GREE
AIR CONDITIONER

Chiller

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Note:
Gree is committed to continuously improving its products to ensure the highest quality and reliability standards, and to meet local regulations and market requirements.

All features and specifications are subject to change without prior notice.

GC-1809-02

Distributor information

Gree Electric Appliances, Inc. of Zhuhai, founded in 1991, is a diversified international industrial group, whose business covers residential air conditioners, central air conditioners, intelligent equipments, home appliances, air source water heaters, smart phones, refrigerators, etc.

- Since 2005, Gree has topped No.1 in production and sales volume of residential air conditioners for 13 consecutive years.
- 2015, Gree's sales revenue exceeded 15.08 billion USD.
- 2016, sales revenue exceeded 16.51 billion USD.
- 2017, sales revenue exceeded 22.21 billion USD.
- 2018, Gree entered into the list of Forbes Global 2000 again and ranked No. 294, moving up 70 places compared with the previous year.

Gree has paid some 14.26 billion USD in total tax, being the No.1 in terms of tax payment in the Chinese home appliances industry for 16 consecutive years.

Thanks to 300 million users ' choices, Gree products are widely sold in more than 200 countries and regions. Today Gree's annual production capacity of RAC and CAC is more than 60 million and 5.5 million sets respectively.

Action makes the future and innovation makes achievement. Looking forward, Gree will press ahead with its business philosophy of passion, innovation and realization. We aim to build an air conditioning enterprise of some hundred year's standing, to create a better life for humankind.

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Air-cooled Chiller

Mini Chiller(Heat Pump)

Gree Mini Chiller includes split type, integral type, modular integral type and inverter type. It can be connected to several fan coil units to achieve air conditioning through supplying hot water or cold water to the fan coil units. It doesn't need cooling tower and specialized room. You can select indoor terminals flexibly according to indoor decoration. It is well suited to hotels, restaurant, villas, offices, etc.

Item	Water side (water temperature)				Air side (outdoor temperature)		
	Nominal operating condition		Operating range		Nominal operating condition		Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	WB(℃)	DB(℃)
Cooling	12	7	7~12	2.5~6	35	—	16~43
Heating	40	45	45~50	2.5~6	7	6	-15~28

Features

Excellent Anti-freezing Control

Dual anti-freezing control is adopted. Anti-freezing control of waterflow switch and temperature point is adopted in water system. Meanwhile, anti-freezing control board is added to control the refrigerant side, so as to ensure safe and reliable operation of unit under low temperature or low load condition.

High Efficiency and Energy Saving

For the models above 10kW, optimized design of dual systems is adopted. The unit will automatically select single system operation or dual systems operation according to the load changes, so as to achieve balance between "supply and demand" and ensure reliable and high-efficiency operation of unit.

Convenient Installation and Maintenance

- The terminal is low-pressure water system pipeline with simple installation and without expensive refrigerant charging cost;
- Installation is convenient as the unit is equipped with water pump, expansion tank, automatic water makeup valve and safety valve; (Available for Split type and integral type)
- Specialized room and special foundation are not needed, convenient for installation and maintenance.

Multiple Control Functions and Protection Functions

8 control functions:

- Memory control;
- Subroom control;
- Fault diagnosing and alarming;
- Compressor balance operation control (dual systems);
- Multi-modular control;
- Capacity regulation control of multiple compressors;
- Control of auxiliary electric heating;
- Auto defrosting control

Multiple protection functions:

- Compressor high/low pressure protection;
- Air switch protection;
- Phase sequence protection;
- Over-current protection;
- Anti-freezing protection;
- Overheating protection;
- Waterflow switch protection;
- Electromagnetic interference prevention and lightning stroke prevention;
- Compressor high discharge temperature protection;
- Temperature sensor protection;
- Auto anti-freezing protection in winter

Split Type

7.5kW　　10/12.5/14.2kW

Features

Beautiful Appearance and Flexible Installation

The appearance of unit is beautiful and installation of unit is convenient. The indoor unit and outdoor unit can be installed in combination or split type. Meanwhile, the height of indoor unit is only 288mm.

Cost-effective Installation and Convenient Operation

For the models above 10kW, optimized design of dual systems is adopted. The unit is equipped with water pump, expansion tank, automatic water makeup valve and safety valve. Installation of expansion water tank is not needed, which greatly reduces installation cost. The unit can operate once connected with the water pipe. In consideration of convenient installation and operation, domestic power supply of 220V is applied.

Split type

50Hz　　R410A

Model	Heat pump			HLR8WZNa-M	HLR10WZNa-M	HLR12.5WZNa-M	HLR15WZNa-M
Capacity	Cooling		kW	7.5	10	12.5	14.2
	Heating		kW	9	12	13	16.5
EER/COP			W/W	2.14/2.73	2.27/2.73	2.19/2.71	2.49/3.11
Power supply			Ph/V/Hz	3/380-415/50	3/380-415/50	3/380-415/50	3/380-415/50
Power input	Cooling		kW	3.5	4.4	5.7	5.7
	Heating		kW	3.3	4.4	4.8	5.3
Compressor	Type		—	Constant speed scroll	Constant speed scroll	Constant speed scroll	Constant speed scroll
	Quantity		—	1	1	1	1
Refrigerant charge volume			kg	3.10	3.55	4.50	5.00
Water flow volume			l/s	0.38	0.48	0.59	0.72
			GPM	5.00	6.30	7.79	9.50
Bulid-in chilled water pump	Pump power input		kW	0.55	0.55	0.55	0.55
	Delivery lift		m	18	18	18	18
Bulid-in expansion vessel volume			L	5	5	5	5
Chilled water outlet/inlet screw thread spec			inch	1"Female BSP	1"Female BSP	1"Female BSP	1"Female BSP
Indoor unit	Sound pressure level		dB(A)	38	38	38	38
	Dimension (W×D×H)	Outline	mm	1100×450×288	1100×450×288	1100×450×288	1100×450×288
		Packaged	mm	1285×682×385	1285×682×385	1285×682×385	1285×682×385
	Net weight/Gross weight		kg	84/96	84/96	84/96	84/96
Outdoor unit	Sound pressure level		dB(A)	60	60	60	60
	Dimension (W×D×H)	Outline	mm	950×412×840	950×412×1250	950×412×1250	950×412×1250
		Packaged	mm	1110×450×985	1110×450×1385	1110×450×1385	1110×450×1385
	Net weight/Gross weight		kg	90/100	112/123	115/129	119/129
Outer diameter of connection pipe	Liquid pipe		inch(mm)	φ1/2(12.7)	φ1/2(12.7)	φ1/2(12.7)	φ1/2(12.7)
	Gas pipe		inch(mm)	φ3/4(19.05)	φ3/4(19.05)	φ3/4(19.05)	φ3/4(19.05)
Loading quantity	40'GP/40'HQ		set	52/52	63/64	63/64	63/64
Standard controller	Wired		—	Z16301			

Note:

The specification is tested under the connection pipe of 7.5 meters.

Integral Type

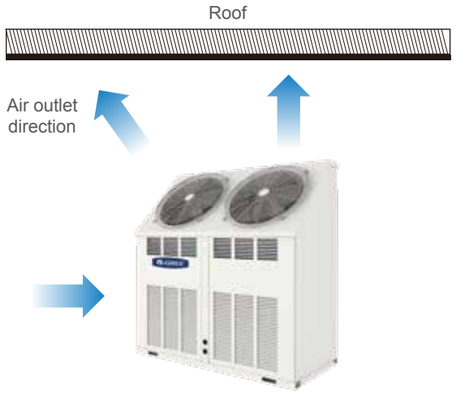
21.5/22.8kW

31/42kW

Features

Up-inclined Air outlet Design with High Flexibility

The unit's cooling and heating performance will not be affected by seasonal wind and installation place thanks to this design, especially suitable for installation site with limited floor height and building distance.

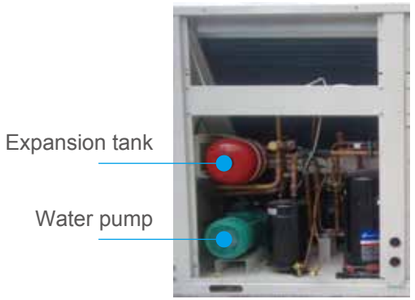


Scroll Compressor with High Efficiency

High-quality scroll compressor is adopted with the advantages of less moving parts, smaller noise and vibration, higher reliability and efficiency, etc.

Cost-effective Installation and Convenient Operation

The unit is equipped with water pump, expansion tank, automatic water makeup valve and safety valve. Installation of expansion water tank is not needed, which greatly reduces installation cost.



Integral Type

50Hz

R410A

Model	Heat pump		HLR22SNa-M	HLR25SNa-M	HLR35SNa-M	HLR45SNa-M
Capacity	Cooling	kW	21.5	22.8	31	42
	Heating	kW	25	25	37.5	49
EER/COP		W/W	2.50/2.91	2.59/2.81	2.61/3.00	2.30/2.80
Power supply		Ph/V/Hz	3/380-415/50	3/380-415/50	3/380-415/50	3/380-415/50
Power input	Cooling	kW	8.6	8.8	11.9	18.3
	Heating	kW	8.6	8.9	12.5	17.5
Compressor	Type	—	Scroll	Scroll	Scroll	Scroll
	Quantity	—	2	2	2	2
Refrigerant charge volume		kg	3.6×2	4.8×2	6.5×2	7.3×2
Water flow volume		l/s	0.92	1.2	1.4	2.2
		GPM	4.06	5.29	6.17	9.7
Bulid-in chilled water pump	Pump power input	kW	0.75	0.75	1.50	1.50
	Delivery lift	m	22	24	25	27
Bulid-in expansion vessel volume		L	8	8	8	8
Chilled water outlet/inlet screw thread spec		inch	1"Female BSP	1"Female BSP	1-1/2"Female BSP	1-1/2"Female BSP
Sound pressure level		dB(A)	66	66	68	68
Dimension (W×D×H)	Outline	mm	1460×530×1850	1460×530×1850	1750×800×1760	1750×800×1760
	Packaged	mm	1540×710×2100	1540×710×2100	1910×960×1970	1910×960×1970
Net weight/Gross weight		kg	380/387	380/392	680/690	755/765
Loading quantity	40'GP/40'HQ	set	25/25	25/25	12/12	12/12
Standard controller	Wired	—	Z12301A			

Inverter Mini Chiller(Heat Pump, R410 Series)

Inverter mini chiller is a kind of small-size air-cooled chiller that can be connected to all sorts of fan coil unit to realize cooling and heating. It can be used within the temperature range of -20~48℃.

Features

- Compressor inverter control and high water temperature control precision
- Integral installation, convenient and cost-effective
- Precise control of system pressure, improving anti-freezing function of system
- Adopting two-stage compression, greatly improves unit’ s performance

Item	Water side (water temperature)				Air side (outdoor temperature)		
	Nominal operating condition		Operating range		Nominal operating condition		Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	WB(℃)	DB(℃)
Cooling	12	7	7~25	2~10	35	24	10~48
Heating	40	45	25~60	2~10	7	6	-20~35

50Hz

R410A

Model	Heat pump		HLR8Pd/Na-K	HLR10Pd/Na-K	HLR12Pd/Na-M	HLR14Pd/Na-M
Capacity	Cooling	kW	6.20	7.50	9.50	11.00
	Heating	kW	8	10	12	14
EER/COP		W/W	3.1/3.5	3.1/3.4	3.2/3.7	3.1/3.4
Power Supply		V/Ph/Hz	220~240/1/50		380~415/3/50	
Power input	Cooling	kW	2	2.4	2.97	3.55
	Heating	kW	2.25	2.9	3.24	4.12
Compressor	Type	-	Rotary	Rotary	Rotary	Rotary
	Quantity	-	1	1	1	1
ReRefrigerant charge volume		kg	3.5	3.5	4.0	4.0
Water flow volume		l/ s	1.25	1.25	1.25	1.25
		GP M	16.515	16.515	16.515	16.515
Build-in chilled water pump	Pump power input	kW	0.14	0.14	0.14	0.14
	Delivery lift	m	11	11	11	11
Bulid-in expansion vessel volume		L	10	10	10	10
Chilled water outlet/inlet screw thread spec		inch	1	1	1	1
Sound Pressure level		dB(A)	53	55	54	54
Dimension(W*D*H)	Outling	mm	1390x412x890	1390x412x890	1354x365x1435	1354x365x1435
	Packaged	mm	1463x438x1035	1463x438x1035	1443x433x1575	1443x433x1575
Net weight/Gross weight		kg	140/155	140/155	194/209	194/209
Loading quantity	40'GP/40'HQ	set	80/80	80/80	43/43	43/43

Modular Air-cooled Scroll Chiller(Heat Pump)

D Series

65/80kW

130/160kW

249/280kW

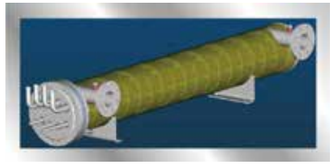
D series modular air-cooled scroll chillers can be widely used at newly-built or retrofitted industrial and civil buildings in various sizes, such as, hotels, apartments, restaurants, office buildings, shopping malls, theaters, gyms, workshops, hospitals and other places where there are high requirements on noise level and air quality but it is troublesome to install the cooling tower.

Item	Water side (water temperature)				Air side (outdoor temperature)		
	Nominal operating condition		Operating range		Nominal operating condition		Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	WB(℃)	DB(℃)
Cooling	12	7	5~20	2.5~6	35	—	15~45
Heating	40	45	35~50	2.5~6	7	6	-15~24

Features

High-efficiency Shell and Tube Heat Exchanger

As for the shell and tube heat exchanger, water inside it flows along the tube, which leaves large heat exchanging space and effectively prevents clogging caused by foreign matters or scale. As for the plate heat exchanger, the distance between plates is less than 3mm, which is vulnerably clogged owing to the bad water quality and causes the heat exchanger frozen up.

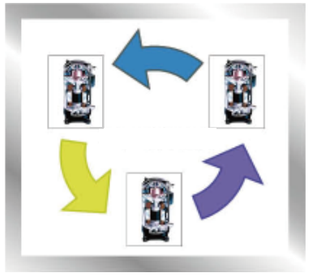


U-shaped Pipe Two-pass Design

The dual flow design of the U-shaped tube can enhance the heat exchange efficiency and effective superheating degree, thus increase the performance of the unit.

Compressor Operation Balance Technology

The unique compressor operation balance technology makes sure that each compressor operates in turn, which greatly prolongs the lifespan of compressor.



Free Master Module Design

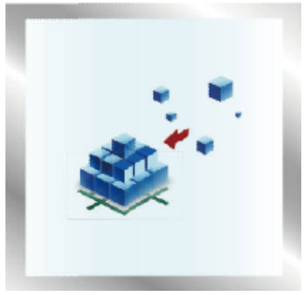
Any single unit can operate as the master once connected with the wired controller. It overcomes the problem which would occur to the product of other manufacturer that the whole system would fail to work properly when the fixed master unit malfunctions.

Super Protection Functions

This series is equipped with advanced microcomputer control system, completed protection functions and powerful error diagnosis function.
Main protection functions: compressor high pressure protection, compressor low pressure protection, compressor overload protection, antifreezing protection, overheating protection, auto antifreezing protection in winter, waterflow switch protection, temperature sensor protection, phase sequence protection, high discharge temperature protection, etc.

Excellent Compatibility

The units of the same model or different models can be combined freely. For 65 model and 80 model, each system can combine up to 16 modules. For 130 model and 160 model, each system can combine up to 8 modules.



Advanced Flow Dividing Technology

The pipeline and flow equalization plate are especially designed for D series modular air-cooled scroll chillers, which greatly improve flow dividing uniformity and heat exchange capacity.

50 Hz

R410A

Model	Heat pump		LSQWRF65M/NaD-M	LSQWRF80M/NaD-M	LSQWRF130M/NaD-M	LSQWRF160M/NaD-M	LSQWRF249M/NaD-M*	LSQWRF280M/NaD-M*
Capacity	Cooling/Heating	kW	60/65	71/79.5	120/130	145/170	249/275	280/325
		RT	17.06/18.48	20.19/22.61	34.12/36.97	41.23/48.34	70.80/78.20	79.62/92.42
Capacity steps		%	0-50%-100%		0-25%-50%-75%-100%			
EER/COP		W/W	2.84/3.09	2.76/2.94	2.84/2.93	2.74/3.04	2.95/3.25	2.85/3.10
Power supply		V-Ph-Hz	380-415V~3N~50Hz					
Power input	Cooling	kW	21.1	25.7	42.3	53	84.4	98.2
	Heating	kW	21	27	44.4	56	84.6	104.8
Compressor	Type	—	Constant Speed Scroll					
	Starting mode	—	Direct Starting					
	Quantity	—	2	2	4	4	4	4
Water side heat exchanger	Type	—	Dry Expansion Evaporator					
	Water flow volume	l/s	2.87	3.39	5.73	6.93	11.89	13.39
		GPM	45	54	91	110	189	212
	Pressure drop	kPa	15	20	30	35	75.00	85.00
		ft.WG	4.92	6.56	9.84	11.48	24.60	27.88
	Connection pipe	—	DN65		DN80		DN100	
Air side heat exchanger	Type	—	Aluminum Fin-copper Tube					
	Fan type and quantity	—	Axial-flow/2	Axial-flow/2	Axial-flow/4	Axial-flow/4	Axial-flow/8	Axial-flow/8
	Total fan air flow	l/s	2×0.375×10⁴	2×0.417×10⁴	4×0.375×10⁴	4×0.417×10⁴	8×0.39×10⁴	8×0.43×10⁴
		CFM	2×0.795×10⁴	2×0.882×10⁴	4×0.795×10⁴	4×0.882×10⁴	8×0.8239×10⁴	8×0.918×10⁴
	Total fan motor power	kW	2×0.65	2×0.95	4×0.65	4×0.95	8×0.65	8×0.75
Sound pressure level		dB(A)	70	71	72	74	67	69
Dimension	Outline(W×D×H)	mm	2040×1000×2230	2040×1000×2230	2226X1650X2230	2226X1650X2230	3980X2260X2450	3980X2260X2450
	Package(W×D×H)	mm	2120×1080×2230	2120×1080×2230	2306X1730X2230	2306X1730X2230	4040X2260X2450	4040X2260X2450
Net/Gross/Operating weight		kg	740/745/814	792/797/871	1315/1320/1447	1504/1509/1654	2985/2995/3284	3278/3288/3606
Loading quantity	40'GP/40'HQ	set	10/10	10/10	6/6	6/6	2/2	2/2

Notes:This product model is under development. Gree reserves the right to modify the specifications without prior notice.
Please confirm the final specifications with our sales representatives

60 Hz

R410A

Model	Heat pump		LSQWRF65M/NaD-F	LSQWRF80M/NaD-F	LSQWRF130M/NaD-F	LSQWRF160M/NaD-F
Capacity	Cooling/Heating	kW	60/65	75/85	120/135	145/170
		RT	17.0/18.5	21.3/24.2	34.1/38.4	41.2/48.3
Capacity steps		%	0-50-100	0-50-100	0-25-50-75-100	0-25-50-75-100
EER/COP		W/W	2.79/2.89	2.72/3.04	2.79/3.00	2.71/3.04
Power supply		V-Ph-Hz	208-230V~3~60Hz			
Power input	Cooling/Heating	kW	21.5/22.5	27.6/28.0	43.0/45.0	53.5/56.0
Compressor	Type	—	Hermetic scroll	Hermetic scroll	Hermetic scroll	Hermetic scroll
	Starting mode	—	Direct starting	Direct starting	Direct starting	Direct starting
	Quantity	—	2	2	4	4
Water side heat exchanger	Type	—	High-effcient Shell and tube heat exchanger			
	Water flow volume	L/s	2.87	3.58	5.73	6.93
		GPM	45.5	57.0	91.0	110.0
	Pressure drop	kPa	15	15	30	35
		ft.WG	4.9	4.9	9.8	11.5
	Connection pipe	—	DN65	DN65	DN80	DN80
Air side heat exchanger	Type	—	High-efficient fin tube type heat exchanger			
	Fan type and quantity	—	axial×2	axialx2	axial×4	axial×4
	Total fan airflow	L/s	2x0.375×10⁴	2x0.417×10⁴	4x0.375×10⁴	4x0.417×10⁴
		CFM	2x0.795×10⁴	2x0.882×10⁴	4x0.795×10⁴	4x0.882×10⁴
	Total fan motor power	kW	0.65×2	0.75x2	0.65×4	0.75x4
Sound pressure level		dB(A)	70	71	72	74
Dimension	Outline(W×D×H)	mm	2040×1000×2230	2024x1000x2230	2278x1830x2278	2278x1830x2278
	Package(W×D×H)	mm	2120×1080×2230	2120x1080x2230	2358x1910x2278	2358x1910x2278
Net/Gross/Operating weight		kg	710/715/781	770/775/847	1370/1375/1507	1520/1525/1672
Loading quantity	40'GP/40'HQ	set	10/10	10/10	6/6	6/6

Modular Air-cooled Scroll Chiller

E Series

65/80kW

130/160kW

Thanks to the compact and flexible modularized structure, E Series Modular Type Scroll Chillers can be widely used for newly built and retrofitted large and small-sized industrial and civil air conditioning projects, like apartments, hotels, restaurants, office buildings, shopping malls, theaters, gyms, factories, hospital etc. It is also the ideal choice for where there is high requirement on noise and ambient environments and it is inconvenient to install the cooling tower.

