684	103.4	665	109.6	652	125.4	635	129.8	610	136.6
	9	708	103.9	689	110.1	675	126.5	659	130.9	633	137.8
	10	733	104.4	713	110.6	700	127.6	683	132.1	657	139.0
LSBLG740/N	5	761	123.8	738	131	687	150.0	670	155.2	643	163.6
	6	789	124.4	765	131.7	714	151.3	696	156.6	668	165.0
	7	817	125.1	793	132.4	740	152.6	721	158.0	693	166.4
	8	847	125.7	822	133.1	768	153.9	749	159.3	719	167.9
	9	877	126.2	851	133.8	796	155.2	776	160.7	746	169.2
	10	908	126.8	881	134.4	825	156.6	805	162.1	774	170.6
LSBLG860/N	5	850	135.7	835	143.6	798	161.8	778	167.5	746	176.4
	6	881	136.4	856	144.4	829	163.2	807	168.9	775	177.9
	7	913	137.1	887	145.2	859	164.6	837	170.3	804	179.4
	8	946	137.8	919	145.9	891	166.0	869	171.8	835	181.0
	9	979	138.4	952	146.6	924	167.5	901	173.4	866	182.5
	10	1014	139	985	147.3	958	168.9	934	174.8	898	184.1
LSBLG970/N	5	990	167.6	960	177.2	901	200.0	878	207.2	843	218.3
	6	1026	168.4	996	178.2	936	201.8	912	209.0	875	220.1
	7	1064	169.8	1032	179.2	970	203.6	946	210.7	908	222.0
	8	1104	170	1070	180.2	1006	205.4	981	212.6	943	223.9
	9	1146	170.8	1110	181	1043	207.2	1017	214.3	977	225.8
	10	1190	171.6	1152	181.8	1082	209.0	1055	216.2	1014	227.6
LSBLG1060/N	5	1067	179.3	1040	189.6	982	213.8	957	221.4	918	233.2
	6	1107	180.2	1074	190.7	1019	215.8	994	223.3	954	235.2
	7	1144	181.1	1113	191.7	1057	217.6	1030	225.2	989	237.2
	8	1190	181.9	1154	192.8	1097	219.4	1069	227.2	1027	239.3
	9	1233	182.8	1196	193.7	1137	221.4	1109	229.1	1065	241.3
	10	1279	183.6	1240	194.6	1179	223.3	1150	231.0	1105	243.3

CAPACITY TABLE

Items / Model	Evaporator LCWT ℃	Condenser EWT 25		28		30		32		35	
		Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW
LSBLG1145/N	5	1144	191	1120	202	1063	227.6	1036	235.6	994	248.2
	6	1188	192	1152	203.2	1103	229.7	1075	237.6	1032	250.3
	7	1224	193	1194	204.2	1144	231.6	1115	239.6	1071	252.5
	8	1276	193.8	1238	205.4	1187	233.5	1158	241.8	1112	254.7
	9	1320	194.8	1282	206.4	1230	235.6	1200	243.8	1153	256.8
	10	1368	195.6	1328	207.4	1276	237.6	1245	245.9	1196	258.9
LSBLG1260/N	5	1230	203.8	1194	215.6	1167	244.4	1137	253.0	1091	266.5
	6	1274	204.8	1238	216.8	1211	246.5	1181	255.2	1133	268.8
	7	1320	206	1284	218	1256	248.6	1224	257.4	1176	271.1
	8	1368	206.8	1330	219.2	1303	250.8	1271	259.5	1221	273.4
	9	1416	207.8	1378	220.2	1351	253.0	1317	261.7	1266	275.6
	10	1466	208.8	1426	221.2	1401	255.2	1366	264.0	1313	278.0
LSBLG1370/N	5	1376	225.7	1335	238.8	1271	272.2	1238	281.7	1188	296.8
	6	1426	226.8	1384	240.1	1319	274.6	1286	284.1	1234	299.4
	7	1477	228.1	1435	241.4	1368	276.9	1334	286.7	1281	301.9
	8	1531	229.1	1487	242.7	1420	279.3	1384	289.1	1330	304.5
	9	1585	230.1	1540	243.9	1471	281.7	1435	291.6	1379	307.0
	10	1641	231.2	1594	245	1526	284.1	1488	294.1	1431	309.6
LSBLG1490/N	5	1465	237.6	1432	251.4	1381	284.1	1346	293.9	1292	309.6
	6	1518	238.8	1475	252.8	1434	286.5	1398	296.5	1342	312.3
	7	1573	240.1	1529	254.2	1487	288.9	1450	299.1	1392	315.0
	8	1630	241.2	1584	255.5	1543	291.4	1505	301.6	1445	317.7
	9	1687	242.3	1641	256.7	1599	293.9	1560	304.2	1499	320.3
	10	1747	243.4	1698	257.9	1658	296.5	1618	306.8	1555	323.1
LSBLG1620/N	5	1632	262.8	1585	278.2	1510	321.9	1471	333.3	1411	350.9
	6	1691	264.2	1643	279.8	1567	324.8	1527	336.1	1466	354.0
	7	1752	253.4	1703	281.2	1620	327.6	1584	339.0	1521	357.0
	8	1815	266.8	1764	282.6	1686	330.3	1644	341.9	1579	360.1
	9	1879	268	1826	284	1747	333.1	1704	344.9	1638	363.1
	10	1945	269.2	1891	285.4	1812	336.0	1768	347.8	1699	366.2
LSBLG1720/N	5	1700	271.4	1670	287.2	1596	323.6	1555	334.9	1492	352.8
	6	1761	272.8	1712	288.8	1657	326.4	1615	337.9	1550	355.8
	7	1826	274.2	1774	290.4	1718	329.2	1675	340.7	1608	358.9
	8	1892	275.6	1838	2912.8	1783	332.1	1738	343.7	1670	361.9
	9	1958	276.8	1904	293.2	1847	334.9	1802	346.6	1732	365.1
	10	2028	278	1970	294．6	1916	337.9	1869	349.7	1797	368.2