Item	Water side (water temperature)				Air side (outdoor temperature)	
	Nominal operating condition		Operating range		Nominal operating condition	Operating range
	Inlet (℃)	Outlet (℃)	Outlet (℃)	I/O difference (℃)	DB (℃)	DB (℃)
Cooling	12	7	5~20	2.5~6	35	0~46

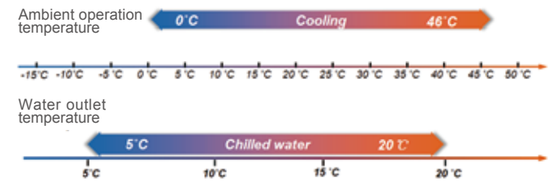
Features

New Appearance Design

- For the E series units, it is of beautiful appearance, highlighted outlines, and powerful visual impact.
- The zinc-nickle alloy screws have been put into use for higher corrosion-proof corrosion and reliability for the whole unit.

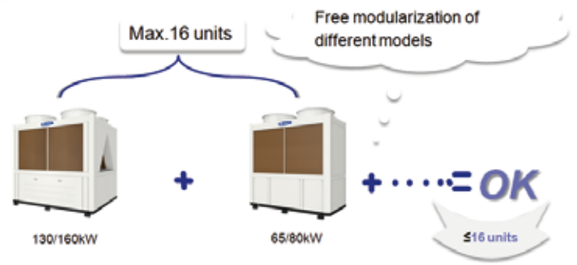
Wide Operation Range

Ambient operation temperature for E Series Modular unit is 0~46℃ and temperature range of water outlet is 5~20℃;



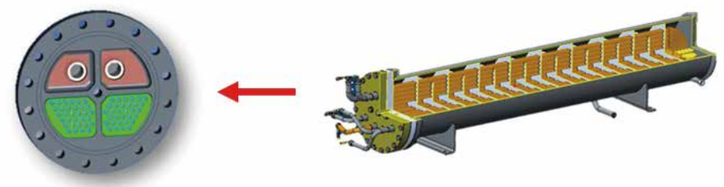
Powerful Compatibility

- Different models can be modularized freely and up 16 units can be modularized in parallel.
- It can be modularized with any D series model.



High-efficiency Shell and Tube

●The dual-flow design can greatly improve the heat exchanging effect and the capacity of the unit.
●The specially designed header box and flow distributor can largely improve the evenness of refrigerant vapor-liquid mixture after throttling and then improve the heat exchanging capacity of the shell and tube.



Flow distributor

Dry shell-and-tube heat exchanger

Low-noise Operation

Through active and passive noise reduction technologies, noise of the model 130 can be lowered to 69dB(A), for creating quite and comfortable environment for the user.

Compressor Operation Balance Technology

The unique compressor operation balance technology makes sure that each compressor operates in turn, which greatly prolongs the lifespan of compressor.

Free Master Module Design

Any single unit can operate as the master once connected with the wired controller. It overcomes the problem which would occur to the product of other manufacturer that the whole system would fail to work properly when the fixed master unit malfunctions.

Super Protection Functions

This series is equipped with advanced microcomputer control system, completed protection functions and powerful error diagnosis function.

Main protection functions: compressor high pressure protection, compressor low pressure protection, compressor overload protection, antifreezing protection, waterflow switch protection, temperature sensor protection, phase sequence protection, high discharge temperature protection, etc.

50Hz

R410A

Model	Heat pump		LSQWF65M/NaE-M	LSQWF80M/NaE-M	LSQWF130M/NaE-M	LSQWF160M/NaE-M
Capacity	Cooling/Heating	kW	65	82	132	162
		RT	18.48	23.32	37.54	46.07
Capacity steps		%	0、50、100	0、50、100	0、50、100	0、25、50、75、100
EER		W/W	3.20	3.19	3.20	3.00
Power supply		V-Ph-Hz	400V~3N~50Hz	400V~3N~50Hz	400V~3N~50Hz	400V~3N~50Hz
Power input	Cooling	kW	20.3	25.7	41.2	54.0
Compressor	Type	—	Constant Speed Scroll			
	Starting mode	—	direct startup			
	Quantity	—	2	2	2	4
Water side heat exchanger	Type	—	Dry Expansion Evaporator			
	Water flow volume	m^3/h	11.20	14.10	22.70	27.90
		GPM	49	62	100	123
	Pressure drop	kPa	45	60	60	60
		ft.WG	14.76	19.68	19.68	19.68
	Connection pipe	—	flange connection			
Air side heat exchanger	Type	—	Aluminum Fin-copper Tube			
	Fan type and quantity	—	Axial-flow			
	Total fan airflow	m^3/h	$2\times1.2\times10^4$	$2\times1.4\times10^4$	$4\times1.2\times10^4$	$4\times1.4\times10^4$
		CFM	2×0.7056×104	2×0.8239×104	4×0.7056×104	4×0.8239×104
	Total fan motor power	kW	2×0.65	2×0.75	4×0.65	4×0.75
Sound pressure level		dB(A)	66	67	70	70
Dimension	Outline(W×D×H)	mm	2138×1025×2243	2138×1025×2243	2306×1980×2320	2306×1980×2320
	Package(W×D×H)	mm	2198×1085×2243	2198×1085×2243	2366×2040×2320	2366×2040×2320
Net/Gross/Operating weight		kg	730/735	770/775	1280/1285	1540/1545
Loading quantity	40'GP/40'HQ	set	11/11	11/11	5/5	5/5

Inverter Modular Air-cooled Chiller(Heat Pump)

A Series

35kW

60/65/70kW

A Series Inverter Modular Air-cooled Chiller adopts All DC inverter and has wide operational range, compact design and can be modularized.

Features

- High-efficiency and energy-saving, with all DC inverter compressor and fan;
- Quiet and wide operational range;
- Easy installation, modularized combination, intelligent control;
- With water pump switch function for prolonging service life of water pump;
- Long-distance one-key ON/OFF control.

Item	Water side (water temperature)				Air side (outdoor temperature)	
	Nominal operating condition		Operating range		Nominal operating condition	Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	DB(℃)
Cooling	12	7	5~20	2.5~6	35	-15~52
Heating	40	45	35~50	2.5~6	7	-20~40

50/60Hz

R410A

Model	Heat pump		LSQWRF35VM/NaA-M	LSQWRF60VM/NaA-M	LSQWRF65VM/NaA-M	LSQWRF70VM/NaA-M
Capacity	Cooling/Heating	kW	32/36	60/65	65/70	69/77
		RT	9.10/10.24	17.06/18.48	18.48/19.91	19.62/21.9
Capacity steps		%	0~100	0~100	0~100	0~100
EER/COP		W/W	2.58/3.32	2.74/3.22	2.62/3.20	2.79/3.06
Power supply		Ph/V/Hz	380-415V~3N~50/60Hz	380-415V~3N~50/60Hz	380-415V~3N~50/60Hz	380-415V~3N~50/60Hz
Power input	Cooling	kW	12.40	21.9	24.8	24.73
	Heating		10.84	20.2	21.9	25.16
Compressor	Type	—	Hermetic motor compressor			
	Starting mode	—	Inverter starting			
	Quantity	—	1	2	2	2
Water side heat exchanger	Type	—	Dry Expansion Evaporator			
	Water flow volume	l/s	1.58	2.87	3.11	3.34
		GPM	25.13	45.5	49.29	53.09
	Pressure drop	kPa	65	55	60	60
		ft.WG	21.32	18.04	19.68	19.68
	Connection pipe	—	G1 1/2 external thread connection			
Air side heat exchanger	Type	—	Aluminum Fin-copper Tube			
	Fan type and quantity	—	Axial-flow/2			
	Total fan airflow	l/s	$2\times0.35\times10^4$	$2\times0.33\times10^4$	$2\times0.33\times10^4$	$2\times0.38\times10^4$
		CFM	$2\times0.74\times10^4$	$2\times0.71\times104^4$	$2\times0.71\times10^4$	$2\times0.81\times10^4$
	Total fan motor power	kW	0.75	0.75	0.75	1.5
Sound pressure level		dB(A)	62	68	68	69
Dimension	Outline(W×D×H)	mm	1340×845×1605	2200×965×1675	2200×965×1675	2200×965×1675
	Package(W×D×H)	mm	1420×920×1775	2267×1030×1867	2267×1030×1867	2267×1030×1867
Net/Gross/Operating weight		kg	379/391	689/725	689/725	675/709
Loading quantity	40'GP/40'HQ	set	16/16	11/11	11/11	11/11

Control System Lineup

Control system / Product series			Screw Chiller					
			High-efficiency Modular Air-cooled Screw Chiller	High-efficiency Heat Pump Air-cooled Screw Chiller	High Energy Efficiency Air-cooled Screw Chiller [60Hz]	High Energy Efficiency Partial Heat Recovery Air-cooled Screw Chiller	High-efficiency Water-cooled Screw Chiller	Permanent Magnetic Synchronous Inverter Screw Chiller
Display Panel	Z12301A			●				
	Z16301		●					
	Z263Q				●			
	Z26300H					●	●	
	Z26301HJ							●

Note: ● means standard

Water-cooled Chiller

Shell and Tube Water Source Heat Pump Scroll Chiller

MS Series

Z2602J

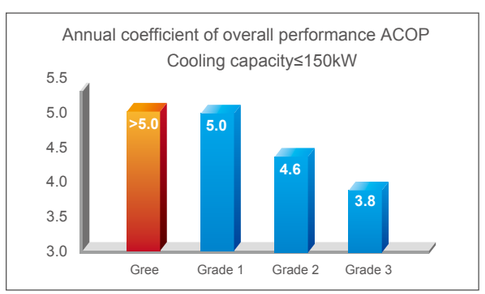
Gree Water Source Heat Pump Scroll Chiller is consisting of side heat transfer equipment, compressor, heat source side heat transfer equipment, throttling structure and electrical control system, and it has the function of cooling only, cooling and heating. The unit is assembled in the factory, the user can use it by connecting external pipeline and related wirings. The allowed cold and heat source of Gree Water Source Heat Pump Scroll Chiller is not limited to the ground water, river water, surface water, soil and domestic wastewater, industrial wastewater and all kinds of drainage of water heat are also suitable. When it is used as cooling only type, lower the temperature of cooling water with cooling tower.

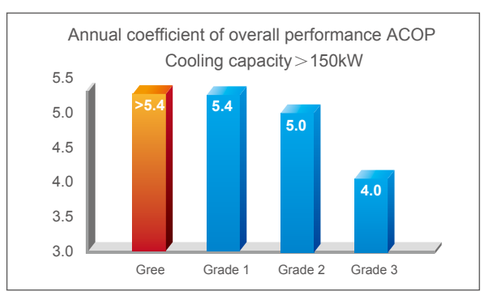
Operation range	Cooling water						Chilled water	
	Underground-loop		Water-loop		Ground water			
	Water inlet temperature(℃)	Difference in water inlet/outlet temperature(℃)	Water inlet temperature(℃)	Difference in water inlet/outlet temperature(℃)	Water inlet temperature(℃)	Difference in water inlet/outlet temperature(℃)	Water outlet temperature(℃)	Difference in water inlet/outlet temperature(℃)
Cooling	10~40	2.5~8	20~40	2.5~8	10~25	8~13	5~15	2.5~8
Heating	5~25	2.5~8	15~30	2.5~8	10~25	4~10	35~60	3.5~9

Features

Energy-efficient

Annual coefficient of overall performance, ACOP, of the full series of unit reaches national Grade 1 standard.





Note: ACOP=0.56*full load energy efficiency of cooling EER +0.44*full load energy efficiency of heating COP

Green and Environmental Protection

The full series of unit adopts R410A eco-friendly refrigerant, which will not damage the ozonosphere; It utilizes renewable energy sources as the energy source, green and eco-friendly.

Low Noise Design

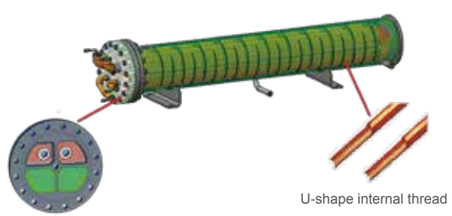
The unit adopts low noise scroll compressor, sound insulation is conducted for the compressor with box; with multiple noise reduction treatment, the unit is operating quietly.

World-famous Scroll Compressor

- Adopts the flexible scroll compressor, sealed vortex, small abrasion, good reliability and high energy efficiency ratio; stable operation and low noise;
- Multiple systems design: it will select the number of systems automatically according to the load, provides energy adjustment of several levels for energy-saving operation; in case malfunction happens to a specific system, the other systems will operate normally, which has greatly enhanced the reliability of unit operation;
- Balanced control of compressor: confirm the priority of compressor startup of shutdown according to the operation time of each compressor to prevent overuse of one single compressor, which would be effective to extend unit service life.

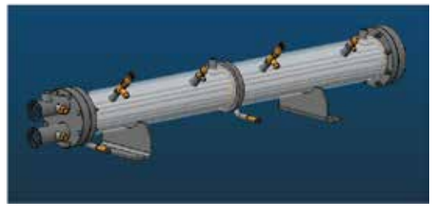
Efficient Shell and Tube Evaporator

- Adopt liquid separation sharing technology to ensure that heat transfer capacity can be brought out evenly, increase evaporation temperature, enhance overall unit capacity and energy efficiency fully;
- Adopt U-shape internal thread efficient heat exchange tube to reduce secondary separating, thus intensifying heat exchange.
- The optimized design of water flow outside the pipe decreases the pressure loss of water in heat exchanger and reduces heat loss.



Efficient Shell and Tube Condenser

- Adopt efficient heat exchange tube to improve fluid state of refrigerant side, enhance heat exchange area and enhance heat exchange efficiency.
- Adopt intermediate expanded connection technology to maximize the area of condenser pipe and enhance heat exchange efficiency.

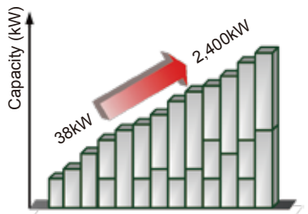


Ultra-strong Applicability

Adopting the throttling adjustment structure of electronic control, it has the characteristic of overall adjustment and quick response, which can effectively adapt to the working condition of wide range; meanwhile, the system has taken several optimized measures to make the operation working condition close to the application limit gradually, which has expanded the applicable range of the unit to the greatest extent. Applicable temperature range for water source is 5~40℃.

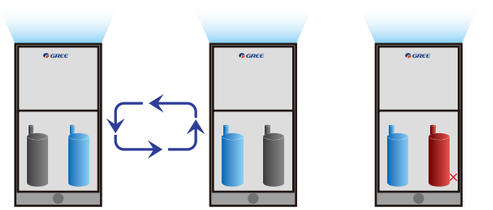
Mater and Subsidiary Module Design

- Each unit can be used separately or with any units of different cooling capacity, 16 sets can be operated at most, the cooling capacity range is 38~2,400kW, which can be applied to all kinds of occasions.
- Any one of the connected units with wired controller can be the master module, and communicate with other units to coordinate the whole system to work according to demand, avoiding the trouble of suspension operation of the whole system due to the damage of the fixed master module. This is one of Gree’s patented technologies.
- Installation space of the unit is small, modular installation can be carried out by taking advantage of the narrow space.



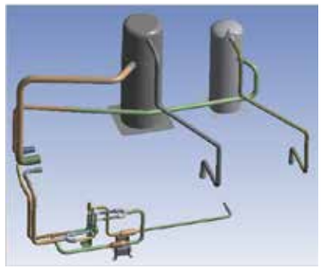
Reliable Operation of Dual Compressor Systems

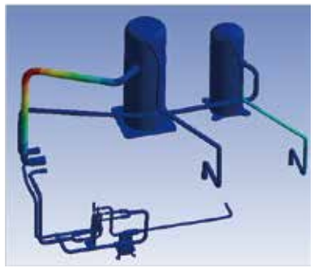
- Adopt modular design structure, and the compressor will be started by levels to decrease the impact of startup current to the power grid.
- Balance operation time of compressor intelligently according to compressor operation condition, enhancing the overall service life of the unit.
- The dual compressor systems can operate individually without affecting each other. If the compressor of either unit is faulted, it will not affect unit normal operation; likewise, if either unit is in overhaul and maintenance, operation of the other unit will not be affected.



Optimal Pipeline Design

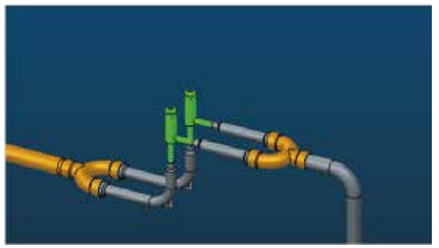
Based on the finite element algorithm and combined several simulation method with experiment test, it optimizes the structure of the key components and related sub-assy, ensuring a reliable structure for unit operation and transportation process.





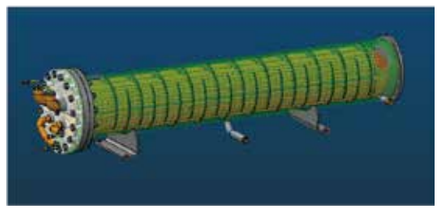
Dual Electronic Expansion Valves Control Technology

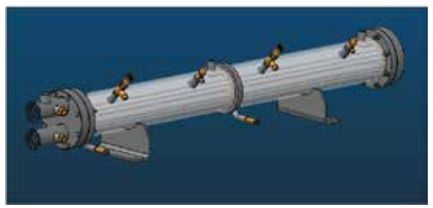
Unit throttling of large cooling capacity adopts dual electronic expansion valves for parallel connection control, which is adaptive to the operation range of the formation of cold and heat source (buried pipe, water source and ground water), the exclusive throttling patented technology has enhanced the operation control precision of the whole system.



Convenient Maintenance for Heat Exchanger

The evaporator and condenser adopt shell and tube heat exchanger, which is convenient for cleaning.





Portable Body Design

- The outer casing can meet the outdoor installation requirement, machine room is needless to lower investment;
- Rubber washer is set on the base, fork shipment is available and the size is small for convenient transportation;
- Lifting hole is set in the base for lifting.

Self-protection and Diagnosis Function

The unit adopts microcomputer to control the system, and has nearly ten protective measures, such as high pressure protection, low pressure protection, lacking fluorine protection, compressor overload protection, high temperature protection for compressor discharge, anti-freezing protection, high temperature protection for drive module, water flow switch protection, communication error, temperature sensor error protection, and so on, thus solving the hidden danger of operation error effectively and ensuring safe operation.

Water flow protection | Overload protection | Insufficient refrigerant protection | High pressure protection for compressor | Error protection for temperature sensor

Intelligent Human-machine Interaction

- Liquid crystal touch screen with backlight display;
- Flat interface design, simple and convenient operation, read key parameter and operation status at real time, monitor the unit comprehensively and output alarm display;
- Timing control, the user can conduct intelligent timing setting to the air conditioning system according to the usage time and requirement;
- Password protection function to prevent misoperation;
- It can be shifted to the location which is easy for operation freely.