PHYSICAL DIMENSION

Single compressor superpose type unit



Unit:mm

Model	A	B	C	D	E	F	H	J	K	Cooled Water In/outlet	Chilled Water In/outlet
LSBLG150/N	2650	650	1860	1400	520	1800	810	187	200	DN80	DN80
LSBLG190/N	3050	650	1860	1600	520	2240	810	187	200	DN80	DN80
LSBLG270/N	3080	720	1920	1600	520	2200	830	176	225	DN100	DN100
LSBLG320/N	3080	750	1960	1600	570	2180	900	203	225	DN100	DN100
LSBLG400/N	3080	820	2100	1600	600	2140	970	214	225	DN100	DN100

CAPACITY TABLE

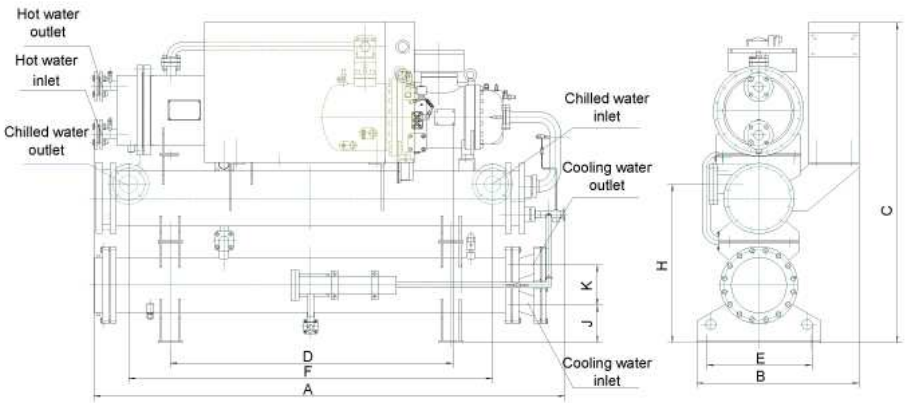
Items / Model	Evaporator LCWT ℃	Condenser EWT ℃									
		25		28		30		32		35	
		Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW
LSBLG570/N(H)	5	572	95.5	560	101	531	113.9	518	117.7	497	124.0
	6	594	96	576	101.6	552	114.8	538	118.8	516	125.1
	7	612	96.5	597	102.1	572	115.8	558	119.9	535	126.3
	8	638	96.9	619	102.7	594	116.8	579	120.9	556	127.3
	9	660	97.4	641	103.2	615	117.7	600	121.9	576	128.4
	10	684	97.8	664	103.7	638	118.8	622	122.9	598	129.5
LSBLG630/N(H)	5	615	101.9	597	107.8	583	122.2	568	126.5	545	133.2
	6	637	102.4	619	108.4	606	123.2	590	127.6	567	134.3
	7	660	103	642	109	628	124.3	630	128.7	588	135.5
	8	684	103.4	665	109.6	652	125.4	635	129.8	610	136.6
	9	708	103.9	689	110.1	675	126.5	659	130.9	633	137.8
	10	733	104.4	713	110.6	700	127.6	683	132.1	657	139.0
LSBLG740/N(H)	5	761	123.8	738	131	687	150.0	670	155.2	643	163.6
	6	789	124.4	765	131.7	714	151.3	696	156.6	668	165.0
	7	817	125.1	793	132.4	740	152.6	721	158.0	693	166.4
	8	847	125.7	822	133.1	768	153.9	749	159.3	719	167.9
	9	877	126.2	851	133.8	796	155.2	776	160.7	746	169.2
	10	908	126.8	881	134.4	825	156.6	805	162.1	774	170.6
LSBLG860/N(H)	5	850	135.7	835	143.6	798	161.8	778	167.5	746	176.4
	6	881	136.4	856	144.4	829	163.2	807	168.9	775	177.9
	7	913	137.1	887	145.2	859	164.6	837	170.3	804	179.4
	8	946	137.8	919	145.9	891	166.0	869	171.8	835	181.0
	9	979	138.4	952	146.6	924	167.5	901	173.4	866	182.5
	10	1014	139	985	147.3	958	168.9	934	174.8	898	184.1
LSBLG970/N(H)	5	990	167.6	960	177.2	901	200.0	878	207.2	843	218.3
	6	1026	168.4	996	178.2	936	201.8	912	209.0	875	220.1
	7	1064	169.8	1032	179.2	970	203.6	946	210.7	908	222.0
	8	1104	170	1070	180.2	1006	205.4	981	212.6	943	223.9
	9	1146	170.8	1110	181	1043	207.2	1017	214.3	977	225.8
	10	1190	171.6	1152	181.8	1082	209.0	1055	216.2	1014	227.6
LSBLG1060/N(H)	5	1067	179.3	1040	189.6	982	213.8	957	221.4	918	233.2
	6	1107	180.2	1074	190.7	1019	215.8	994	223.3	954	235.2
	7	1144	181.1	1113	191.7	1057	217.6	1030	225.2	989	237.2
	8	1190	181.9	1154	192.8	1097	219.4	1069	227.2	1027	239.3
	9	1233	182.8	1196	193.7	1137	221.4	1109	229.1	1065	241.3
	10	1279	183.6	1240	194.6	1179	223.3	1150	231.0	1105	243.3

CAPACITY TABLE

Items / Model	Evaporator LCWT ℃	Condenser EWT ℃									
		25		28		30		32		35	
		Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW	Nominal CAP / kW	Power input kW
LSBLG1145/N(H)	5	1144	191	1120	202	1063	227.6	1036	235.6	994	248.2
	6	1188	192	1152	203.2	1103	229.7	1075	237.6	1032	250.3
	7	1224	193	1194	204.2	1144	231.6	1115	239.6	1071	252.5
	8	1276	193.8	1238	205.4	1187	233.5	1158	241.8	1112	254.7
	9	1320	194.8	1282	206.4	1230	235.6	1200	243.8	1153	256.8
	10	1368	195.6	1328	207.4	1276	237.6	1245	245.9	1196	258.9
LSBLG1260/N(H)	5	1230	203.8	1194	215.6	1167	244.4	1137	253.0	1091	266.5
	6	1274	204.8	1238	216.8	1211	246.5	1181	255.2	1133	268.8
	7	1320	206	1284	218	1256	248.6	1224	257.4	1176	271.1
	8	1368	206.8	1330	219.2	1303	250.8	1271	259.5	1221	273.4
	9	1416	207.8	1378	220.2	1351	253.0	1317	261.7	1266	275.6
	10	1466	208.8	1426	221.2	1401	255.2	1366	264.0	1313	278.0
LSBLG1370/N(H)	5	1376	225.7	1335	238.8	1271	272.2	1238	281.7	1188	296.8
	6	1426	226.8	1384	240.1	1319	274.6	1286	284.1	1234	299.4
	7	1477	228.1	1435	241.4	1368	276.9	1334	286.7	1281	301.9
	8	1531	229.1	1487	242.7	1420	279.3	1384	289.1	1330	304.5
	9	1585	230.1	1540	243.9	1471	281.7	1435	291.6	1379	307.0
	10	1641	231.2	1594	245	1526	284.1	1488	294.1	1431	309.6
LSBLG1490/N(H)	5	1465	237.6	1432	251.4	1381	284.1	1346	293.9	1292	309.6
	6	1518	238.8	1475	252.8	1434	286.5	1398	296.5	1342	312.3
	7	1573	240.1	1529	254.2	1487	288.9	1450	299.1	1392	315.0
	8	1630	241.2	1584	255.5	1543	291.4	1505	301.6	1445	317.7
	9	1687	242.3	1641	256.7	1599	293.9	1560	304.2	1499	320.3
	10	1747	243.4	1698	257.9	1658	296.5	1618	306.8	1555	323.1
LSBLG1620/N(H)	5	1632	262.8	1585	278.2	1510	321.9	1471	333.3	1411	350.9
	6	1691	264.2	1643	279.8	1567	324.8	1527	336.1	1466	354.0
	7	1752	253.4	1703	281.2	1620	327.6	1584	339.0	1521	357.0
	8	1815	266.8	1764	282.6	1686	330.3	1644	341.9	1579	360.1
	9	1879	268	1826	284	1747	333.1	1704	344.9	1638	363.1
	10	1945	269.2	1891	285.4	1812	336.0	1768	347.8	1699	366.2
LSBLG1720/N(H)	5	1700	271.4	1670	287.2	1596	323.6	1555	334.9	1492	352.8
	6	1761	272.8	1712	288.8	1657	326.4	1615	337.9	1550	355.8
	7	1826	274.2	1774	290.4	1718	329.2	1675	340.7	1608	358.9
	8	1892	275.6	1838	2912.8	1783	332.1	1738	343.7	1670	361.9
	9	1958	276.8	1904	293.2	1847	334.9	1802	346.6	1732	365.1
	10	2028	278	1970	294. 6	1916	337.9	1869	349.7	1797	368.2