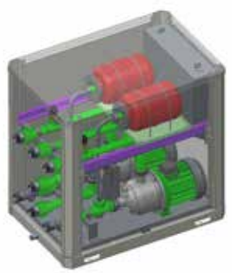
Long-distance Intelligent Service

Provide long-distance intelligent service to realize early warning for error, operation diagnosis, data statistics and analysis and so on, enabling the air conditioner to function under optimal status and reducing the maintenance charges.

Gree long-distance intelligent service center

Optional Hydraulic Power Module

Hydraulic power is optional for the full series of unit, which is of great convenience to the client.



50Hz R410A

Model			SSD390W/NaA-M	SSD550W/NaA-M	SSD750W/NaA-M	SSD1100W/NaA-M	SSD1500W/NaA-M
Capacity	Cooling	kW	38.00	53.00	80.00	118.00	158.00
		RT	10.81	15.07	22.75	33.56	44.93
	Heating	kW	42.00	58.00	86.00	126.00	170.00
		RT	11.94	16.50	24.46	35.83	48.35
Capacity steps		%	100%	50%、100%	50%、100%	50%、100%	50%、100%
EER		W/W	5.67	5.76	6.15	5.90	5.85
ACOP		W/W	5.14	5.12	5.55	5.44	5.41
Power supply		Ph/V/Hz	380V 3N~ 50Hz				
Power input(cooling)		kW	6.70	9.20	13.00	20.00	27.00
Power input(heating)		kW	9.40	13.50	18.00	26.00	35.00
Max run Amps		A	29.70	34.50	44.00	62.00	83.00
Compressor	Type	-	Constant speed scroll				
	Starting mode	-	Direct startup				
	Quantity	-	1	2	2	2	2
Refrigerant Charge volume		kg	4.5	4.5+1.9	4.5+4.5	3.8+8.2	7.8+7.8
Refrigeration oil	Type	-	POE OIL				
	Charge volume	L	2.75×2	2.75×2	2.75×2	2.75+4.44	4.44×2
Evaporator	Type	-	Dry expansion evaporator				
	Fouling factor	m^2 C/W	0.086	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	6.50	9.10	13.80	20.30	27.20
		GPM	28.66	40.12	60.85	89.51	119.93
	Pressure drop	kPa	45.00	45.00	50.00	50.00	50.00
		ft.WG	14.76	14.76	16.40	16.40	16.40
	Connection pipe	-	Female threaded				
Condenser	Type		Horizontal shell and tube condenser				
	Fouling factor	m^2 C/W	0.086	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	8.20	11.40	17.20	25.40	34.00
		GPM	36.16	50.26	75.84	111.99	149.91
	Pressure drop	kPa	50.00	50.00	50.00	50.00	50.00
		ft.WG	16.40	16.40	16.40	16.40	16.40
	Connection pipe	-	Female threaded				
Outline dimenstion(WxDxH)		mm	1580×650×1450	1580×650×1450	1800×650×1600	1800×650×1600	1800×650×1600
Net/Gross/Operting Weight		kg	420	500	550	740	865

50Hz R410A

Model			SSD1850W/NaA-M	SSD2200W/NaA-M	SSD2600W/NaA-M	SSD3000W/NaA-M
Capacity	Cooling	kW	198.00	236.00	276.00	316.00
		RT	56.31	67.12	78.49	89.87
	Heating	kW	212.00	252.00	296.00	340.00
		RT	60.29	71.67	84.18	96.69
Capacity steps		%	25%、50%、75%、100%	25%、50%、75%、100%	25%、50%、75%、100%	25%、50%、75%、100%
EER		W/W	6.00	5.90	5.87	5.85
ACOP		W/W	5.48	5.44	5.42	5.41
Power supply		Ph/V/Hz	380V 3N~ 50Hz			
Power input(cooling)		kW	33.00	40.00	47.00	54.00
Power input(heating)		kW	44.00	52.00	61.00	70.00
Max run Amps		A	106.00	124.00	145.00	166.00
Compressor	Type	-	Constant speed scroll			
	Starting mode	-	Direct startup			
	Quantity	-	4.00	4.00	4.00	4.00
Refrigerant Charge volume		kg	3.8+8.2+4.5+4.5	3.8+8.2+3.8+8.2	3.8+8.2+7.8+7.8	7.8+7.8+7.8+7.8
Refrigeration oil	Type	-	POE OIL			
	Charge volume	L	2.75×3+4.44	2.75×2+4.44×2	2.75+4.44×3	4.44×4
Evaporator	Type	-	Dry expansion evaporator			
	Fouling factor	m^2 C/W	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	34.10	40.60	47.50	54.40
		GPM	150.35	179.01	209.44	239.86
	Pressure drop	kPa	50.00	50.00	50.00	50.00
		ft.WG	16.40	16.40	16.40	16.40
	Connection pipe	-	Female threaded			
Condenser	Type		Horizontal shell and tube condenser			
	Fouling factor	m^2 C/W	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	42.60	50.80	59.40	68.00
		GPM	187.83	223.99	261.90	299.82
	Pressure drop	kPa	50.00	50.00	50.00	50.00
		ft.WG	16.40	16.40	16.40	16.40
	Connection pipe	-	Female threaded			
Outline dimenstion(WxDxH)		mm	1800×1500×1600	1800×1500×1600	1800×1500×1600	1800×1500×1600
Net/Gross/Operting Weight		kg	1370	1510	1605	1730

Modular Water-cooled Chiller

MSA Series

Z2602J

Gree MSA Series Modular Water-cooled Chiller is a unit which uses water as the cold source to produce cold water. It adopts scroll compressor, efficient shell and tube, high precision electronic expansion valve and the brand new control system, etc.
MSA Series Modular Water-cooled Chiller can combine several unit modules, the capacity of unit module is 38 ～ 316kW, the structure form and performance of each unit module can be the same or different, which can meet customers' demand of different loads.

Operation range	Cooling water						Chilled water	
	Underground-loop		Water-loop		Ground water			
	Water inlet temperature(℃)	Difference in water inlet/outlet temperature(℃)	Water inlet temperature(℃)	Difference in water inlet/outlet temperature(℃)	Water inlet temperature(℃)	Difference in water inlet/outlet temperature(℃)	Water outlet temperature(℃)	Difference in water inlet/outlet temperature(℃)
Cooling	10~40	2.5~8	20~40	2.5~8	10~25	8~13	5~15	2.5~8

Features

Green and Environmental Protection

The full series of unit adopts R410A eco-friendly refrigerant, which will not damage the ozonosphere; It utilizes renewable energy sources as the energy source, green and eco-friendly.

Low Noise Design

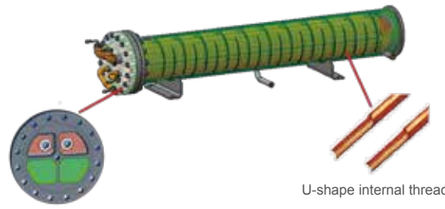
The unit adopts low noise scroll compressor, sound insulation is conducted for the compressor with box; with multiple noise reduction treatment, the unit is operating quietly.

World-famous Scroll Compressor

- Adopts the flexible scroll compressor, sealed vortex, small abrasion, good reliability and high energy efficiency ratio; stable operation and low noise;
- Multiple systems design: it will select the number of systems automatically according to the load, provides energy adjustment of several levels for energy-saving operation; in case malfunction happens to a specific system, the other systems will operate normally, which has greatly enhanced the reliability of unit operation;
- Balanced control of compressor: confirm the priority of compressor startup of shutdown according to the operation time of each compressor to prevent overuse of one single compressor, which would be effective to extend unit service life.

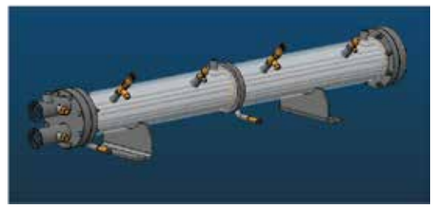
Efficient Shell and Tube Evaporator

- Adopt liquid separation sharing technology to ensure that heat transfer capacity can be brought out evenly, increase evaporation temperature, enhance overall unit capacity and energy efficiency fully;
- Adopt U-shape internal thread efficient heat exchange tube to reduce secondary separating, thus intensifying heat exchange.
- The optimized design of water flow outside the pipe decreases the pressure loss of water in heat exchanger and reduces heat loss.



Efficient Shell and Tube Condenser

- Adopt efficient heat exchange tube to improve fluid state of refrigerant side, enhance heat exchange area and enhance heat exchange efficiency.
- Adopt intermediate expanded connection technology to maximize the area of condenser pipe and enhance heat exchange efficiency.

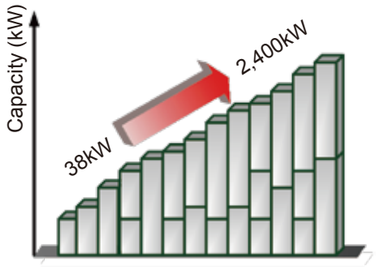


Ultra-strong Applicability

Adopting the throttling adjustment structure of electronic control, it has the characteristic of overall adjustment and quick response, which can effectively adapt to the working condition of wide range; meanwhile, the system has taken several optimized measures to make the operation working condition close to the application limit gradually, which has expanded the applicable range of the unit to the greatest extent. Applicable temperature range for water source is 5~40℃.

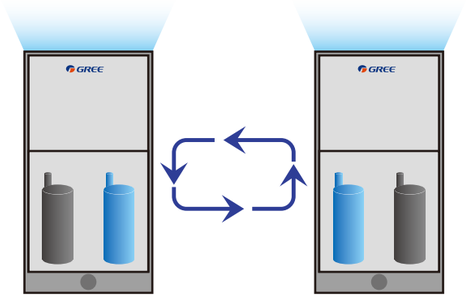
Mater and Subsidiary Module Design

- Each unit can be used separately or with any units of different cooling capacity, 16 sets can be operated at most, the cooling capacity range is 38~2,400kW, which can be applied to all kinds of occasions.
- Any one of the connected units with wired controller can be the master module, and communicate with other units to coordinate the whole system to work according to demand, avoiding the trouble of suspension operation of the whole system due to the damage of the fixed master module. This is one of Gree' s patented technologies.
- Installation space of the unit is small, modular installation can be carried out by taking advantage of the narrow space.



Reliable Operation of Dual Compressor Systems

- Adopt modular design structure, and the compressor will be started by levels to decrease the impact of startup current to the power grid.
- Balance operation time of compressor intelligently according to compressor operation condition, enhancing the overall service life of the unit.
- The dual compressor systems can operate individually without affecting each other. If the compressor of either unit is faulted, it will not affect unit normal operation; likewise, if either unit is in overhaul and maintenance, operation of the other unit will not be affected.

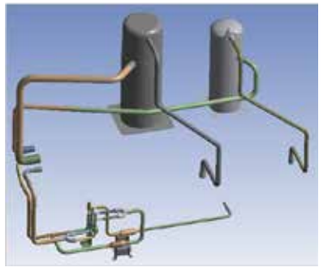


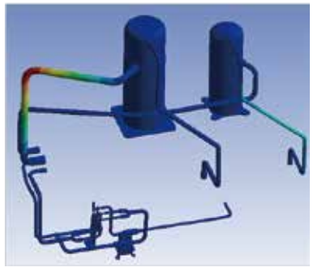
Intelligent equilibrium

Independent operation

Optimal Pipeline Design

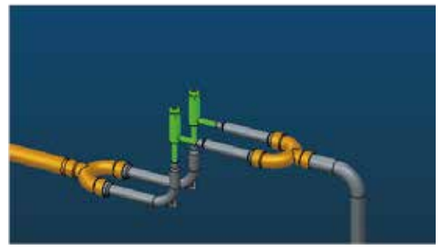
Based on the finite element algorithm and combined several simulation method with experiment test, it optimizes the structure of the key components and related sub-assy, ensuring a reliable structure for unit operation and transportation process.





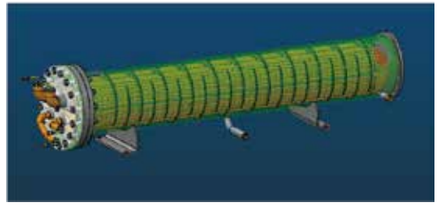
Dual Electronic Expansion Valves Control Technology

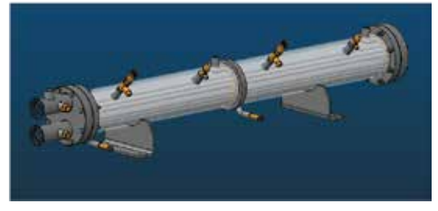
Unit throttling of large cooling capacity adopts dual electronic expansion valves for parallel connection control, which is adaptive to the operation range of the formation of cold and heat source (buried pipe, water source and ground water), the exclusive throttling patented technology has enhanced the operation control precision of the whole system.



Convenient Maintenance for Heat Exchanger

The evaporator and condenser adopt shell and tube heat exchanger, which is convenient for cleaning.





Portable Body Design

- The outer casing can meet the outdoor installation requirement, machine room is needless to lower investment;
- Rubber washer is set on the base, fork shipment is available and the size is small for convenient transportation;
- Lifting hole is set in the base for lifting.

Self-protection and Diagnosis Function

The unit adopts microcomputer to control the system, and has nearly ten protective measures, such as high pressure protection, low pressure protection, lacking fluorine protection, compressor overload protection, high temperature protection for compressor discharge, anti-freezing protection, high temperature protection for drive module, water flow switch protection, communication error, temperature sensor error protection, and so on, thus solving the hidden danger of operation error effectively and ensuring safe operation.


Water flow protection


Overload protection


Insufficient refrigerant protection


High pressure protection for compressor


Error protection for temperature sensor

Intelligent Human-machine Interaction

- Liquid crystal touch screen with backlight display;
- Flat interface design, simple and convenient operation, read key parameter and operation status at real time, monitor the unit comprehensively and output alarm display;
- Timing control, the user can conduct intelligent timing setting to the air conditioning system according to the usage time and requirement;
- Password protection function to prevent misoperation;
- It can be shifted to the location which is easy for operation freely.

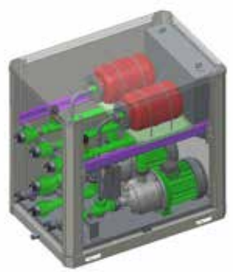
Long-distance Intelligent Service

Provide long-distance intelligent service to realize early warning for error, operation diagnosis, data statistics and analysis and so on, enabling the air conditioner to function under optimal status and reducing the maintenance charges.


Gree long-distance intelligent service center

Optional Hydraulic Power Module

Hydraulic power is optional for the full series of unit, which is of great convenience to the client.



50Hz R410A

Model			LSQW39M/NaA-M	LSQW55M/NaA-M	LSQW75M/NaA-M	LSQW110M/NaA-M	LSQW150M/NaA-M
Cooling capacity		kW	38.00	53.00	75.00	110.00	150.00
		RT	10.81	15.07	21.33	31.28	42.66
Capacity steps		%	100.00%	50%、100%	50%、100%	50%、100%	50%、100%
EER		W/W	5.43	5.30	5.36	5.31	5.34
IPLV		W/W	6.32	6.30	6.32	3.31	6.34
Power supply		Ph/V/Hz	380V 3N~ 50Hz				
Power input		kW	7.00	10.00	14.00	20.70	28.10
Max run Amps		A	29.70	34.50	44.00	62.00	83.00
Compressor	Type	-	Constant Speed Scroll				
	Starting mode	-	direct startup	direct startup	direct startup	direct startup	direct startup
	Quantity	-	1	2	2	2	2
Refrigerant Charge volume		kg	4.50	4.5+1.9	4.5+4.5	3.8+8.2	7.8+7.8
Refrigeration oil	Type	-	POE OIL				
	Charge volume	L	2.75×2	2.75×2	2.75×2	2.75+4.44	4.44×2
Evaporator	Type	-	Dry Expansion Evaporator				
	Fouling factor	$m^2℃/W$	0.086	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	6.50	9.10	12.90	18.90	25.80
		GPM	28.66	40.12	56.88	83.33	113.76
	Pressure drop	kPa	35.00	45.00	50.00	50.00	50.00
		ft.WG	11.48	14.76	16.40	16.40	16.40
	Connection pipe	-	Female Threaded	Female Threaded	Female Threaded	Female Threaded	Female Threaded
Condenser	Type		Horizontal shell and tube condenser				
	Fouling factor	$m^2℃/W$	0.086	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	8.20	11.40	16.10	23.70	32.30
		GPM	36.16	50.26	70.99	104.50	142.42
	Pressure drop	kPa	50.00	50.00	50.00	50.00	50.00
		ft.WG	16.40	16.40	16.40	16.40	16.40
	Connection pipe	-	Female Threaded	Female Threaded	Female Threaded	Female Threaded	Female Threaded
Outline dimenstion(WxDxH)		mm	1580×650×1450	1580×650×1450	1800×650×1600	1800×650×1600	1800×650×1600
Net/Gross/Operting Weight		kg	450.00	500.00	550.00	740.00	865.00

50Hz R410A

Model			LSQW185M/NaA-M	LSQW220M/NaA-M	LSQW260M/NaA-M	LSQW300M/NaA-M
Cooling capacity		kW	185.00	220.00	260.00	300.00
		RT	52.61	62.57	73.94	85.32
Capacity steps		%	25%、50%、75%、100%	25%、50%、75%、100%	25%、50%、75%、100%	25%、50%、75%、100%
EER		W/W	5.33	5.34	5.34	5.32
IPLV		W/W	6.31	6.31	6.32	6.31
Power supply		Ph/V/Hz	380V 3N~ 50Hz			
Power input		kW	34.70	41.20	48.70	56.40
Max run Amps		A	106.00	124.00	145.00	166.00
Compressor	Type	-	Constant Speed Scroll			
	Starting mode	-	Direct startup	Direct startup	Direct startup	Direct startup
	Quantity	-	4.00	4.00	4.00	4.00
Refrigerant Charge volume		kg	3.8+8.2+4.5+4.5	3.8+8.2+3.8+8.2	3.8+8.2+7.8+7.8	7.8+7.8+7.8+7.8
Refrigeration oil	Type	-	POE OIL			
	Charge volume	L	2.75×3+4.44	2.75×2+4.44×2	2.75+4.44×3	4.44×4
Evaporator	Type	-	Dry Expansion Evaporator			
	Fouling factor	$m^2℃/W$	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	31.80	37.80	44.70	51.60
		GPM	140.21	166.67	197.09	227.51
	Pressure drop	kPa	50.00	50.00	50.00	50.00
		ft.WG	16.40	16.40	16.40	16.40
	Connection pipe	-	Female Threaded	Female Threaded	Female Threaded	Female Threaded
Condenser	Type		Horizontal shell and tube condenser			
	Fouling factor	$m^2℃/W$	0.086	0.086	0.086	0.086
	Water flow volume	m^3/h	39.80	47.30	56.00	64.60
		GPM	175.48	208.55	246.91	284.83
	Pressure drop	kPa	50.00	50.00	50.00	50.00
		ft.WG	16.40	16.40	16.40	16.40
	Connection pipe	-	Female Threaded	Female Threaded	Female Threaded	Female Threaded
Outline dimenstion(WxDxH)		mm	1800×1500×1600	1800×1500×1600	1800×1500×1600	1800×1500×1600
Net/Gross/Operting Weight		kg	1370.00	1510.00	1605.00	1730.00

Screw Chiller

High-efficiency Modular Air-cooled Screw Chiller

It is a kind of High-efficiency air-cooled screw chillers that can be connected to all sorts of fan coil units to realize cooling/heating for civil or industrial buildings.

Golden fin condenser | Inner groove copper | Comprehensive protection | Self-diagnosis | Memory function | 24 hour timer | Long-distance monitoring | High efficiency | Intelligent defrosting | Modular structure

- Thanks to V type fin structure, unit features small refrigerant pressure loss and high efficiency.
- With flooded type shell-and-tube design, evaporating temperature is increased, hence improving the heat exchanging efficiency and energy efficiency.
- Unit adopts low noise fan blades and specialized compressor noise reduction device, therefore sound level falls to 5dB(A) lower than the 2nd generation.
- Due to the totally-enclosed design, its appearance is harmonious and nice-looking.