PHYSICAL DIMENSION

Single compressor superpose type unit

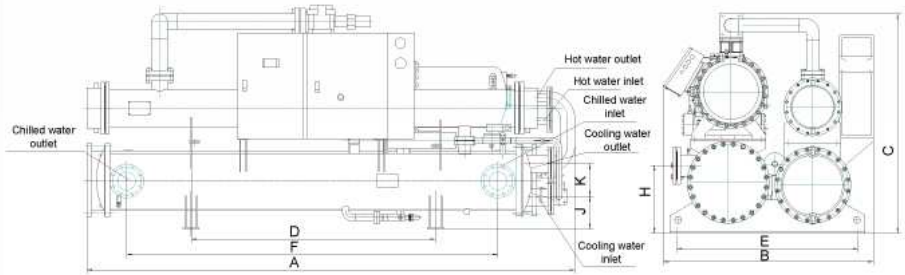


Unit:mm

Model	A	B	C	D	E	F	H	J	K	Cooled Water In/outlet	Chilled Water In/outlet	Heat Water In/Outlet
LSBLG150/N(H)	2700	850	1860	1400	520	1800	810	187	200	DN80	DN80	DN40
LSBLG190/N(H)	3100	850	1860	1600	520	2240	810	187	200	DN80	DN80	DN40
LSBLG270/N(H)	3130	920	1920	1600	520	2200	830	176	225	DN100	DN100	DN40
LSBLG320/N(H)	3130	950	1960	1600	570	2180	900	203	225	DN100	DN100	DN40
LSBLG400/N(H)	3130	1020	2100	1600	600	2140	970	214	225	DN100	DN100	DN50

PHYSICAL DIMENSION

Single compressor parataxis type unit

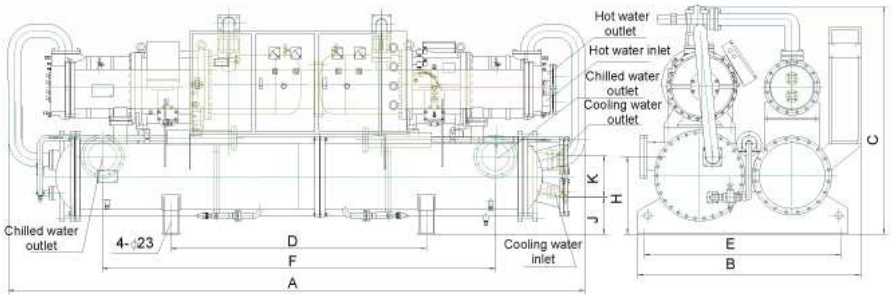


Unit:mm

Model	A	B	C	D	E	F	H	J	K	Cooled Water In/outlet	Chilled Water In/outlet	Heat Water In/Outlet
LSBLG485/N(H)	3090	1420	1600	1600	1250	2180	450	215	250	DN125	DN125	DN50
LSBLG570/N(H)	3090	1420	1600	1600	1250	2180	470	245	250	DN125	DN125	DN60
LSBLG630/N(H)	3650	1420	1600	1800	1250	2680	460	235	250	DN125	DN125	DN65
LSBLG740/N(H)	3650	1480	1660	1800	1350	2680	545	258	285	DN150	DN150	DN65
LSBLG860/N(H)	3650	1530	1730	1800	1360	2680	550	258	285	DN150	DN150	DN65

PHYSICAL DIMENSION

Dual Compressors Parataxis Type Unit



Model	A	B	C	D	E	F	H	J	K	Cooled Water In/outlet	Chilled Water In/outlet	Heat Water In/Outlet
LSBLG970/N(H)	4310	1770	1680	1800	1440	2680	575	248	285	DN150	DN150	DN65
LSBLG1060/N(H)	4310	1770	1680	1800	1440	2680	575	248	285	DN150	DN150	DN65
LSBLG1145/N(H)	4310	1880	1760	1800	1540	2680	615	273	285	DN150	DN150	DN65
LSBLG1260/N(H)	4650	1880	1760	2000	1540	3080	615	240	350	DN200	DN200	DN80
LSBLG1370/N(H)	4650	1880	1780	2000	1540	3080	615	240	350	DN200	DN200	DN80
LSBLG1490/N(H)	4650	1970	1900	2000	1640	3080	650	298	345	DN200	DN200	DN80
LSBLG1620/N(H)	4650	1970	1900	2000	1640	3080	650	315	340	DN200	DN200	DN80
LSBLG1720/N(H)	4650	1970	1900	2000	1640	3080	650	325	320	DN200	DN200	DN80

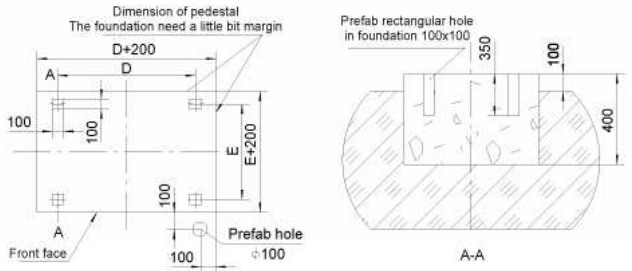
PHYSICAL DIMENSION

■ Please take into account the construction of installation basement. Attention should be especially paid to the intensity of the floor and noise elimination when installing the unit in interlayer or on the top floor. It is suggested to consult the building designer before installation.

■ For convenient drainage, gutter way should be made around the basement to ensure the drainage unblocked.

■ To eliminate the vibration and noise, put an absorber between the unit and basement and keep the unit in balance. Install a shockproof foundation when necessary.

■ Please refer to the following drawing for the installation fundation.



The sizes of foundation bolts of different models are shown as below:

Table 1

Dim \ Model	LSBLG XXX/N								
	150	190	270	320	400	485	570	630	740
D(mm)	1400	1600	1600	1600	1600	1600	1600	1800	1800
E(mm)	520	520	520	570	600	1250	1250	1250	1350

Table 2

Dim \ Model	LSBLG XXX/N								
	860	970	1060	1145	1260	1370	1490	1620	1720
D(mm)	1800	1800	1800	1800	2000	2000	2000	2000	2000
E(mm)	1360	1440	1440	1540	1540	1540	1640	1640	1640

Table 3

Dim \ Model	LSBLG XXX/N(H)								
	150	190	270	320	400	485	570	630	630
D(mm)	1400	1600	1600	1600	1600	1600	1600	1800	1800
E(mm)	520	520	520	570	600	1250	1250	1250	1250

Table 4

Dim \ Model	LSBLG XXX/N(H)								
	860	970	1060	1145	1260	1370	1490	1620	1720
D(mm)	1800	1800	1800	1800	2000	2000	2000	2000	2000
E(mm)	1360	1440	1440	1540	1540	1540	1640	1640	1640

FIXATION OF UNIT

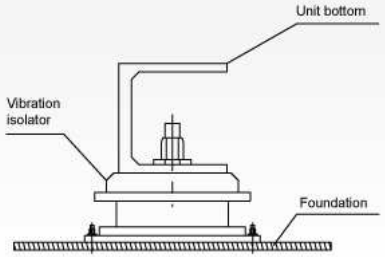


Figure 1

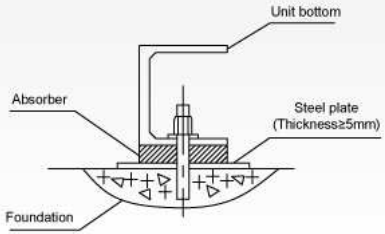


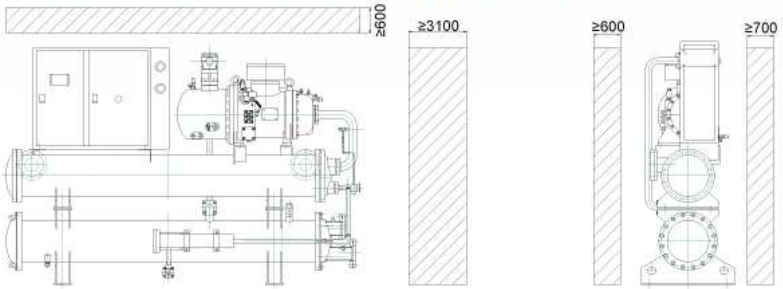
Figure 2

Notes:

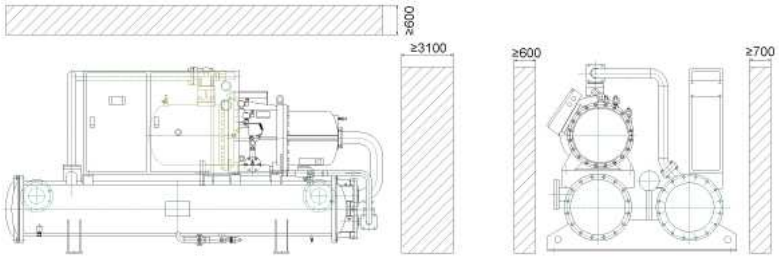
（1）For chart 1, reserve the installation holes for foundation bolt on the basement according to installation basement diagram.

（2）For chart 2, reserve the holes for the installation of absorber on the basement.

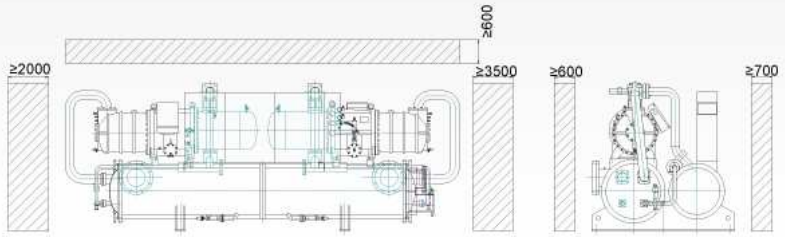
Single compressor superpose type unit



Single compressor parataxis type unit



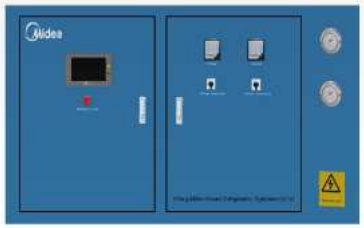
Dual compressors parataxis type unit



Notes:

- Place without the interference of sunlight other kind of heat source.
- Place close to electrical source for wiring.
- Place with solid basement preventing causing resonance and noise.
- Clean, bright and well ventilated place.
- Place where it is convenient for piping and water drainage with the least influence to surroundings caused by noise, cool or heat wind.

PLC CONTROLLER



PLC controller

Midea LSBLG/MCF chiller adopts PLC controller which enables the user to monitor and control the chiller with high-class accuracy. PLC control system guarantees high precision and stability. The control system is module-designed, easy for installation and maintenance. The chiller which reserved with RS485 port can be interfaced with BAS (Building Automation system). The remote monitoring and control of the chiller is possible.

True color touchable screen

The display of control regulation and operating parameters, diagnostics, and error messages is a 7 inch, 65636 colors TFT displayer with 800 X 480 distinguishability. The screen can display error codes, settings of various set points, specified temperature and pressure values, and the status of operating parameters and options.

Power-down memory function

When power-down, the chiller will maintain preceding running mode and parameter set point.

Weekly operation scheduling

The user can set the chiller operation schedule in the weekly timetable to run and stop the chiller automatically. If sudden power down happens, the chiller will not restart until manual reset.

Data acquisition & Storing

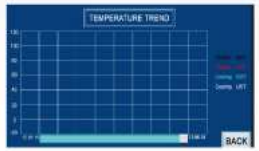
Max. 256 records of latest alarms and 500 seconds chilled/cooling water temperature trend display.

3-class password

3-class passwords for different user level: Common user's level, maintenance level and manufacturer level. Unauthorized access to the control is protected with random-generated password.

Self-Diagnosis

Self-diagnosis is always performed before start-up to enable safe operation. Only all the requirements get satisfied, the chiller will start. If there's any malfunction, it will be displayed on the screen.



Digital Input

No.	ITEM	No.	ITEM
1	Remote start	2	Remote stop
3	Chilled water flow switch	4	Cooling water flow switch
5	Anti-freezing protection switch	6	High pressure protection switch
7	Low pressure protection switch	8	Compressor inner protection
9	Oil level protection switch	10	Pressure difference of oil protection
11	Overload protection	12	Phase reversal, lack phase protection
13	Standby		

Digital Output

No.	ITEM	No.	ITEM
1	Chilled water pump	2	Cooling water pump
3	Fan of cooling tower	4	Fault warning
5	Start /Stop of compressor	6	25% capacity adjustment valve
7	50% capacity adjustment valve	8	75% capacity adjustment valve
9	Solenoid valve of liquid circuit	10	Standby
11	Running state	12	

Analog Input

No.	ITEM	No.	ITEM
1	Temperature of inlet chilled water	2	Temperature of outlet chilled water
3	Temperature of inlet cooling water	4	Temperature of outlet cooling water