Item	Water side (water temperature)				Air side (outdoor temperature)		
	Nominal operating condition		Operating range		Nominal operating condition		Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	WB(℃)	DB(℃)
Cooling	12	7	5~15	2.5~8	35	—	18~52

Features

Special Flooded Screw Compressor

- Special flooded screw compressor.

A.Apply special motor that can be up to Grade F with thermostability of 155°C.

B.No speed-up gear mechanism design: twin screw compressor adopts direct-connected driving motor for reducing driving efficiency loss and for a more compact structure;

C.Motor of compressor is cooled down through diluent cooling of gas-absorbing cavity to lower the temperature of motor, and ensure diluent cooling of refrigeration oil. Through which can prevent decrease of insulativity due to high temperature of motor, otherwise the motor will be burnt.

D.Built-in air exhaust check valve: it can prevent back flow of refrigerant when the unit closes down; built-in oil separator and oil heater for ensureing oil return.

E.Slide valve stepless adjustment for exact match of cooling output and load of compressor.

F.High accuracy SKF shaft bearing: This twin screw compressor adopts high accuracy SKF shaft bearing so that the clearance of compressor can be smaller, transmission efficiency will be higher, energy efficiency ratio of compressor will be higher, and service life of compressor will be longer.

- Reliable compressor operating range control technology (initially created in the industry)

The built-in pressure transducer and current transformer can conduct comprehensive control of high pressure, low pressure, current of compressor, and air exhaust temperature, so as to ensure reliable operation of compressor within the operating range.

- Compressor motor cool-down technology (initially created in the industry)

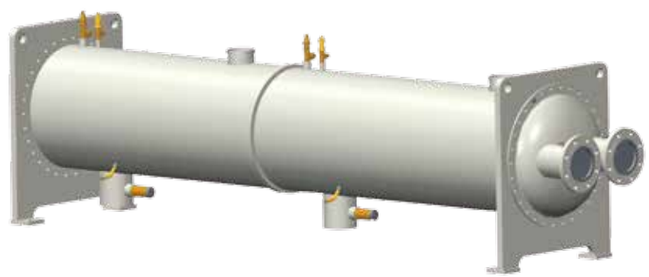
Adopt electronic expanding valve control with wide adjustment range, which can precisely control gas absorbing and liquid spray volume; apply PD control method to feed back liquid spray information in advance can achieve fast adjustment and cool down motor directly, through which can control tempera-ture of motor and ensure reliability and performance of compressor.

Gree Self-developed High-efficiency Vertical Oil Separator

Adopt external oil separator design, apply four stage (rotate separation, collision, natural sedimentation, filter separation) separating technology to ensure adequate filtration of refrigeration oil discharged from compressor, and prevent the refrigeration oil from leaking into the system. The actual measurement efficiency of oil separation is up to 99.97%.

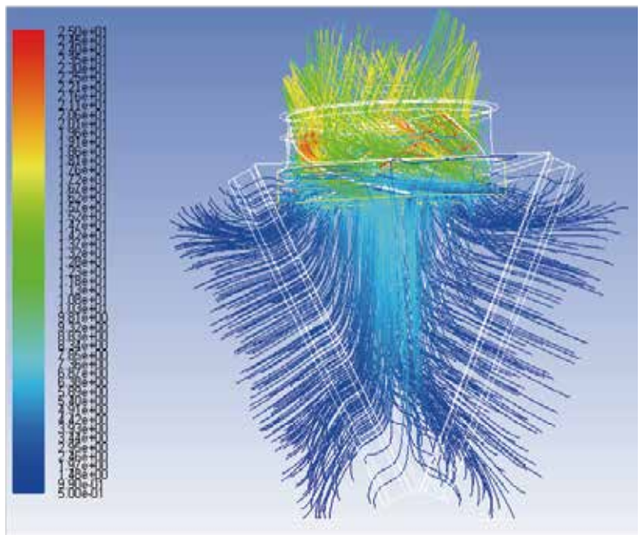
High-efficiency and Energy-saving

- Flooded shell and tube design: adopt TURBO-BII ultra high efficiency evaporator that the evaporating pipe is soaking in liquid refrigerant for improving heat transfer capacity and cooling efficiency, the evaporating temperature is higher than 5.5℃; chilled water pass through the tube for re-ducing flowage pressure loss of water side and reduce energy consumption of water pump. This evapo-rator works with the high-performance and reliable special screw compressor, which can greatly improve cooling capacity and energy efficiency ratio of unit.



● Independent design of multiple compressors and multiple systems: can have four independent systems at most, with high energy efficiency of partial loading; the compressor adopts Y-Δ start-up with low start-up current.

● V shape condenser design: adopt V shape layout with the best angle and the best air volume for more even distribution of air flow; adopt ripple fenestration aluminous condensing fin for higher heat exchange efficiency.



● Circulating design of economizer *(optional): auxiliary refrigerant of economizer conducts heat exchange with main refrigerant, to improve condenser depression of refrigerant when the main refrigerant returns to the expanding valve inlet, and improve liquid seal effect, ensure refrigerant entering into main throttle valve (electronic expanding valve) is in liquid state; at the same time the auxiliary refrigerant directly gets into compressor after it is gasified, which will increase inspiratory capacity of compressor. Such design can help to increase cooling capacity for 10%.

● High-accuracy electronic expanding valve control: stepping motor can have 3810 steps at most, which combines coarse tuning and sharp tuning for precisely adjusting flow of refrigerant. It can dynamically control degree of superheat for outlet of evaporator, to achieve higher unilization ratio of heat exchange area and improve operational efficiency under deviate work condition and low-load work condition.

● Advanced Self Adapting Control:
A. Automatically adjust yielding water temperature according to variation of load to ensure comfortable experience and energy saving during transition seasons;
B. Start-up quantity of fan units can be controlled according to pressure, whicn can achieve more energy-saving in transition seasons.

● Heat recovery function *(optional): use heat reclaim shell and tube to reclaim waste heat, the heat reclaim volume can be up to 20%; the water heated up by reclaimed heat can be up to 55℃; heat reclaim and non-heat reclaim work condition can be freely switched during operation, which can prevent energy waste in closing down the unit and conduct switch; quantity of fan units can be controlled according to high pressure, heat reclaim water temperature, ambient temperature, which can ensure the the highest heat reclaim efficiency, and at the same time conduct air conditioning and supply hot water. It is the best choise for large hotels and apartments.

Safe and Reliable

● Ejecting oil return design: when the unit operates under bad oil return work condition, the ejector will be automatically started up to ensure reliable oil return of unit, which can solve the oil return problem of flooded unit.

● Oil supply design of oil pump *(optional): the oil pump will conduct auxiliary oil return under low differential pressure, which can effectively prevent faulted oil circulation of compressor when the differential pressure is insufficient, and improve reliability of compressor.

● Multiple anti-freeze design of shell and tube:
A. Water flowing through the heat exchange tube can prevent partial frost cracking.
B. Adopt multi-slot tube plate design to improve hermetically-sealed construction for preventing the risk of leakage.
C. Add water flow switch water-break protection.

D. Adopt evaporating temperature control technology to conduct triple control for evaporating tempera-ture, water yielding tempera-ture of shell and tube, anti-freeze water temperature. It can ensure that the evaporating temperature inside the shell and tube is over 0℃ for preventing frost cracking of shell and tube.

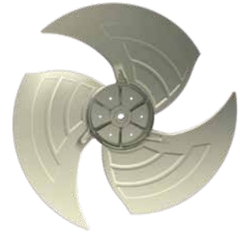
● Rotproof design:
A. Hermetically sealed structure, prevent exposure of parts and components.
B. Adopt rotproof gold aluminum foil and anticorrosive materials to make the fins, which can go through the neutral salt spray test for 2000 hours.
C. Adopt three-layer protection design for the chassis: epoxy zinc rich primer, high build epoxy antirust paint, four fluorine fluorine carbon paint *(optional).
D. Parts and components of pipelines adopt zinc rich primer and four fluorine fluorine carbon paint *(optional).
E. Self-made sheet metal adopts rotproof whether resistant polyester powder sprays coating *(optional).

High Comfort Level

● Ultralow temperature cooling design *(optional): Apply control technology of inverter fan unit to conduct reliable cooling under the ambient temperature of -20℃.

● Stepless capacity adjustment: Single system 50%-100%, dual system 25%-100%; when compressor starts up under the minimum load, the cooling capacity of unit can be stepless adjusted according to the requirement of users. Adjust refrigerant volume by stepless slide valve for matching with actual load perfectly.

● Noise reduction and vibration damping design
A. Low noise axial fan design: adopt the plastic fan blade made of high-efficiency low noise fiber glass with improvement of 20% and streamline ail foil design that the fan can be driven directly, which has lower noise than general fan units.
B. Sound insulation and noise reduction design for fan *(optional): sound insulation cover is specially designed for the fan that can further reduce the noise.



C. Patent technology of sound insulation and noise reduction for compressor *(optional): according to the test and analysis of frequency spectrum for compressor, the sound insulation cover is specially designed for compressor to absorb the noise in different frequency spectrum by adopting multiple sound insulation material and sound insulation board.
D. High-efficiency vibration isolator *(optional): the vibration isolator is made of natural rubber and supported by stainless steel. Natural rubber has good abrasive resistance, good acid and alkali resistance, high elasticity, strong tensile force and extensibility. The actual measured upper acceleration of vibration isolator is 125dB, lower acceleration of oscillating damper is 105dB, then the vibration drop is 20dB, the damping rate is 90%.

Easy Installation

- On-site seamless splice technology: can conduct on-site splicing for over 2 modules according to requirement of users, which can satisfy different requirement of cooling capacity.
- Built-in water conservation module *(optional): the unit can set a built-in water conservation module according to requirement of users. The water conservation module has passed the installation test that its mating parts are highly matched with the unit; therefore there is no need to conduct separate design, model selection and purchase for the water pump.
- Automatically invoke matching parameter: display board can automatically identify unit model and automatically invoke matching parameter, which can save debugging time and avoid misoperation.

Advanced Control System

- Brand new controller, intelligent experience

A. Manipulable and clear display interface for easy operation. The operational parameter, such as intake/yielding water temperature, ambient temperature, air exhaust temperature, suction temperature, high pressure, low pressure and current of compressor, etc., can be acquired immediately by pressing via the control menu.
B. Advanced control function can provide three kinds of turn on/off mode: manual control, timer, long distance turn on/off. The control system can work out load deviation according to difference and varia-tion of water temperature, so as to ensure the best energy utilization efficiency of unit.
C. Complete safety protection that provides password protection function to prevent misoperation.

- Long Distance Control Center*

A. Internet interface is reserved for the unit for transmitting operation status of unit in real time, so as to long-distance monitor the unit and solve the malfunction of unit effectively.
B. Long-distance control multiple units. Maximum 8 sets of water-cooled screw chiller can be controlled simultaneously.

Note:
*: This function has been applied and used at domestic market at present, and is in development stage for overseas market.
*(optional): This function is not including in standard unit, it can be added according customer's requirement.

50Hz

R134A

Model	Cooling only		LSBLGF320 MH/NbA-M	LSBLGF350 MH/NbA-M*	LSBLGF420 MH/NbA-M	LSBLGF470 MH/NbA-M*	LSBLGF520 MH/NbA-M	LSBLGF580 MH/NbA-M*
Capacity	Cooling	kW	320	350	420	470	520	580
		RT	91	99.5	119.4	133.6	147.9	164.9
Capacity steps		%	25%,50%~100%	25%,50%~100%	25%,50%~100%	25%,50%~100%	25%,50%~100%	25%, 50%~100%
EER		W/W	3.2	3.24	3.23	3.26	3.21	3.22
Power supply		V/Ph/Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz
Power input	Cooling	kW	100	108	130	144	162	180
Compressor	Type	-	Semi-hermetic screw compressor					
	Starting mode	-	Start Delta Start					
	Quantity	-	1	1	1	1	1	1
Water side heat exchanger	Type	-	Flooded Evaporator					
	Water flow volume	m³/h	55	60.2	72.2	80.8	89.4	99.8
		GPM	242	265	318	356	394	439
	Pressure drop	kPa	⩽35	⩽35	⩽45	⩽45	⩽45	⩽45
		ft.WG	⩽11.7	⩽11.7	⩽15.1	⩽15.1	⩽15.1	⩽15.1
	Connection pipe	-	DN100	DN100	DN125	DN125	DN125	DN125
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube					
	Total fan air flow	m³/h	20000x6	20000x6	20000x8	20000x8	20000x10	20000x10
		CFM	11772x6	11772x6	11772x8	11772x8	11772x10	11772x10
	Total fan motor power	kW	1.5x6	1.5x6	1.5x8	1.5x8	1.5x10	1.5x10
Dimension	Outline(W×D×H)	mm	3670x2250x2550	3670x2250x2550	4890x2250x2550	4890x2250x2550	6110x2250x2550	6110x2250x2550
	Package(W×D×H)	mm	3750x2330x2550	3750x2330x2550	4970x2330x2550	4970x2330x2550	6190x2330x2550	6190x2330x2550
Net/Gross/Operating Weight	Cooling only	kg	4130/4170/4213	4310/4350/4396	5210/5260/5314	5515/5555/5625	5980/6020/6100	6100/6140/6222
Loading quantity	40'GP/40'HQ	set	0/2	0/2	0/2	0/2	0/1	0/1

Note: The product models with* are not for EU.

50Hz

R134A

Model	Cooling only		LSBLGF630 MH/NbA-M*	LSBLGF650 MH/NbA-M	LSBLGF700 MH/NbA-M*	LSBLGF750 MH/NbA-M	LSBLGF820 MH/NbA-M*	LSBLGF860 MH/NbA-M
Capacity	Cooling	kW	630	650	700	750	820	860
		RT	179.1	184.8	199.0	213.3	233.2	244.5
Capacity steps		%	25%, 50%~100%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%
EER		W/W	3.15	3.25	3.24	3.26	3.28	3.31
Power supply		V/Ph/Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz
Power input	Cooling	kW	200	200	216	230	250	260
Compressor	Type	-	Semi-hermetic screw compressor					
	Starting mode	-	Start Delta Start					
	Quantity	-	1	2	2	2	2	2
Water side heat exchanger	Type	-	Flooded Evaporator					
	Water flow volume	m³/h	108.4	111.8	120.4	129	141	147.9
		GPM	477	492	530	568	621	651
	Pressure drop	kPa	⩽50	⩽55	⩽55	⩽55	⩽55	⩽65
		ft.WG	⩽16.7	⩽18.4	⩽18.4	⩽18.4	⩽18.4	⩽21.7
	Connection pipe	-	DN150	DN150	DN150	DN150	DN150	DN150
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube					
	Total fan air flow	m³/h	21500x10	20000x12	20000x12	20000x14	20000x14	20000x16
		CFM	12654x10	11772x12	11772x12	11772x14	11772x14	11772x16
	Total fan motor power	kW	1.8x10	1.5x12	1.5x12	1.5x14	1.5x14	1.5x16
Dimension	Outline(W×D×H)	mm	6110x2250x2550	7340x2250x2550	7340x2250x2550	8560x2250x2550	8560x2250x2550	9780x2250x2550
	Package(W×D×H)	mm	6190x2330x2550	7420x2330x2550	7420x2330x2550	8640x2330x2550	8640x2330x2550	9860x2330x2550
Net/Gross/Operating Weight	Cooling only	kg	6180/6220/6304	7440/7480/7589	8120/8160/8282	8350/8390/8517	9110/9150/9292	9860/9900/10057
Loading quantity	40'GP/40'HQ	set	0/1	0/1	0/1	0/1	0/1	0/1

Note: The product models with* are not for EU.

50Hz

R134A

Model	Cooling only		LSBLGF940 MH/NbA-M*	LSBLGF950 MH/NbA-M	LSBLGF1050 MH/NbA-M*	LSBLGF1160 MH/NbA-M	LSBLGF1260 MH/NbA-M*	LSBLGF1280 MH/NbA-M*
Capacity	Cooling	kW	940	950	1050	1160	1260	1280
		RT	267.3	270.1	298.6	329.9	358.3	364.0
Capacity steps		%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%	8.3%, 16.7%~100%	12.5%, 25%~50%	8.3%,16.7%~100%
EER		W/W	3.36	3.39	3.28	3.31	3.15	3.28
Power supply		V/Ph/Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz
Power input	Cooling	kW	280	280	320	350	400	390
Compressor	Type	-	Semi-hermetic screw compressor					
	Starting mode	-	Start Delta Start					
	Quantity	-	2	2	2	3	2	3
Water side heat exchanger	Type	-	Flooded Evaporator					
	Water flow volume	m³/h	161.7	163.4	180.6	199.5	216.7	220.2
		GPM	712	719	795	878	954	970
	Pressure drop	kPa	⩽60	⩽60	⩽70	⩽55	⩽70	⩽55
		ft.WG	⩽20.1	⩽20.1	⩽23.4	⩽18.4	⩽23.4	⩽18.4
	Connection pipe	-	DN150	DN150	DN200	DN150+DN125	DN200	DN150+DN125
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube					
	Total fan air flow	m³/h	20000x16	20000x18	20000x18	20000x22	21500x18	20000x22
		CFM	11772x16	11772x18	11772x18	11772x22	12654x18	11772x22
	Total fan motor power	kW	1.5x16	1.5x18	1.5x18	1.5x22	1.8x18	1.5x22
Dimension	Outline(W×D×H)	mm	9780x2250x2550	11000x2250x2550	11000x2250x2550	13450x2250x2550	11000x2250x2550	13450x2250x2550
	Package(W×D×H)	mm	9860x2330x2550	11080x2330x2550	11080x2330x2550	13530x2330x2550	11080x2330x2550	13530x2330x2550
Net/Gross/Operating Weight	Cooling only	kg	9970/10010/10169	10280/10320/10486	11150/11230/11373	13370/13450/13637	11150/11230/11373	14470/14550/14759
Loading quantity	40'GP/40'HQ	set	0/1	0/1	0/1	0/0	0/1	0/0

Note: The product models with* are not for EU.

50Hz

R134A

Model	Cooling only		LSBLGF1320 MH/NbA-M	LSBLGF1400 MH/NbA-M*	LSBLGF1500 MH/NbA-M*	LSBLGF1520 MH/NbA-M	LSBLGF1650 MH/NbA-M*	LSBLGF1720 MH/NbA-M*
Capacity	Cooling	kW	1320	1400	1500	1520	1650	1720
		RT	375.3	398.1	426.5	432.2	469.2	489.1
Capacity steps		%	6.25%,12.5%~100%	6.25%,12.5%~100%	6.25%,12.5%~100%	6.25%,12.5%~100%	6.25%,12.5%~100%	6.25%,12.5%~100%
EER		W/W	3.34	3.26	3.33	3.38	3.30	3.13
Power supply		V/Ph/Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz	380V 3N~50Hz
Power input	Cooling	kW	395	430	450	450	500	550
Compressor	Type	-	Semi-hermetic screw compressor					
	Starting mode	-	Start Delta Start					
	Quantity	-	4	4	4	4	4	4
Water side heat exchanger	Type	-	Flooded Evaporator					
	Water flow volume	m³/h	227	240.8	258	261.4	283.8	295.8
		GPM	999	1060	1136	1151	1249.5	1302
	Pressure drop	kPa	⩽60	⩽60	⩽60	⩽60	⩽60	⩽65
		ft.WG	⩽20.1	⩽20.1	⩽20.1	⩽20.1	⩽20.1	⩽21.7
	Connection pipe	-	2xDN150	2xDN150	2xDN150	2xDN150	2xDN150	2xDN150
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube					
	Total fan air flow	m³/h	20000x24	20000x24	20000x26	20000x28	20000x28	21500x24
		CFM	11772x24	11772x24	11772x26	11772x28	11772x28	12654x24
	Total fan motor power	kW	1.5x24	1.5x24	1.5x26	1.5x28	1.5x28	1.8x24
Dimension	Outline(W×D×H)	mm	14670x2250x2550	14670x2250x2550	15890x2250x2550	17120x2250x2550	17120x2250x2550	14670x2250x2550
	Package(W×D×H)	mm	14750x2330x2550	14750x2330x2550	15970x2330x2550	17200x2330x2550	17200x2330x2550	14750x2330x2550
Net/Gross/Operating Weight	Cooling only	kg	14880/14960/15178	15840/15920/16157	17140/17220/17483	16950/17030/17289	18470/18550/18839	17510/17590/17860
Loading quantity	40'GP/40'HQ	set	0/0	0/0	0/0	0/0	0/0	0/0

Note: The product models with* are not for EU.

High-efficiency Heat Pump Air-cooled Screw Chiller

Gree High-efficiency Air-cooled Screw Chiller adopts Gree brand air-cooled heat pump specialized compressor, flooded type shell-and-tube design and a totally enclosed structure. Featuring high efficiency, high reliability and low noise, this air conditioning equipment can provide cool water in summer and hot water in winter. It can be combined with fan coil unit, floor ceiling unit, packaged unit or other kinds of terminals.

Display panel
Z2F3Q

Golden fin condenser | Inner groove copper | Modular structure | Comprehensive protection | Self-diagnosis | Long-distance monitoring | Memory function | 24 hour timer | Intelligent defrosting | High efficiency

- Highly efficient and energy saving;
- Gree's efficient air-cooled heat pump specialized compressor;
- Heat pump flooded type shell-and-tube design;
- V-shaped structure for fins, efficient heat exchange design;
- Seamless connectivity on site, cooling capacity can be enlarged infinitely;
- Totally enclosed structure, patent low noise and low vibration design, safe and comfortable.

Item	Water side(water temperature)				Air side(outdoor temperature)		
	Nominal operating condition		Operating range		Nominal operating condition		Operating range
	Inlet(°C)	Outlet(°C)	Outlet(°C)	I/O difference(°C)	DB(°C)	WB(°C)	DB(°C)
Cooling	12	7	5~15	2.5~8	35	—	18~52
Heatling	40	45	40~50	2.5~8	7	6	-15~24

50Hz

R134A

Model	Heat pump		LSBLGRF320MH/NbA-M	LSBLGRF350MH/NbA-M	LSBLGRF420MH/NbA-M	LSBLGRF470MH/NbA-M
Capacity	Cooling	kW	320	350	420	470
		RT	91.0	99.5	119.4	133.6
	Heating	kW	320	350	420	470
		RT	91.0	99.5	119.4	133.6
Capacity steps		%	25%,50%~100%	25%,50%~100%	25%,50%~100%	25%,50%~100%
EER/COP		W/W	3.40	3.43	3.41	3.41
Power supply		V/Ph/Hz	380V 3N～50Hz	380V 3N～50Hz	380V 3N～50Hz	380V 3N～50Hz
Power input	Cooling	kW	94	102	123	138
	Heating	kW	94	102	123	138
Compressor	Type	-	Semi-hermetic screw compressor			
	Starting mode	-	Start Delta Start			
	Quantity	-	1	1	1	1
Water side heat exchanger	Type	-	Flooded Evaporator			
	Water flow volume	m³/h	55.0	60.2	72.2	80.8
		GPM	242	265	318	356
	Pressure drop	kPa	≤35	≤35	≤45	≤45
		ft.WG	≤11.7	≤11.7	≤15.1	≤15.1
	Connection pipe	-	DN100	DN100	DN125	DN125
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube			
	Total fan air flow	m³/h	20000x6	20000x6	20000x8	20000x8
		CFM	11772x6	11772x6	11772x8	11772x8
	Total fan motor power	kW	1.5x6	1.5x6	1.5x8	1.5x8
Dimension	Outline(W×D×H)	mm	3670x2250x2550	3670x2250x2550	4890x2250x2550	4890x2250x2550
	Package(W×D×H)	mm	3750x2330x2550	3750x2330x2550	4970x2330x2550	4970x2330x2550
Net/Gross/Operating Weight		kg	4570/4610/4661	4740/4780/4835	5670/5710/5783	5780/5820/5896
Loading quantity	40'GP/40'HQ	set	0/2	0/2	0/2	0/2

50Hz

R134A

Model	Heat pump		LSBLGRF520MH/NbA-M	LSBLGRF580MH/NbA-M	LSBLGRF650MH/NbA-M	LSBLGRF700MH/NbA-M
Capacity	Cooling	kW	520	580	650	700
		RT	147.9	164.9	184.8	199.0
	Heating	kW	520	580	650	700
		RT	147.9	164.9	184.8	199.0
Capacity steps		%	25%,50%~100%	25%, 50%~100%	12.5%,25%~100%	12.5%,25%~100%
EER/COP		W/W	3.42	3.41	3.42	3.43
Power supply		V/Ph/Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz
Power input	Cooling	kW	152	170	190	204
	Heating	kW	152	170	190	204
Compressor	Type	-	Semi-hermetic screw compressor			
	Starting mode	-	Start Delta Start			
	Quantity	-	1	1	2	2
Water side heat exchanger	Type	-	Flooded Evaporator			
	Water flow volume	m³/h	89.4	99.8	111.8	120.4
		GPM	394	439	492	530
	Pressure drop	kPa	≤45	≤50	≤55	≤55
		ft.WG	≤15.1	≤15.1	≤18.4	≤18.4
	Connection pipe	-	DN125	DN125	DN150	DN150
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube			
	Total fan air flow	m³/h	20000x10	20000x10	20000x12	20000x12
		CFM	11772x10	11772x10	11772x12	11772x12
	Total fan motor power	kW	1.5x10	1.5x10	1.5x12	1.5x12
Dimension	Outline(W×D×H)	mm	6110x2250x2550	6110x2250x2550	7340x2250x2550	7340x2250x2550
	Package(W×D×H)	mm	6190x2330x2550	6190x2330x2550	7420x2330x2550	7420x2330x2550
Net/Gross/Operating Weight		kg	6710/6750/6844	6970/7010/7109	8550/8590/8721	8850/8890/9027
Loading quantity	40'GP/40'HQ	set	0/1	0/1	0/1	0/1

Note: The product models are not for EU.

50Hz

R134A

Model	Heat pump		LSBLGRF760MH/NbA-M	LSBLGRF820MH/NbA-M	LSBLGRF860MH/NbA-M	LSBLGRF950MH/NbA-M	LSBLGRF1050MH/NbA-M
Capacity	Cooling	kW	760	820	860	950	1050
		RT	216.1	233.2	244.5	270.1	298.6
	Heating	kW	760	820	860	950	1050
		RT	216.1	233.2	244.5	270.1	298.6
Capacity steps		%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%	12.5%,25%~100%
EER/COP		W/W	3.42	3.42	3.41	3.42	3.41
Power supply		V/Ph/Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz
Power input	Cooling	kW	222	240	252	278	308
	Heating	kW	222	240	252	278	308
Compressor	Type	-	Semi-hermetic screw compressor				
	Starting mode	-	Start Delta Start				
	Quantity	-	2	2	2	2	2
Water side heat exchanger	Type	-	Flooded Evaporator				
	Water flow volume	m3/h	130.7	141	147.9	163.4	180.6
		GPM	575	621	651	719	795
	Pressure drop	kPa	≤55	≤55	≤65	≤60	≤70
		ft.WG	≤18.4	≤18.4	≤21.7	≤20.1	≤23.4
	Connection pipe	-	DN150	DN150	DN150	DN150	DN200
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube				
	Total fan air flow	m3/h	20000x14	20000x14	20000x16	20000x16	20000x18
		CFM	11772x14	11772x14	11772x16	11772x16	11772x18
	Total fan motor power	kW	1.5x14	1.5x14	1.5x16	1.5x16	1.5x18
Dimension	Outline(W×D×H)	mm	8560x2250x2550	8560x2250x2550	9780x2250x2550	9780x2250x2550	11000x2250x2550
	Package(W×D×H)	mm	8640x2330x2550	8640x2330x2550	9860x2330x2550	9860x2330x2550	11080x2330x2550
Net/Gross/Operating Weight		kg	9900/9940/10098	10075/10115/10277	10910/10950/11128	11210/11250/11434	12380/12460/12628
Loading quantity	40'GP/40'HQ	set	0/1	0/1	0/1	0/1	0/1

50Hz

R134A

Model	Heat pump		LSBLGRF1160MH/NbA-M	LSBLGRF1280MH/NbA-M	LSBLGRF1400MH/NbA-M	LSBLGRF1520MH/NbA-M	LSBLGRF1650MH/NbA-M
Capacity	Cooling	kW	1160	1280	1400	1520	1650
		RT	329.8	364.0	398.1	432.2	469.2
	Heating	kW	1160	1280	1400	1520	1650
		RT	329.8	364.0	398.1	432.2	469.2
Capacity steps		%	12.5%, 25%~100%	8.3%, 16.7%~100%	6.25%,12.5%~100%	6.25%,12.5%~100%	6.25%,12.5%~100%
EER/COP		W/W	3.41	3.42	3.41	3.41	3.41
Power supply		V/Ph/Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz	380V 3N～ 50Hz
Power input	Cooling	kW	340	374	410	446	484
	Heating	kW	340	374	410	446	484
Compressor	Type	-	Semi-hermetic screw compressor				
	Starting mode	-	Start Delta Start				
	Quantity	-	2	3	4	4	4
Water side heat exchanger	Type	-	Flooded Evaporator				
	Water flow volume	m3/h	199.5	220.2	240.8	261.4	283.8
		GPM	878	970	1060	1151	1250
	Pressure drop	kPa	≤50	≤55	≤60	≤60	≤60
		ft.WG	≤16.7	≤18.4	≤20.1	≤20.1	≤20.1
	Connection pipe	-	2xDN125	DN150+DN125	2×DN150	2×DN150	2×DN150
Air side heat exchanger	Type	-	Aluminum Fin-copper Tube				
	Total fan air flow	m3/h	20000x20	20000x22	20000x24	20000x26	20000x28
		CFM	11772x20	11772x22	11772x24	11772x26	11772x28
	Total fan motor power	kW	1.5x20	1.5x22	1.5x24	1.5x26	1.5x28
Dimension	Outline(W×D×H)	mm	12230x2250x2550	13450x2250x2550	14670x2250x2550	15890x2250x2550	17120x2250x2550
	Package(W×D×H)	mm	12310x2330x2550	13530x2330x2550	14750x2330x2550	15970x2330x2550	17200x2330x2550
Net/Gross/Operating Weight		kg	13270/13350/13535	15820/15900/16136	17700/17780/18054	18925/19005/13535	20150/20230/20553
Loading quantity	40'GP/40'HQ	set	0/0	0/0	0/0	0/0	0/0

Note: The product models are not for EU.

High Energy Efficiency Air-cooled Screw Chiller (60Hz)

Gree High Energy Efficiency Air-cooled Screw Chiller adopts the dedicated air-cooled screw compressor of Gree self-owned brand, flooded shell and tube design and full-closed structure design. It has the characteristic of high energy efficiency, high reliability and low noise, providing cold water for the user in summer. It can be used in all kinds of large centralized air conditioning system consisting of end terminal air handling unit such as fan coil unit, horizontal and vertical mounted unit and combined type air conditioner.

Golden fin condenser | Inner groove copper | Modular structure | Comprehensive protection | Self-diagnosis | Long-distance monitoring | Memory function | 24 hour timer | Intelligent defrosting | High efficiency

- Highly efficient and energy saving;
- Gree's efficient air-cooled heat pump specialized compressor;
- Heat pump flooded type shell-and-tube design;
- V-shaped structure for fins, efficient heat exchange design;
- Seamless connectivity on site, cooling capacity can be enlarged infinitely;
- Totally enclosed structure, patent low noise and low vibration design, safe and comfortable.

Item	Water side(water temperature)				Air side(outdoor temperature)		
	Nominal operating condition		Operating range		Nominal operating condition		Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	WB(℃)	DB(℃)
Cooling	12	7	5~15	2.5~8	35	—	18~52

60Hz

R134A

Model			LSBLGF280MH/NbA-H	LSBLGF320MH/NbA-H	LSBLGF350MH/NbA-H	LSBLGF410MH/NbA-H	LSBLGF470MH/NbA-H	LSBLGF500MH/NbA-H
Cooling capacity		kW	280	320	350	410	470	500
cooling power input		kW	87	100	108	130	144	158
Rated power input		kW	113	130	140	169	187	205
Power			380V 3N~ 60Hz					
Operating control			Automatic microcomputer control, operating status display, error alarms					
Safety protection			High pressure protection, low pressure protection, compressor over-load protection, compressor internal protection, compressor over-current protection, phase loss/reversal protection, low oil level protection, water flow switch protection, low flow alarm, differential pressure protection, high oil pressure difference protection, fan over-current protection, freeze protection, sensor protection, low discharge superheating degree protection.					
Compressor type			Semi-hermetic screw compressor					
Refrigerant			R134a					
Water system	Water flow	m^3/h	48	55	60	71	81	86
	Pressure loss	kPa	⩽35	⩽35	⩽35	⩽45	⩽45	⩽45
	Heat exchanger type		Flooded Evaporator					
	Max.bearing pressure	Mpa	1					
	Inlet/outlet tube diameter	mm	DN100	DN100	DN100	DN125	DN125	DN125
	connection mode		Flanged connection					
Air System	Heat exchanger type		Aluminum Fin-copper Tube					
	Fan rated power	kW	6×1.3	6×1.5	6×1.5	6×1.5	8×1.5	8×1.5
Outline dimensions	Width	mm	3670	3670	3670	3670	4890	6110
	Depth	mm	2250	2250	2250	2250	2250	2250
	Height	mm	2550	2550	2550	2550	2550	2550
Package dimensions	Width	mm	3750	3750	3750	3750	4970	6190
	Depth	mm	2330	2330	2330	2330	2330	2330
	Height	mm	2550	2550	2550	2550	2550	2550
Net weight		kg	3830	4230	4370	4990	5410	5610
Gross weight		kg	3870	4270	4360	5030	5450	5650
Operating weight		kg	3907	4315	4406	5090	5518	5722
Layer of stacking			2	2	2	2	2	2

60Hz

R134A

Model			LSBLGF580MH/NbA-H	LSBLGF630MH/NbA-H	LSBLGF650MH/NbA-H	LSBLGF700MH/NbA-H	LSBLGF760MH/NbA-H	LSBLGF820MH/NbA-H
Cooling capacity		kW	580	630	650	700	760	820
cooling power input		kW	180	200	200	216	235	260
Rated power input		kW	234	260	260	281	306	338
Power			380V 3N~ 60Hz					
Operating control			Automatic microcomputer control, operating status display, error alarms					
Safety protection			High pressure protection, low pressure protection, compressor over-load protection, compressor internal protection, compressor over-current protection, phase loss/reversal protection, low oil level protection, water flow switch protection, low flow alarm, differential pressure protection, high oil pressure difference protection, fan over-current protection, freeze protection, sensor protection, low discharge superheating degree protection.					
Compressor type			Semi-hermetic screw compressor					
Refrigerant			R134a					
Water system	Water flow	m^3/h	100	108	112	120	131	141
	Pressure loss	kPa	⩽45	⩽50	⩽55	⩽55	⩽55	⩽60
	Heat exchanger type		Flooded Evaporator					
	Max.bearing pressure	Mpa	1					
	Inlet/outlet tube diameter	mm	DN125	DN125	DN150	DN150	DN150	DN150
	connection mode		Flanged connection					
Air System	Heat exchanger type		Aluminum Fin-copper Tube					
	Fan rated power	kW	10×1.5	10×1.5	12×1.5	12×1.5	12×1.5	12×1.5
Outline dimensions	Width	mm	6110	6110	7340	7340	7340	7340
	Depth	mm	2250	2250	2250	2250	2250	2250
	Height	mm	2550	2550	2550	2550	2550	2550
Package dimensions	Width	mm	6190	6190	7420	7420	7420	7420
	Depth	mm	2330	2330	2330	2330	2330	2330
	Height	mm	2550	2550	2550	2550	2550	2550
Net weight		kg	6100	6180	7440	8120	8350	8460
Gross weight		kg	6140	6220	7480	8160	8390	8500
Operating weight		kg	6222	6304	7589	8282	8517	8629
Layer of stacking			1	1	1	1	1	1

60Hz

R134A

Model			LSBLGF860MH/NbA-H	LSBLGF950MH/NbA-H	LSBLGF1000MH/NbA-H	LSBLGF1050MH/NbA-H	LSBLGF1160MH/NbA-H	LSBLGF1260MH/NbA-H
Cooling capacity		kW	860	950	1000	1050	1160	1260
cooling power input		kW	270	295	316	324	366	406
Rated power input		kW	351	384	411	421	476	528
Power			380V 3N~ 60Hz					
Operating control			Automatic microcomputer control, operating status display, error alarms					
Safety protection			High pressure protection, low pressure protection, compressor over-load protection, compressor internal protection, compressor over-current protection, phase loss/reversal protection, low oil level protection, water flow switch protection, low flow alarm, differential pressure protection, high oil pressure difference protection, fan over-current protection, freeze protection, sensor protection, low discharge superheating degree protection.					
Compressor type			Semi-hermetic screw compressor					
Refrigerant			R134a					
Water system	Water flow	m^3/h	147.9	163.4	172.0	180.6	199.5	216.7
	Pressure loss	kPa	⩽65	⩽60	⩽60	⩽70	⩽55	⩽70
	Heat exchanger type		Flooded Evaporator					
	Max.bearing pressure	Mpa	1					
	Inlet/outlet tube diameter	mm	DN150	DN150	DN200	DN200	DN200	DN200
	connection mode		Flanged connection					
Air System	Heat exchanger type		Aluminum Fin-copper Tube					
	Fan rated power	kW	14×1.5	16×1.5	16×1.5	18×1.5	18×1.5	18×1.5
Outline dimensions	Width	mm	8560	9780	9780	11000	11000	11000
	Depth	mm	2250	2250	2250	2250	2250	2250
	Height	mm	2550	2550	2550	2550	2550	2550
Package dimensions	Width	mm	8640	9860	9860	11080	11080	11080
	Depth	mm	2330	2330	2330	2330	2330	2330
	Height	mm	2550	2550	2550	2550	2550	2550
Net weight		kg	8760	9970	11220	11150	12160	13260
Gross weight		kg	8800	10010	11300	11230	12240	13340
Operating weight		kg	8935	10169	11444	11373	12403	13525
Layer of stacking			1	1	1	1	1	1

High Energy Efficiency Partial Heat Recovery Air-cooled Screw Chiller

Gree High Energy Efficiency Partial Heat Recovery Air-cooled Screw Chiller adopts the dedicated air-cooled screw compressor of Gree self-owned brand, flooded shell and tube design and full-closed structure design. It has the characteristic of high energy efficiency, high reliability and low noise, providing cold water for the user in summer, air conditioning unit which provides domestic hot water is provided for free. It can be used in all kinds of large centralized air conditioning system consisting of end terminal air handling unit such as fan coil unit, horizontal and vertical mounted unit and combined type air conditioner.

Item	Water side(water temperature)				Air side(outdoor temperature)	
	Nominal operating condition		Operating range		Nominal operating condition	Operating range
	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	DB(℃)	DB(℃)
Cooling	12	7	5~15	2.5~8	35	18~52

Features

High Efficiency and Energy Saving

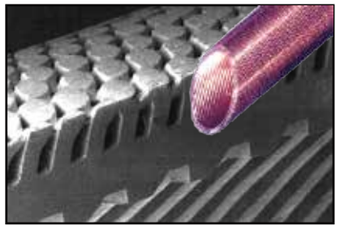
- Outstanding cooling performance, COP higher than 3.2
- R134a environment-friendly refrigerant, quite low noise
- Easy and fast installation
- Self-contained remote monitoring function

High efficiency Semi-hermetical Dual-screw Compressor

- Specialized design for HFC-134a refrigerant
- Direct drive between the motor and the compressor
- Pressure ratio specially designed for the flooded unit
- High-precision assembly
- High cooling efficiency at full load
- Stepless control by the sliding valve to make the cooling output match with the load.
- High-precision SKF bearing

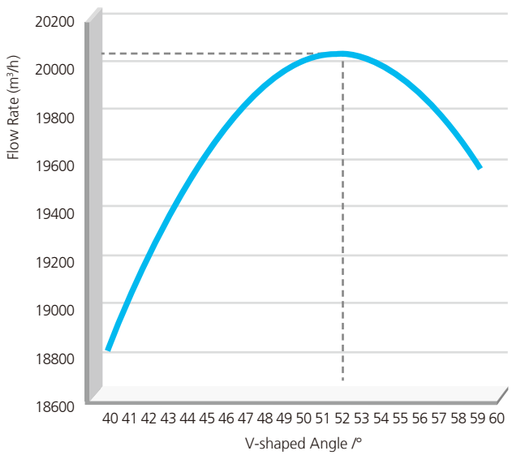
Flooded Shell and Tube Design

- TURBO-BII ultra-high-efficiency evaporating tubes
- Immersed inside refrigerant, the heat exchanging tubes are of excellent heat exchanging effect
- Refrigerant flows in the tubes, which can facilitate service and maintenance.
- Pressure loss at the water side is low, which can reduce energy consumption for the water pump.