Multiple self-protecting functions guarantee the safety of unit and running perfectly

High/low pressure protection	Guarantee the Comp. running in the right range and its lifespan
Power open phase protection	Protect Comp. from damage under such situation of open phase and anti-phase
Anti-freeze protection under cooling mode	Protect the copper pipes of evaporator from damage due to water freeze
Frequent startup protection	Protect Comp. from getting burned by the overheated winding due to frequent startup
Overcurrent protection of Comp.	Protect Comp. from getting burned due to too heavy current
Overheat protection of compressor	Protect Comp. from damage due to lack of refrigerant or lubricant oil
Water flow protection	Protect Comp. from getting burned due to failure of heat-exchange
Reverse protection controller(APRS)	Guarantee the comp. motor running in the right direction

Options and accessories

■ Marine water box

■ Evaporator/condenser water pipe Victaulic connection

■ Vessel water pipe left/right connection

■ Evaporator shell 1 1/2 inch (40mm) insulation

■ Colorful touch screen

■ Spring vibration isolator

■ 21 bar (300 PSIG) Waterside Design Working Pressure – The DX Cooler Waterside is designed and constructed for 21 bar (300 PSIG) working pressure. (Factory mounted)

■ Power supply

♦380V-3P-60Hz

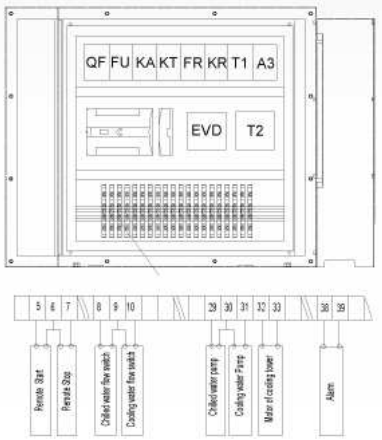
♦460V-3P-60Hz

Note: For more application, please contact the local office.

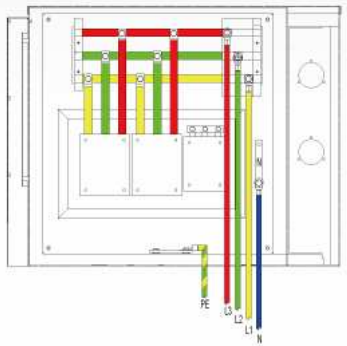
FIELD WIRING

LSBLG150/N—LSBLG860/N
LSBLG150/N(H)—LSBLG860/N(H)

ELECTRICAL CONTROL

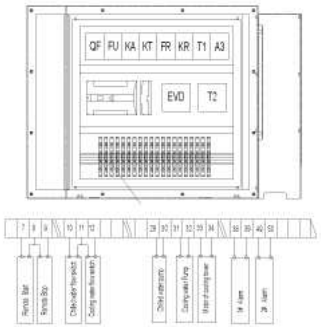


POWER SUPPLY

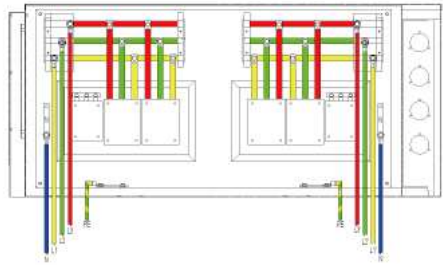


LSBLG970/N—LSBLG1720/N
LSBLG970/N(H)—LSBLG1720/N(H)