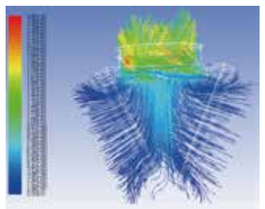


Optimized V-shaped Condenser & High Heat Exchanging Efficiency

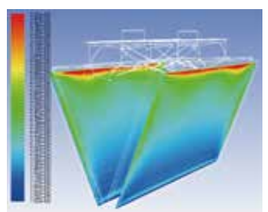
- V-shaped arrangement, even flow distribution, high heat exchanging efficiency
- Rippled slotted aluminum fins, high heat exchanging efficiency
- Optimized V angle, optimized flow rate



Curve of Total Flow rate Versus V Angle



Flow Pattern

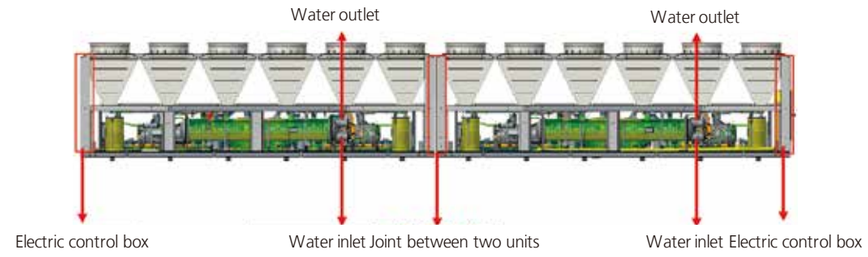


Nephogram of Face Velocity Distribution

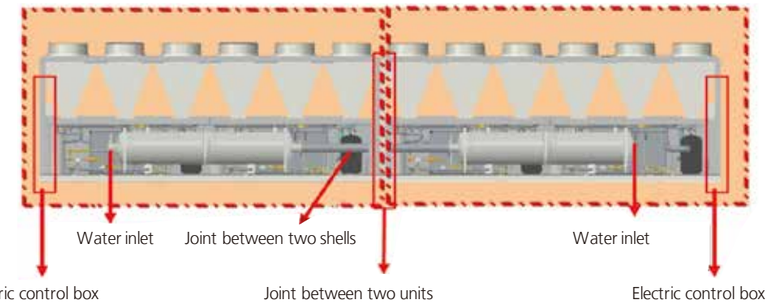
Seamless Connection on Site, the Cooling Capacity Can Be Expanded Unlimitedly

Two units can be seamlessly integrated together on site for enlarging cooling capacity only by connecting their shells. It can save the installation space and facilitate lifting and transport.

Program 1(Standard):



Program 2(Non-standard):



Full-Closed Structure, Low Noise and Low Vibration Design with Patent, Safe and Comfortable

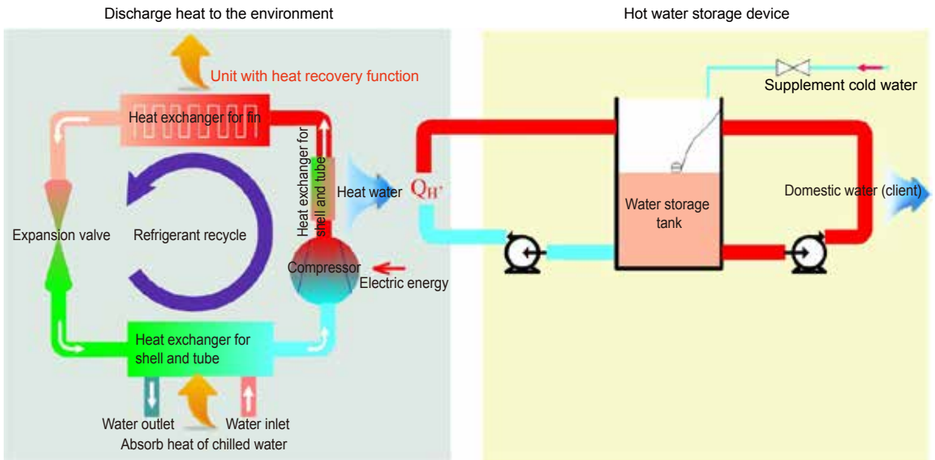
- Class 1 noise and vibration reduction.
  Silencing hood, lowered by 8-10dB(A);
  Vibration isolator, more than 90% efficiency.
- Class 2 noise and vibration reduction.
  Insulating wall, for further reduction;
  I-iron base, for class 2 vibration isolation.

Corrosion prevention design to meet the requirement for marine climate

- Full-sealed structure design to avoid direct exposure of component;
- The fin adopts high corrosion-resistant material, neutral salt spray test reaches 2,000 hours;
- The base adopts the 3-layer corrosion-resistant coating for protection;
- Component of the pipeline shall have corrosion-resistant coating treatment;
- The self-made sheet metal parts adopt high corrosion-resistant and weather-proof powder for spray painting treatment.

Cooling While Water Heating

- Recover the waste heat by adopting the shell and tube of heat recovery, and the heat recovery quantity reaches 20%;
- Water temperature of heat recovery is as high as 55℃, which is free;
- Working condition of heat recovery and non-heat recovery can be switched freely during operation to avoid energy waste caused by switching;
- Control the startup quantity of fan according to high pressure, water temperature of heat recovery and ambient temperature to ensure the heat recover efficiency is optimal;
- Provide air conditioner and hot water at the same time, which is the best solution for large hotel, and air conditioner and hot water of apartment.



60Hz R134A

Model			LSBLGF180 MHR/NbA-H	LSBLGF230 MHR/NbA-H	LSBLGF280 MHR/NbA-H	LSBLGF350 MHR/NbA-H	LSBLGF470 MHR/NbA-H	LSBLGF580 MHR/NbA-H	LSBLGF700 MHR/NbA-H
Cooling capacity		kW	180	230	280	350	470	580	700
cooling power input		kW	56	71.5	87	108	144	180	216
Heat recovery		kW	36	46	56	70	94	116	140
Rated power input		kW	73	93	113	140	187	234	281
Power			380V 3N~ 60Hz						
Operating control			Automatic microcomputer control, operating status display, error alarms						
Safety protection			High pressure protection, low pressure protection, compressor over-load protection, compressor internal protection, compressor over-current protection, phase loss/reversal protection, low oil level protection, water flow switch protection, low flow alarm, differential pressure protection, high oil pressure difference protection, fan over-current protection, freeze protection, sensor protection, low discharge superheating degree protection.						
Compressor type			Semi-hermetic screw compressor						
Refrigerant			R134a						
Water system	Water flow		31.0	39.6	48.2	60.2	80.8	99.8	120.4
	Pressure loss		⩽35	⩽35	⩽35	⩽35	⩽45	⩽50	⩽55
	Heat exchanger type		Flooded Evaporator						
	Max.bearing pressure		1						
	Inlet/outlet tube diameter		DN80	DN80	DN100	DN100	DN125	DN125	DN125
	connection mode		Flanged connection						
	Water flow	m³/h	6.2	7.9	9.6	12.0	16.2	20.0	24.1
	Pressure loss	kPa	⩽10	⩽10	⩽10	⩽10	⩽10	⩽10	⩽10
	Heat exchanger type		shell and tube heat exchanger						
	Max.bearing pressure	Mpa	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Inlet/outlet tube diameter	mm	DN65	DN65	DN65	DN65	DN80	DN80	2×DN65
	connection mode		Flanged connection						
Air System	Heat exchanger type		Aluminum Fin-copper Tube						
	Fan rated power	kW	4×1.3	4×1.5	6×1.3	6×1.5	8×1.5	10×1.5	12×1.5
Outline dimensions	Width	mm	2450	2450	3670	3670	4890	6110	7340
	Depth	mm	2250	2250	2250	2250	2250	2250	2250
	Height	mm	2550	2550	2550	2550	2550	2550	2550
Package dimensions	Width	mm	2490	2490	3750	3750	4970	6190	7420
	Depth	mm	2330	2330	2330	2330	2330	2330	2330
	Height	mm	2550	2550	2550	2550	2550	2550	2550
Net weight		kg	2980	3210	3980	4620	5810	6230	8720
Gross weight		kg	3020	3250	4020	4360	5450	6140	6140
Operating weight		kg	3040	3274	4060	4406	5518	6222	6222
Layer of stacking			3	3	2	2	2	1	1

60Hz R134A

Model			LSBLGF180 MHR/NbA-Q	LSBLGF230 MHR/NbA-Q	LSBLGF280 MHR/NbA-Q	LSBLGF350 MHR/NbA-Q	LSBLGF470 MHR/NbA-Q	LSBLGF580 MHR/NbA-Q	LSBLGF700 MHR/NbA-Q
Cooling capacity		kW	180	230	280	350	470	580	700
cooling power input		kW	56	71.5	87	108	144	180	216
Heat recovery		kW	36	46	56	70	94	116	140
Rated power input		kW	73	93	113	140	187	234	281
Power			460V 3~ 60Hz						
Operating control			Automatic microcomputer control, operating status display, error alarms						
Safety protection			High pressure protection, low pressure protection, compressor over-load protection, compressor internal protection, compressor over-current protection, phase loss/reversal protection, low oil level protection, water flow switch protection, low flow alarm, differential pressure protection, high oil pressure difference protection, fan over-current protection, freeze protection, sensor protection, low discharge superheating degree protection.						
Compressor type			Semi-hermetic screw compressor						
Refrigerant			R134a						
Water system	Water flow		31.0	39.6	48.2	60.2	80.8	99.8	120.4
	Pressure loss		⩽35	⩽35	⩽35	⩽35	⩽45	⩽50	⩽55
	Heat exchanger type		Flooded Evaporator						
	Max.bearing pressure		1						
	Inlet/outlet tube diameter		DN80	DN80	DN100	DN100	DN125	DN125	DN125
	connection mode		Flanged connection						
	Water flow	m³/h	6.2	7.9	9.6	12.0	16.2	20.0	24.1
	Pressure loss	kPa	⩽10	⩽10	⩽10	⩽10	⩽10	⩽10	⩽10
	Heat exchanger type		shell and tube heat exchanger						
	Max.bearing pressure	Mpa	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Inlet/outlet tube diameter	mm	DN65	DN65	DN65	DN65	DN80	DN80	2×DN65
	connection mode		Flanged connection						
Air System	Heat exchanger type		Aluminum Fin-copper Tube						
	Fan rated power	kW	4×1.3	4×1.5	6×1.3	6×1.5	8×1.5	10×1.5	12×1.5
Outline dimensions	Width	mm	2450	2450	3670	3670	4890	6110	7340
	Depth	mm	2250	2250	2250	2250	2250	2250	2250
	Height	mm	2550	2550	2550	2550	2550	2550	2550
Package dimensions	Width	mm	2490	2490	3750	3750	4970	6190	7420
	Depth	mm	2330	2330	2330	2330	2330	2330	2330
	Height	mm	2550	2550	2550	2550	2550	2550	2550
Net weight		kg	2980	3210	3980	4620	5810	6230	8720
Gross weight		kg	3020	3250	4020	4360	5450	6140	6140
Operating weight		kg	3040	3274	4060	4406	5518	6222	6222
Layer of stacking			3	3	2	2	2	1	1

High-efficiency Water-cooled Screw Chiller

LHE Series

High-efficiency water-cooled screw chiller is specially desinged for improving efficiency and reducing operation cost. This chiller adopts Gree own-developed semi-hermetic twin screw compressor, high-efficiency flooded heat exchanger and eco-friendly R134a. Its EER can be up to 6.3. The cooling capacity under nominal working condition is 260~2100kW. LHE series high-efficiency water-cooled screw chiller can be applicable for office, hospital, school, shopping mall, as well as factory.

Operating condition of nominal cooling (water temperature)				Operating range (water temperature)			
Chilled water		Cooling water		Chilled water		Cooling water	
Inlet(℃)	Outlet(℃)	Inlet(℃)	Outlet(℃)	Outlet(℃)	I/O difference(℃)	Inlet(℃)	I/O difference(℃)
-	7	30	-	4~15	2.5~8	18~35	3.5~8

Features

Semi-closed Dual Screw Compressor for High-efficiency Unit

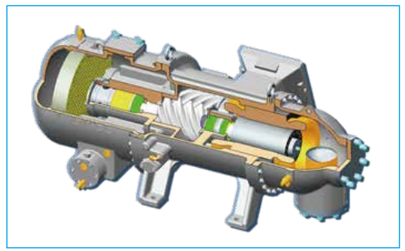
- Design for Gree water-cooled screw chiller especially according to actual pressure ratio, high matching degree with the unit, reducing the overcompression and insufficient compressor during the operation of compressor effectively, thus enhancing system energy efficiency.

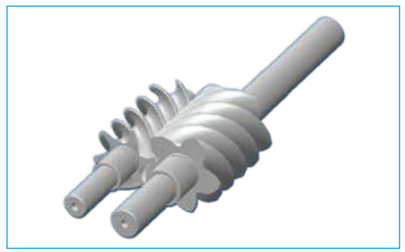
- Self-developed efficient rotor type line (patent No.: CN201120008270.9), interdigitation gap is optimized, connection cable is short and the efficiency is even higher.

- Three-level combined built-in oil separator, the efficiency is over 99.7%, making the system more stable with lower noise.

- Self-made closed motor to avoid refrigerant leakage, built-in PTC temperature protector for the motor, effectively detect motor winding temperature.

- Optimize cooling channel of the motor, cooling effect is better, which can enhance operation range of the compressor effectively.



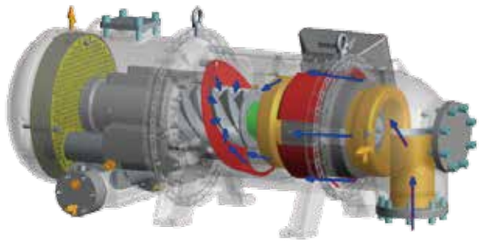


Low Pressure Loss Design

- Brand new design of “evaporation direct connection” air inlet structure, suction resistance is only 1kPa and cooling capacity of compressor will enhance 2%.

- Spiral air inlet structure of low pressure loss (patent No.: CN203796571U), streamline air suction mouth design reduces the loss of suction resistance; increases suction density of compressor and improves cooling capacity of compressor.

- Brand new air discharge low pressure loss pipeline design, resistance of the air discharge side is only 5kPa.

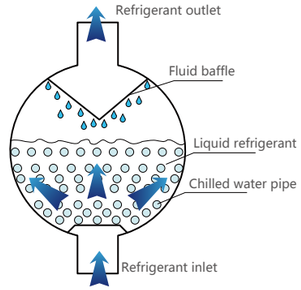


Heat Exchanger

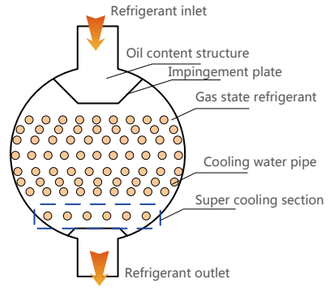
- Flooded evaporator, built-in refrigerant uniform device and gas liquid separator device to make the refrigerant evenly distributed, during suction, the liquid refrigerant quantity is less, enhancing heat efficiency of evaporation and improving unit energy efficiency.

- A device to prevent the high-speed and high-pressure gas from impacting the heat exchanger tube is set at the upper condenser, containing the vibration of heat exchanger tube and improving the operation reliability of condenser; built-in subcooling device at the bottom, enhancing subcooling degree and improving refrigeration circulation efficiency of water chiller.

- Efficient heat exchanger, intensifying the heat transfer efficiency of water side and refrigerant side at the same time, further enhances energy efficiency of water chiller. Adopting mechanical expanded tube joint as the sealing method for heat exchange tube and tube plate, 3 sealed grooves are designed in the expanded tube joint, improving the sealing reliability.



Flooded evaporator



Shell and tube condenser

Vertical Oil Separator

Adopt efficient vertical oil separator, the structure is tight, through cyclone separation, inertial impaction, natural setting and adsorption separation, oil and gas is separated thoroughly, oil separation efficiency is up to 99.98%.

New Throttling Structure

The high precision electronic expansion valve can adjust the flow of refrigerant accurately, keep track of the variation of evaporator liquid level timely; further optimizes the control logic, calculate the control liquid level automatically, and quickly adjust the actual value, realizing “output according to actual demand” , ensuring high energy efficiency of some loads of the unit, making the unit operation range wider.

Strict Tests

Components are strictly tested before entering the factory. Impellers are made of high-strength aluminum alloy, which is highly anti-corrosive. They must pass strict tests after manufacturing. Heat exchangers are designed in strict accordance with relevant codes of pressure vessels and tested in 1.5 times of working pressure. The machine will take complete performance tests and reliability tests before leaving the factory.

Multiple Protections

The unit has multiple protections function, such as high temperature protection for air discharge, overheat protection for frequency converter, safety valve protection, overheating protection for motor winding, low pressure protection, high pressure protection, Anti-freezing protection, switch protection for water flow, Phase loss and phase failure protection and electronic component protection, ensuring stable operation under all kinds of conditions and avoiding the damage incurred.

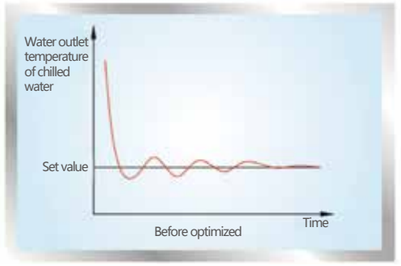
Phase loss and phase failure protection | Frequency converter overheat protection | Safety valve protection | Compressor high and low pressure protection | Motor winding over-heat protection | Air discharge high temperature protection | Anti-freezing protection | Electric component over-temperature protection

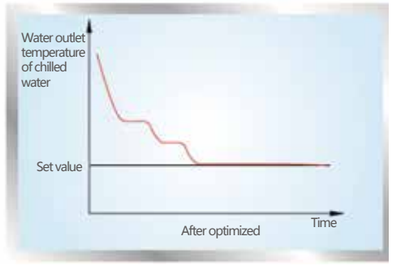
Convenient Installation and Maintenance

- Dual units and dual circuits design for unit maintenance.
- Tight structure design with small floor space.
- Parallel arrangement of evaporator and condenser to lower unit gravity center, ensuring transportation safety.
- Before leaving the factory, sufficient refrigerant and refrigerant oil has been charged, on-site charging is needless.
- Before leaving the factory, tests have been conducted according to national standard and the designated working conditions of the user; just connect the water pipe and power on site for operation.

Auto-adjusting Technology, Stable Output

The control system can not only adjust load according to cold water leaving temperature but also predict and compensate the change of air conditioning load based on the change rate of cold water entering temperature. The unit can achieve faster load adjustment and stable water leaving temperature.
When the unit is under bad working condition, it will adjust the running parameters to keep itself running rather than frequently stop. The unit can operate stably and reliably to satisfy customers’ refrigerating demand.





Color Touch Screen Display Control Center

Control: intelligent control system, friendly human-machine interaction interface, if the display screen is damaged accidentally, the unit can be operated manually through the equipped switch.

- Color touch screen of 12 inches
- Visual and dynamic information
- Intelligent image data
- Auto backup of parameter and synchronization
- Dual system control logic
- Auto detection protection

High-performance Digital Single Processing Platform

The control system adopts high-performance 32-bit CPU and DSP digital signal processor. The excellent data collection accuracy and data processing capability ensure timely and precise system control. The unit also adopts the intelligent Fuzzy-PID compound control algorithm, which is a control method comprising the intelligent technology, fuzzy technology and PID control algorithm, ensuring fast response and stable performance.

Authority Classification with Passwords

Control center has access passwords for operators so that set values won’ t be changed without authorization. Access authority is classified to user access and manufacturer access. User password is used to start up unit and enter the interface of user parameter setting. It is managed and can be changed by the user. Manufacturer password is used to enter the interface of manufacture parameter setting. Any change of the manufacture parameters may affect unit’ s reliability; therefore it must be kept by professional engineering and debugging personnel.

50Hz

R134A

Model			353CE5AE2	353CE4AE1E	533CE3CE3	553CE2CE2	553CE1CE1E	643EE7EE7
Cooling capacity		kW	261.6	294.6	341.2	367.9	425.8	455.2
		RT	74.4	83.8	97.0	104.6	121.1	129.4
Capacity adjustment range		%	25%-100%					
EER		W/W	5.89	5.94	6.01	6.05	6.06	6.02
IPLV		W/W	6.94	7.04	7.11	7.16	7.11	7.04
Power supply		V/Ph/Hz	380V 3~ 50Hz;400~415V 3~ 50Hz					
Power input		kW	44.4	49.6	56.8	60.8	70.3	75.6
RLA		A	67.5	75.4	86.3	92.4	106.8	114.9
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor					
	Starting mode	-	Y— △ /Soft start					
	Quantity	-	1	1	1	1	1	1
Refrigerant charge volume		kg	85	100	105	110	115	130
Refrigeration oil	Type	-	CPI-Solest-170					
	Charge volume	L	20	20	23	23	23	23
Evaporator	Type	-	Flooded shell and tube evaporator					
	Fouling factor	$m^2℃/kW$	0.018	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	41	46	53	58	125	71
		GPM	180	203	235	253	549	313
	Pressure drop	kPa	36.6	37.8	32.5	35.6	32.1	33.7
		$ft.H_2O$	12.0	12.4	10.7	11.7	10.5	11.1
	Connection pipe	mm	DN100	DN100	DN100	DN100	DN100	DN125
Condenser	Type	-	Horizontal shell and tube condenser					
	Fouling factor	$m^2℃/kW$	0.044	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	51	57	66	71	83	88
		GPM	224	252	292	314	363	389
	Pressure drop	kPa	41.9	44.7	42.2	42.3	46.1	40.9
		$ft.H_2O$	13.7	14.7	13.8	13.9	15.1	13.4
	Connection pipe	mm	DN100	DN100	DN125	DN125	DN125	DN125
Sound pressure level(Max.)		dB(A)	80.5	80.5	80.8	80.8	80.8	81
Dimension	Outline(WxDxH)	mm	3170x1188x1850	3170x1188x1850	3175x1365x1959	3175x1365x1959	3175x1365x1959	3240x1465x2040
	Package(WxDxH)	mm	3170x1188x1850	3170x1188x1850	3175x1365x1959	3175x1365x1959	3175x1365x1959	3240x1465x2040
Net/Gross/Operating weight		kg	2300/2400/2450	2330/2430/2450	2750/2850/2900	2780/2880/2950	2800/2900/2950	3350/3450/3550
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1	1

50Hz

R134A

Model			653EE6EE6	653EE5EE5E	822EE4EE4	832EE3EE3	832EE2EE2E	862EE1EE1E
Cooling capacity		kW	484.5	544.6	593.7	662.9	698.0	744.9
		RT	137.8	154.8	168.8	188.5	198.5	211.8
Capacity adjustment range		%	25%-100%					
EER		W/W	6.05	6.03	6.02	6.02	6.02	6.03
IPLV		W/W	7.17	7.02	7.06	7.05	7.10	7.11
Power supply		V/Ph/Hz	380V 3~ 50Hz;400~415V 3~ 50Hz					
Power input		kW	80.1	90.3	98.6	110.1	115.9	123.6
RLA		A	121.7	137.2	149.8	167.3	176.1	187.8
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor					
	Starting mode	-	Y— △ /Soft start					
	Quantity	-	1	1	1	1	1	1
Refrigerant charge volume		kg	140	150	180	190	180	180
Refrigeration oil	Type	-	CPI-Solest-170					
	Charge volume	L	23	23	28	28	28	28
Evaporator	Type	-	Flooded shell and tube evaporator					
	Fouling factor	$m^2℃/kW$	0.018	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	76	85	93	104	109	116
		GPM	334	375	409	456	481	513
	Pressure drop	kPa	36.5	40.7	36.2	39.6	36.4	35.6
		$ft.H_2O$	12.0	13.3	11.9	13.0	11.9	11.7
	Connection pipe	mm	DN125	DN125	DN150	DN150	DN150	DN150
Condenser	Type	-	Horizontal shell and tube condenser					
	Fouling factor	$m^2℃/kW$	0.044	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	94	106	115	129	135	144
		GPM	414	465	507	566	596	636
	Pressure drop	kPa	43.1	45.3	41.8	44.2	43.1	36.3
		$ft.H_2O$	14.1	14.9	13.7	14.5	14.1	11.9
	Connection pipe	mm	DN125	DN125	DN150	DN150	DN150	DN150
Sound pressure level(Max.)		dB(A)	81	81.3	81.8	81.8	81.8	81.8
Dimension	Outline(WxDxH)	mm	3240x1465x2040	3240x1465x2040	3240x1508x2100	3240x1508x2100	3240x1508x2100	3240x1508x2100
	Package(WxDxH)	mm	3240x1465x2040	3240x1465x2040	3240x1508x2100	3240x1508x2100	3240x1508x2100	3240x1508x2100
Net/Gross/Operating weight		kg	3370/3470/3550	3400/3500/3600	3830/3930/4050	3880/3980/4100	3930/4030/4150	3980/4080/4200
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1	1

Note: The product models are not for EU.

50Hz

R134A

Model			932EE9EE9E	942HE3GE3	952HE2GE2	952HE1GE1E	533GF2EF2-2	553GF2EF2-2
Cooling capacity		kW	841.8	911.7	972.4	1052.0	697.5	743.9
		RT	239.4	259.2	276.5	299.1	198.3	211.5
Capacity adjustment range		%	25%-100%					
EER		W/W	5.77	5.79	5.84	5.90	6.02	6.02
IPLV		W/W	7.72	7.65	7.50	7.56	7.10	7.14
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz					
Power input		kW	145.8	157.4	166.5	178.4	115.9	123.5
RLA		A	221.5	239.2	253.0	271.1	176.1	187.6
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor					
	Starting mode	-	Y— △ /Soft start					
	Quantity	-	1	1	1	1	2	2
Refrigerant charge volume		kg	240	250	260	280	200	220
Refrigeration oil	Type	-	CPI-Solest-170					
	Charge volume	L	40	40	40	40	46	46
Evaporator	Type	-	Flooded shell and tube evaporator					
	Fouling factor	$m^2℃/kW$	0.018	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	132	143	152	164	109	116
		GPM	580	628	670	724	480	512
	Pressure drop	kPa	36.7	29.5	29.2	29.5	36.1	40.5
		$ft.H_2O$	12.0	9.7	9.6	9.7	11.8	13.3
	Connection pipe	mm	DN150	DN150	DN150	DN150	DN150	DN150
Condenser	Type	-	Horizontal shell and tube condenser					
	Fouling factor	$m^2℃/kW$	0.044	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	164	178	189	205	135	144
		GPM	723	783	834	901	596	635
	Pressure drop	kPa	41.0	32.9	32.5	32.6	41.1	46.0
		$ft.H_2O$	13.4	10.8	10.7	10.7	13.5	15.1
	Connection pipe	mm	DN150	DN200	DN200	DN200	DN150	DN150
Sound pressure level(Max.)		dB(A)	89.3	89.3	89.3	89.3	82.3	82.8
Dimension	Outline(WxDxH)	mm	3240x1600x2220	3360x1780x2425	3360x1780x2425	3360x1780x2425	3485x1530x2185	3485x1530x2185
	Package(WxDxH)	mm	3240x1600x2220	3360x1780x2425	3360x1780x2425	3360x1780x2425	3485x1530x2185	3485x1530x2185
Net/Gross/Operating weight		kg	4800/4900/5100	5400/5500/5700	5500/5600/5750	5600/5700/5950	5250/5350/5500	5330/5430/5600
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1	1

50Hz

R134A

Model			553GF1EF1E-2	643GH3GH6-2	653GH2GH5-2	653GH1GH4E-2	822HJ3GJ3-2	832HJ2GJ2-2
Cooling capacity		kW	841.9	910.9	969.5	1090.0	1188.0	1287.0
		RT	239.4	259.0	275.7	309.9	337.8	365.9
Capacity adjustment range		%	12.5%-100%					
EER		W/W	6.10	6.02	6.06	6.16	6.27	6.28
IPLV		W/W	7.20	7.04	7.16	7.19	7.38	7.42
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz					
Power input		kW	138.1	151.2	160.1	176.9	189.6	205
RLA		A	209.8	229.7	243.3	268.8	288.1	311.5
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor					
	Starting mode	-	Y— △ /Soft start					
	Quantity	-	2	2	2	2	2	2
Refrigerant charge volume		kg	240	270	280	310	360	380
Refrigeration oil	Type	-	CPI-Solest-170					
	Charge volume	L	46	46	46	46	56	56
Evaporator	Type	-	Flooded shell and tube evaporator					
	Fouling factor	$m^2℃/kW$	0.018	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	132	142	152	170	186	201
		GPM	580	627	668	750	818	886
	Pressure drop	kPa	45.3	50.1	49.1	53.6	74.8	74.2
		$ft.H_2O$	14.9	16.4	16.1	17.6	24.5	24.3
	Connection pipe	mm	DN150	DN150	DN150	DN150	DN200	DN200
Condenser	Type	-	Horizontal shell and tube condenser					
	Fouling factor	$m^2℃/kW$	0.044	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	163	177	188	211	229	248
		GPM	718	778	827	928	1009	1093
	Pressure drop	kPa	48.1	60	59.3	63	85	85.7
		$ft.H_2O$	15.8	19.7	19.5	20.7	27.9	28.1
	Connection pipe	mm	DN150	DN200	DN200	DN200	DN200	DN200
Sound pressure level(Max.)		dB(A)	82.6	83	83	83	83.4	83.6
Dimension	Outline(WxDxH)	mm	3485x1530x2185	4020x1600x2200	4020x1600x2200	4020x1600x2200	4550x1800x2200	4550x1800x2200
	Package(WxDxH)	mm	3485x1530x2185	4020x1600x2200	4020x1600x2200	4020x1600x2200	4550x1800x2200	4550x1800x2200
Net/Gross/Operating weight		kg	5380/5480/5700	6350/6450/6700	6380/6480/6750	6420/6520/6800	7790/7890/8250	7850/7950/8300
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1	1

Note: The product models are not for EU.

50Hz

R134A

Model			832HJ1GJ1E-2	842HJ1GJ1E-2	932KK3JK3-2	932KK4JK4-2	942KK2JK2-2	952KK1JK1E-2	952LK1JK5E-2
Cooling capacity		kW	1386.0	1466.0	1583.0	1682.0	1832.0	1982.0	2101.0
		RT	394.1	416.8	450.1	478.2	520.9	563.5	597.4
Capacity adjustment range		%	12.5%-100%						
EER		W/W	6.29	6.29	5.79	5.81	5.82	5.84	5.90
IPLV		W/W	7.37	7.32	7.72	7.67	7.69	7.63	7.54
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz						
Power input		kW	220.4	233.2	273.4	289.7	314.7	339.1	356
RLA		A	334.9	354.3	415.4	440.2	478.2	515.2	540.9
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor						
	Starting mode	-	Y— △ /Soft start						
	Quantity	-	2	2	2	2	2	2	2
Refrigerant charge volume		kg	420	420	480	500	580	560	600
Refrigeration oil	Type	-	CPI-Solest-170						
	Charge volume	L	56	56	80	80	80	80	80
Evaporator	Type	-	Flooded shell and tube evaporator						
	Fouling factor	$m^2℃/kW$	0.018	0.018	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	217	229	248	263	286	310	329
		GPM	954	1010	1090	1158	1261	1365	1447
	Pressure drop	kPa	72.8	80.5	54.2	53.7	56.8	54.1	52.2
		$ft.H_2O$	23.9	26.4	17.8	17.6	18.6	17.7	17.1
	Connection pipe	mm	DN200	DN200	DN250	DN250	DN250	DN250	DN250
Condenser	Type	-	Horizontal shell and tube condenser						
	Fouling factor	$m^2℃/kW$	0.044	0.044	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	267	283	309	328	357	386	409
		GPM	1177	1245	1360	1444	1572	1699	1799
	Pressure drop	kPa	84.4	93	35.3	35.4	37.5	36.2	37.2
		$ft.H_2O$	27.7	30.5	11.6	11.6	12.3	11.9	12.2
	Connection pipe	mm	DN200	DN200	DN250	DN250	DN250	DN250	DN250
Sound pressure level(Max.)		dB(A)	83.8	83.8	89.3	89.3	89.3	89.3	89.3
Dimension	Outline(WxDxH)	mm	4550x1800x2200	4550x1800x2200	5050x2005x2525	5050x2005x2525	5050x2005x2525	5050x2005x2525	5050x2050x2565
	Package(WxDxH)	mm	4550x1800x2200	4550x1800x2200	5050x2005x2525	5050x2005x2525	5050x2005x2525	5050x2005x2525	5050x2050x2565
Net/Gross/Operating weight		kg	7900/8000/8400	7950/8050/8450	9450/9550/10050	9600/9700/10200	9700/9800/10250	9750/9850/10400	9800/9900/10500
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1	1	1

Note: The product models are not for EU.

Permanent Magnetic Synchronous Inverter Screw Chiller

LHVE Series

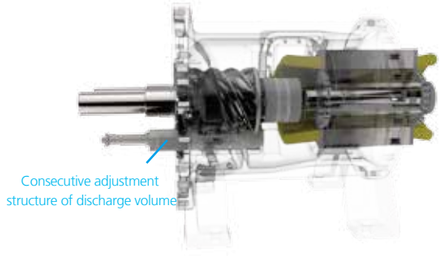
Gree LHVE Series Permanent Magnetic Synchronous Inverter Screw Chiller (R134a) is specially designed to improve efficiency and reduce operation cost. Adopting the advanced semi-closed permanent magnetic synchronous inverter screw compressor, the latest efficient falling film heat exchanger and the eco-friendly refrigerant R134a, the product is energy-saving with high reliability, ensuring long-term stable operation, which is energy-efficient. Cooling capacity range under nominal condition is 120 ～ 600RT. It is widely applied to all kinds of office buildings, hospitals, schools and malls, besides, it can be adopted in cooling occasions of technological process.

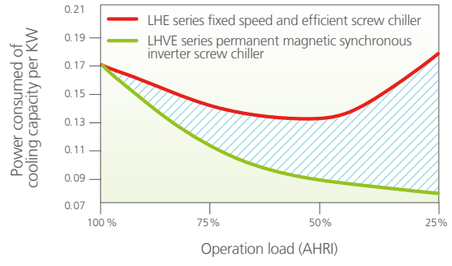
Operating range	Chilled water		Cooling water	
	Water outlet temperature (℃)	Temperature difference of water inlet and outlet(℃)	Water inlet temperature(℃)	Temperature difference of water inlet and outlet(℃)
Cooling	4~15	2.5~8	18~33	3.5~8

Features

Synergy Control Method of Speed and Volume

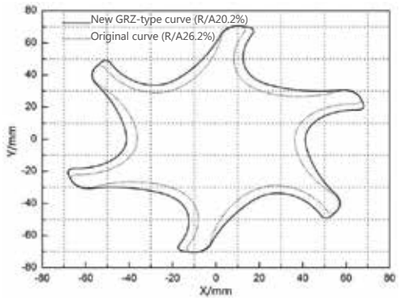
- Adjust the load with rotate speed to realize consecutive adjustment of 20%-100% of one single compressor load;
- The consecutive adjustment structure of discharge volume can adjust the discharge volume according to actual operation condition, realizing consistent internal and external pressure ratio, heat insulation of compressor has enhanced about 8.4%;
- Under some load conditions, lower the operation power of compressor, which can be up to 60%.

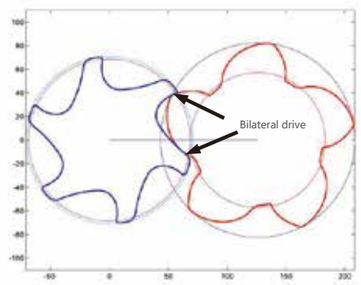




Bilateral Drive and Efficient GRZ-type Curve

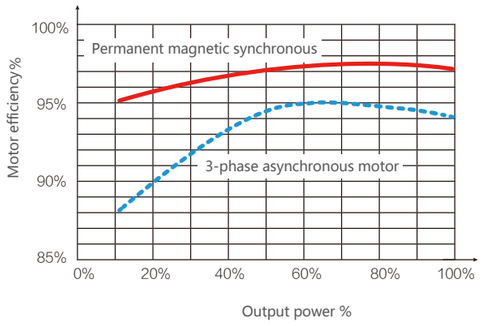
- The GRZ-type curve has decreased the leaked triangle area of 50%, reduced the leakage capacity of refrigerant and improved compressor performance;
- The GRZ-type curve improves the stiffness of female rotor and decreased about 28.3% of the deformation;
- Drive point is set in both high and low pressure side, the male and female rotor will increase/decrease speed at the same time, ensuring a stable mesh.

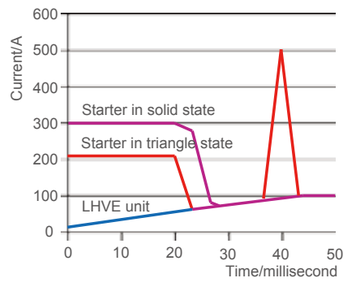




Efficient Permanent Magnetic Synchronous Inverter Motor

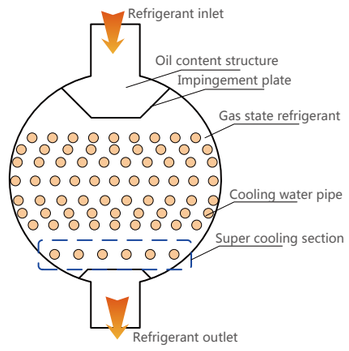
- The permanent magnetic synchronous motor adopts the built-in method of V-shape magnetic steel, by taking advantage of the saliency effect of magnetic circuit, it enhances the motor torque;
- Inverter startup, the starting current is below 10A, the impact to the overall power grid is small;
- Under full load working condition, motor efficiency is above 95%; under rated power, compared with traditional 3-phase asynchronous motor, it has enhanced 3%, in some other loads, it has enhanced 5% ~ 7%.





Efficient Heat Exchanger

- Mixed and falling film evaporator, injection is set in multiple layers, refrigerant is evenly distributed, which has enhanced heat transfer efficiency effectively, the refrigerant volume has decreased 35%;
- Multifunctional condenser, built-in oil content, integrate space settlement with screening technology, thus ensuring effective separation of oil and gas; the S-shape supercooling structure has enhanced the degree of supercooling.



Full DC Electronic Control System

- The control circuit adopts 24V full DC electronic control component, which effectively reduces electromagnetic interference, safe and reliable;
- Meet the wide voltage input between 328-528V, 50/60Hz is compatible.

Strict Tests

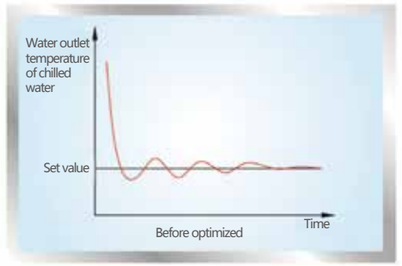
Components are strictly tested before entering the factory. Impellers are made of high-strength aluminum alloy, which is highly anti-corrosive. They must pass strict tests after manufacturing. Heat exchangers are designed in strict accordance with relevant codes of pressure vessels and tested in 1.5 times of working pressure. The machine will take complete performance tests and reliability tests before leaving the factory.