ELECTRICAL CONTROL



POWER SUPPLY



ELECTRICAL DATA

Model	Main power		Power Range		Compressor				
			Highest	Lowest	Quantity	Start current /A	Highest running current /A	Rated current /A	Rated power /kW
	V	Hz							
LSBLG150/N /LSBLG150/N(H)	380~415	50	+10%	-10%	1	135	73	55.8	32.7
LSBLG190/N /LSBLG190/N(H)	380~415	50	+10%	-10%	1	146	87	67.2	39.4
LSBLG270/N /LSBLG270/N(H)	380~415	50	+10%	-10%	1	239	130	100.3	58.8
LSBLG320/N /LSBLG320/N(H)	380~415	50	+10%	-10%	1	287	152	117	68.6
LSBLG400/N /LSBLG400/N(H)	380~415	50	+10%	-10%	1	287	182	140	82
LSBLG485/N /LSBLG485/N(H)	380~415	50	+10%	-10%	1	357	226	173.8	101.8
LSBLG570/N /LSBLG570/N(H)	380~415	50	+10%	-10%	1	545	257	197.6	115.8
LSBLG630/N /LSBLG630/N(H)	380~415	50	+10%	-10%	1	545	276	212.2	124.3
LSBLG740/N /LSBLG740/N(H)	380~415	50	+10%	-10%	1	660	339	260.5	152.6
LSBLG860/N /LSBLG860/N(H)	380~415	50	+10%	-10%	1	749	365	281	164.6
LSBLG970/N /LSBLG970/N(H)	380~415	50	+10%	-10%	2	530	452	347.6	203.6
LSBLG1060/N /LSBLG1060/N(H)	380~415	50	+10%	-10%	2	731	483	371.4	217.6
LSBLG1145/N /LSBLG1145/N(H)	380~415	50	+10%	-10%	2	743	514	395.2	231.6
LSBLG1260/N /LSBLG1260/N(H)	380~415	50	+10%	-10%	2	757	552	424.4	248.6
LSBLG1370/N /LSBLG1370/N(H)	380~415	50	+10%	-10%	2	896	615	472.7	276.9
LSBLG1490/N /LSBLG1490/N(H)	380~415	50	+10%	-10%	2	996	641	493.2	288.9
LSBLG1620/N /LSBLG1620/N(H)	380~415	50	+10%	-10%	2	1029	727	559.2	327.6
LSBLG1720/N /LSBLG1720/N(H)	380~415	50	+10%	-10%	2	1030	731	562	329.2

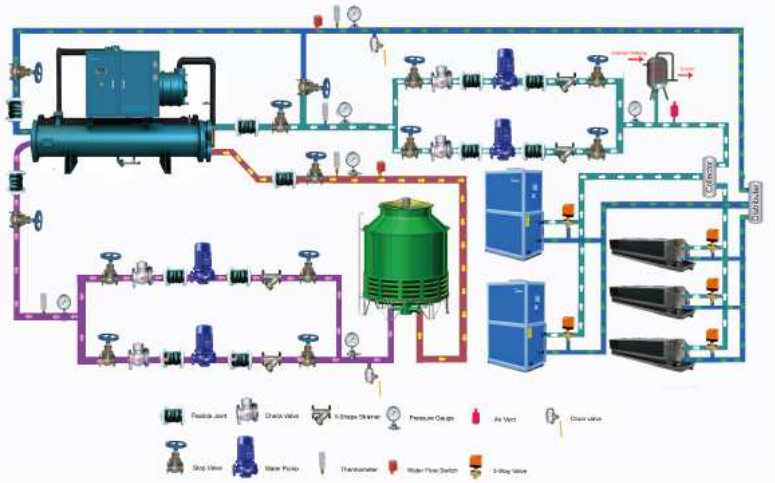
TYPICAL WATER PIPING LAYOUT

Chilled/Cooling Water Piping

■ All piping should be installed independently in order to convey any stress and vibration to the chiller and have sufficient space for maintenance purpose.

■ Water flow switch is strongly required and should be installed on the straight line (5 times the pipe diameter) of outlet of Chilled/Cooling water.

■ It is recommended to install thermometer, pressure gauge to measure the unit operational condition.



Notes:

The diagram is the recommended schematic diagram of water system, make flexible changes according to the actual construction.

Suggestion for energy conservation:

1. Choose the right pressure head for chilled water pump and cooling water pump.
2. Recommend using variable frequency water pump which can reduce energy consumption by 30%-45%.
3. Recommend using water distributor, valves between floors or terminal SV to prevent chilled water circulating in none-working terminals.
4. Do periodic cleaning for cooling tower and pipe system.
5. Choose the proper fresh air flow and layout for air-out and air return inlet to prevent short circuit of airflow.
6. Make appropriate modulation of chilled water inlet/outlet temperature and temperature difference according to the local climate.

SELECTION SOFTWARE

Professional Selection Software makes product selection process much easier and efficient than conventional manual selection. Simple operating interface and smart arithmetic can greatly improve the selection efficiency. The user just needs to provide several basic parameters, such as cooling capacity, fouling factor, pass number, power supply, etc. Then the computer will find out all the possible models for you to choose the best design. This software can be updated through the Internet easily. If you get some good advice, please feel free to tell us.

APPLICATION DATA

Operating limits

LSBLG/N cooler	Minimum	Maximum
Entering temperature at start-up	12°C	35°C
Leaving temperature during operation	5°C	15°C
Entering/leaving temperature difference at full load	3.8°C	7.1°C
Entering temperature at start-up	19°C	35°C
Leaving temperature during operation	25°C	40°C
Entering/leaving temperature difference at full load	3.8°C	7.1°C

Notes:

1. Normal operation ambient temperature range: -10~45 °C (water temperature must be within the requirements in the table.
2. Ambient temperature for storage and transport: -15~50 °C (water must be drained when ambient temperature is lower than 0 °C)
3. If chilled water or cooling water temperature exceeds this range, please contact Midea for special requirements.