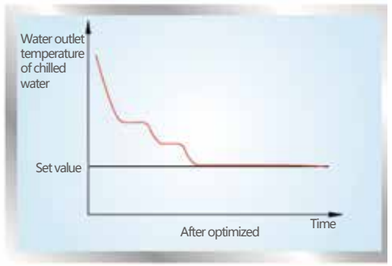
Multiple Protections

The unit has multiple protections function, such as high temperature protection for air discharge, overheat protection for frequency converter, safety valve protection, overheating protection for motor winding, low pressure protection, high pressure protection, Anti-freezing protection, switch protection for water flow, Phase loss and phase failure protection and electronic component protection, ensuring stable operation under all kinds of conditions and avoiding the damage incurred.

Auto-adjusting Technology, Stable Output

The control system can not only adjust load according to cold water leaving temperature but also predict and compensate the change of air conditioning load based on the change rate of cold water entering temperature. The unit can achieve faster load adjustment and stable water leaving temperature.
When the unit is under bad working condition, it will adjust the running parameters to keep itself running rather than frequently stop. The unit can operate stably and reliably to satisfy customers' refrigerating demand.





Color Touch Screen Display Control Center

Control: intelligent control system, friendly human-machine interaction interface, if the display screen is damaged accidentally, the unit can be operated manually through the equipped switch.

- Color touch screen of 12 inches
- Visual and dynamic information
- Intelligent image data
- Auto backup of parameter and synchronization
- Dual system control logic
- Auto detection protection

High-performance Digital Single Processing Platform

The control system adopts high-performance 32-bit CPU and DSP digital signal processor. The excellent data collection accuracy and data processing capability ensure timely and precise system control. The unit also adopts the intelligent Fuzzy-PID compound control algorithm, which is a control method comprising the intelligent technology, fuzzy technology and PID control algorithm, ensuring fast response and stable performance.

Authority Classification with Passwords

Control center has access passwords for operators so that set values won't be changed without authorization. Access authority is classified to user access and manufacturer access. User password is used to start up unit and enter the interface of user parameter setting. It is managed and can be changed by the user. Manufacturer password is used to enter the interface of manufacture parameter setting. Any change of the manufacture parameters may affect unit's reliability; therefore it must be kept by professional engineering and debugging personnel.

50/60Hz

R134A

Model			LHVE432GE7GE7/Nb	LHVE432GE6GE6/Nb	LHVE432GE5GE5/Nb	LHVE532GE4GE4/Nb	LHVE532GE3GE3/Nb
Cooling capacity		kW	422.0	474.8	527.6	580.3	633.1
		RT	120.0	135.0	150.0	165.0	180.0
Capacity adjustment range		%	20%-100%				
EER		W/W	5.77	5.80	5.81	5.99	5.88
IPLV		W/W	10.29	10.43	10.74	10.48	10.61
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz				
Power input		kW	73.1	81.9	90.8	96.9	107.6
RLA		A	111.1	124.4	138.0	147.2	163.5
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor				
	Starting mode	-	Inverter startup				
	Quantity	-	1	1	1	1	1
Refrigerant charge volume		kg	130	140	150	167	183
Refrigeration oil	Type	-	CPI-Solest-170				
	Charge volume	L	20	20	20	23	23
Evaporator	Type	-	Mixed falling film evaporator				
	Fouling factor	$m^2 \cdot C/kW$	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	66	73	81	91	100
		GPM	289	322	358	399	440
	Pressure drop	kPa	38.3	39.2	40.2	41	41.1
		$ft.H_2O$	12.6	12.9	13.2	13.4	13.5
	Connection pipe	mm	DN125	DN125	DN125	DN150	DN150
Condenser	Type	-	Horizontal shell and tube condenser				
	Fouling factor	$m^2 \cdot C/kW$	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	82	92	102	113	124
		GPM	361	403	447	496	547
	Pressure drop	kPa	45.2	45.3	44.5	44.3	43.9
		$ft.H_2O$	14.8	14.9	14.6	14.5	14.4
	Connection pipe	mm	DN125	DN125	DN125	DN150	DN150
Sound pressure level(Max.)		dB(A)	86.5	86.5	86.5	86.5	86.5
Dimension	Outline(WxDxH)	mm	3320x1680x1870	3320x1680x1870	3320x1680x1870	3320x1680x1870	3320x1680x1870
	Package(WxDxH)	mm	3320x1680x1870	3320x1680x1870	3320x1680x1870	3320x1680x1870	3320x1680x1870
Net/Gross/Operating weight		kg	3300/3400/3450	3400/3500/3600	3510/3610/3700	3540/3640/3800	3660/3760/3900
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1

50/60Hz

R134A

Model			LHVE532GE2GE2/Nb	LHVE732HE6JE6/Nb	LHVE732HE5JE5/Nb	LHVE732HE4JE4/Nb	LHVE832HE3JE3/Nb
Cooling capacity		kW	703.4	756.2	808.9	879.3	932.0
		RT	200.0	215.0	230.0	250.0	265.0
Capacity adjustment range		%	20%-100%				
EER		W/W	5.85	6.02	5.96	5.81	6.03
IPLV		W/W	10.38	10.10	10.30	9.96	10.02
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz				
Power input		kW	120.3	125.6	135.8	151.3	154.6
RLA		A	182.8	190.8	206.3	229.9	234.9
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor				
	Starting mode	-	Inverter startup				
	Quantity	-	1	1	1	1	1
Refrigerant charge volume		kg	200	217	233	250	267
Refrigeration oil	Type	-	CPI-Solest-170				
	Charge volume	L	23	23	23	23	28
Evaporator	Type	-	Mixed falling film evaporator				
	Fouling factor	$m^2 \cdot C/kW$	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	108	118	127	135	145
		GPM	477	519	560	597	637
	Pressure drop	kPa	40.4	40.9	35.1	37.3	39.9
		$ft.H_2O$	13.3	13.4	11.5	12.2	13.1
	Connection pipe	mm	DN150	DN150	DN150	DN150	DN150
Condenser	Type	-	Horizontal shell and tube condenser				
	Fouling factor	$m^2 \cdot C/kW$	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	135.18	146.232	158	169	180
		GPM	595	644	695	745	791
	Pressure drop	kPa	43.6	41.1	42.5	42.8	41.9
		$ft.H_2O$	14.3	13.5	13.9	14.0	13.7
	Connection pipe	mm	DN150	DN200	DN200	DN200	DN200
Sound pressure level(Max.)		dB(A)	86.5	86.5	86.5	86.5	86.5
Dimension	Outline(WxDxH)	mm	3320x1680x1870	3400x1730x2030	3400x1730x2030	3400x1730x2030	3400x1730x2030
	Package(WxDxH)	mm	3320x1680x1870	3400x1730x2030	3400x1730x2030	3400x1730x2030	3400x1730x2030
Net/Gross/Operating weight		kg	3780/3880/4050	4220/4320/4500	4330/4430/4600	4450/4550/4750	4870/4970/5200
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1

Note: The product models are not for EU.

50/60Hz

R134A

Model			LHVE832HE2JE2/Nb	LHVE832HE1JE1/Nb	LHVE532LJ3LJ3-2/Nb	LHVE532LJ2LJ2-2/Nb	LHVE532LJ1LJ1-2/Nb
Cooling capacity		kW	984.8	1055.1	1160.6	1266.1	1406.8
		RT	280.0	300.0	330.0	360.0	400.0
Capacity adjustment range		%	20%-100%		10%-100%		
EER		W/W	5.95	5.81	6.01	5.97	5.90
IPLV		W/W	10.12	9.89	10.58	10.86	10.62
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz				
Power input		kW	165.5	181.6	193.2	212	238.3
RLA		A	251.5	275.9	293.5	322.1	362.1
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor				
	Starting mode	-	Inverter startup				
	Quantity	-	1	1	2	2	2
Refrigerant charge volume		kg	283	300	330	366	400
Refrigeration oil	Type	-	CPI-Solest-170				
	Charge volume	L	28	28	46	46	46
Evaporator	Type	-	Mixed falling film evaporator				
	Fouling factor	$m^2 \cdot ℃/kW$	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	154	163	181	199	217
		GPM	678	718	796	874	956
	Pressure drop	kPa	34.6	37.5	40	44.1	44.8
		$ft.H_2O$	11.3	12.3	13.1	14.5	14.7
	Connection pipe	mm	DN150	DN150	DN200	DN200	DN200
Condenser	Type	-	Horizontal shell and tube condenser				
	Fouling factor	$m^2 \cdot ℃/kW$	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	191	204	224	247	270
		GPM	843	897	989	1086	1189
	Pressure drop	kPa	42.4	43.2	46.3	46.5	46.8
		$ft.H_2O$	13.9	14.2	15.2	15.3	15.4
	Connection pipe	mm	DN200	DN200	DN200	DN200	DN200
Sound pressure level(Max.)		dB(A)	86.5	86.5	89.3	89.3	89.3
Dimension	Outline(WxDxH)	mm	3400x1730x2030	3400x1730x2030	4600x1990x2270	4600x1990x2270	4600x1990x2270
	Package(WxDxH)	mm	3400x1730x2030	3400x1730x2030	4600x1990x2270	4600x1990x2270	4600x1990x2270
Net/Gross/Operating weight		kg	4980/5080/5300	5100/5200/5450	7600/7750/8000	7740/7890/8200	7870/8020/8350
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1

50/60Hz

R134A

Model			LHVE732MJ6MJ6-2/NbLHVE732MJ5MJ5-2/Nb	LHVE732MJ4MJ4-2/NbLHVE832MJ3MJ3-2/Nb	LHVE832MJ2MJ2-2/NbLHVE832MJ1MJ1-2/Nb			
Cooling capacity		kW	1512.3	1617.8	1758.5	1864.0	1969.5	2110.2
		RT	430.0	460.0	500.0	530.0	560.0	600.0
Capacity adjustment range		%	10%-100%					
EER		W/W	6.05	5.99	6.08	6.06	6.00	6.05
IPLV		W/W	10.17	10.40	10.58	10.13	10.27	10.25
Power supply		V/Ph/Hz	360V-480V 3~ 50Hz/60Hz					
Power input		kW	250.1	270.1	289.4	307.5	328.1	349
RLA		A	380.0	410.4	439.7	467.2	498.5	530.3
Compressor	Type	-	Semi-closed permanent magnetic synchronous inverter screw compressor					
	Starting mode	-	Inverter startup					
	Quantity	-	2	2	2	2	2	2
Refrigerant charge volume		kg	432	466	500	532	566	600
Refrigeration oil	Type	-	CPI-Solest-170					
	Charge volume	L	46	46	46	56	56	56
Evaporator	Type	-	Mixed falling film evaporator					
	Fouling factor	$m^2 \cdot ℃/kW$	0.018	0.018	0.018	0.018	0.018	0.018
	Water flow rate	m^3/h	235	254	271	289	308	327
		GPM	1035	1117	1195	1273	1354	1440
	Pressure drop	kPa	45.2	45.2	45.6	46.1	47.7	46.7
		$ft.H_2O$	14.8	14.8	15.0	15.1	15.6	15.3
	Connection pipe	mm	DN200	DN200	DN200	DN250	DN250	DN250
Condenser	Type	-	Horizontal shell and tube condenser					
	Fouling factor	$m^2 \cdot ℃/kW$	0.044	0.044	0.044	0.044	0.044	0.044
	Water flow volume	m^3/h	292	315	337	359	382	406
		GPM	1284	1386	1483	1580	1682	1788
	Pressure drop	kPa	46.8	47.1	47.9	48	48.3	46.7
		$ft.H_2O$	15.4	15.4	15.7	15.7	15.8	15.3
	Connection pipe	mm	DN250	DN250	DN250	DN250	DN250	DN250
Sound pressure level(Max.)		dB(A)	89.3	89.3	89.3	89.3	89.3	89.3
Dimension	Outline(WxDxH)	mm	4620x2000x2230	4620x2000x2230	4620x2000x2230	4620x2000x2230	4620x2000x2230	4620x2000x2230
	Package(WxDxH)	mm	4620x2000x2230	4620x2000x2230	4620x2000x2230	4620x2000x2230	4620x2000x2230	4620x2000x2230
Net/Gross/Operating weight		kg	7460/7610/7950	8040/8190/8600	8630/8780/9200	8930/9080/9550	9060/9210/9700	9180/9330/9850
Loading quantity	40'GP/40'HQ	set	1	1	1	1	1	1

Note: The product models are not for EU.

Control System Lineup

Control system / Product series				Screw Chiller					
				High-efficiency Modular Air-cooled Screw Chiller	High-efficiency Heat Pump Air-cooled Screw Chiller	High Energy Efficiency Air-cooled Screw Chiller [60Hz]	High Energy Efficiency Partial Heat Recovery Air-cooled Screw Chiller	High-efficiency Water-cooled Screw Chiller	Permanent Magnetic Synchronous Inverter Screw Chiller
Display Panel	Push-button Display panel	Z2F3Q		●	●	●	●		
		Z2K3						●	
	Touch-screen Display panel	CM18-GZ12/A3(M)						○	
		G18TM120A							●

Notes: ● means standard; ○ means optional

Integrated Water Chilling Package

YLZ Series

Gree YLZ Series Integrated Water Chilling Package is a new and efficient air conditioning product which integrates the cold source equipment of the whole central air conditioning system. The water chilling package adopts Gree efficient water-cooled screw chiller or inverter centrifugal chiller, integrates water system equipment such as high-efficient fixed speed/inverter water pump, water disposer, constant pressure water makeup equipment, cooling tower and so on and configues energy management system of Gree machine room, thus realizing the integral, efficient and intelligent operation of water chilling package.

Operating range	Operating range (water temperature)			
	Evaporator		Condenser	
	Inlet(℃)	I/O difference(℃)	Inlet(℃)	I/O difference(℃)
Cooling	5~15	2.5~8	12~35	3.5~8

Features

High Flexibility

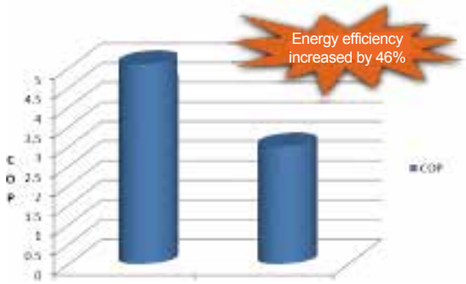
Through the optimized design of pipeline structure and reasonable layout, Gree integrated water chilling package has decreased the floor space of 50% compared with conventional water chilling package. With the highly integrated structure, the mobility of Gree integrated water chilling package is quite convenient.

Zero Construction

Traditional water chilling package is preliminarily designed by the design institute, and the electromechanical contractor is responsible for the on-site construction, the construction volume is quite large; while Gree integrated water chilling package has completed the entire construction in the factory, therefore, it is available only with simple pipe connection on site. For traditional water chilling package, it’ s difficult to control the construction quality, however, for the integrated water chilling package, strict cutting and welding standards are followed for operation and assembling inside the factory. Rust-proof treatment is conducted for pipeline components. Gree integrated water chilling package has truly transformed water chilling package project to water chilling package product.

High Energy Efficiency

Through reasonable and optimized model selection, Gree YLZ Series Integrated water chilling package conducts efficient and energy-saving control, overall COP of cold station is up to over 4.5. According to energy efficiency standard for the water chilling package put forward by American ASHRAE, energy efficiency of Gree YLZ Series integrated water chilling package has reached a high level.



High Reliability

The structure of custom box ensures the requirements of rain-proof, water-proof, heat preservation and maintenance of the overall water chilling package.
After equipment installation, for traditional water chilling package, the equipment manufacturer and related technicians of the manufacturer need to go to the site for individual debugging and coordination, therefore, workload and time consumed in the whole debugging process are quite large and long, besides, it’ s difficult to coordinate problems among the personnel. However, test and commissioning in the factory are able to optimize the equipment performance, with reasonable operation of each equipment, overall operation performance of the water chilling package is enhanced.

50Hz

R410A

Model			GLZ100YLGPS	GLZ150YLGPS	GLZ200YLGPS	GLZ250YLGPS	GLZ300YLGPS
Cooling capacity		kW	372	550	705	920	980
		RT	105.8	156.4	200.5	261.6	278.7
COP	Refrigeration host		6.09	6.06	6.06	6.06	6.09
	Integrated cold station		4.27	4.42	4.18	4.3	4.4
Power input	Refrigeration host		61.1	90.7	116.4	151.8	160.8
	Integrated cold station		87.1	124.2	168.7	213.8	222.8
Residual pressure of water outlet for chilled water		m	30	30	30	30	30
Noise		dB(A)	68	68	69	69	70
Power supply		V/Ph/Hz	380V3N~50Hz				
Water pump	Type		Fixed speed/Inverter				
	Starting method		Soft starting/Y-△				
	Form		Reserved/Not reserved				
	Head	m	Select according to actual condition				
Cooling tower	Fan type		Fixed speed/Inverter				
	Tower head	m	Select according to actual condition				
Chilled water side	Water flow	m³/h	64	95	121	158	169
	Pipe connection size		DN125	DN150	DN150	DN150	DN150
	Pipe connection method		Flange type				
Cooling water side	Water flow	m³/h	80	118	152	198	211
	Pipe connection size		DN150	DN150	DN150	DN200	DN200
	Pipe connection method		Flange type				
Outline dimension	Width	mm	9120	9120	9120	12000	12000
	Depth	mm	2400	2400	2400	2400	2400
	Height	mm	2850	2850	2850	2850	2850
Net weight		kg	15370	16290	17500	19000	20500
Operating weight		kg	16200	17350	18500	20500	22000

50Hz

R410A

Model			GLZ250YLXPS	GLZ300YLXPS	GLZ350YLXPS	GLZ400YLXPS
Cooling capacity		kW	879	1055	1231	1406
		RT	250	300	350	400
COP	Refrigeration host		6.23	6.06	6.35	6.42
	Integrated cold station		4.29	4.34	4.56	4.76
Power input	Refrigeration host		150.8	174.1	193.8	219.1
	Integrated cold station		204.8	243.1	269.8	295.1
Residual pressure of water outlet for chilled water		m	30	30	30	30
Noise		dB(A)	69	69	69	70
Power supply		V/Ph/Hz	380V3N~50Hz			
Water pump	Type		Fixed speed/Inverter			
	Starting method		Soft starting/Y-△			
	Form		Reserved/Not reserved			
	Head	m	Select according to actual condition			
Cooling tower	Fan type		Fixed speed/Inverter			
	Tower head	m	Select according to actual condition			
Chilled water side	Water flow	m³/h	151	181	212	242
	Pipe connection size		DN200	DN200	DN200	DN200
	Pipe connection method		Flange type			
Cooling water side	Water flow	m³/h	189	227	268	302
	Pipe connection size		DN200	DN200	DN200	DN200
	Pipe connection method		Flange type			
Outline dimension	Width	mm	9120	12000	12000	12000
	Depth	mm	2400	2400	2400	2400
	Height	mm	2850	2850	2850	2850
Net weight		kg	18500	20500	23000	25500
Operating weight		kg	21000	22000	25500	28500

Control System Lineup

Control system		Product series		Integrated Water Chilling Package
Others	Simens PLC Control	S7-1200		○
	Board for Smart Group Control	WZ101021J		○

Notes: ○ means optional

Note

Note

Note

Award and Certification





ISO 9001 Quality System Certificate

ISO 14001 Environment Management System Certificate

ISO 18001 Occupation Healthy Safety System Certificate

Canadian CSA Certificate

German TÜV Certificate

3C Certificate

European Communities CE Certificate

American UL Certificate

Russian Safety Certificate

EQM

SASO Certificate

Mexico NOM Safety Certificate

German GS Certificate

European EMC Certificate

Argentina Safe Certificate

China EMC Certificate

Hongkong Energy-saving Certificate

Hongkong Safety Certificate

Australian SAA Safe Certificate

Australia SAA Certificate

CQC Certificate

America ETL Certificate

Canadian ETL Certificate

Thailand TIS Certificate