



2012

R410a COMMERCIAL AIR CONDITIONERS



It is our aim to bring you
the worlds best Air Conditioners
at the best possible price



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Chiller

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MINI CHILLER

Company Profile



- ! The largest air conditioning enterprise in the world.
- ! Over 40,000 employees
- ! Annual production capacity of 59.5 million units
- ! Annual turnover 38 Billion Dollars
- ! 2300 research and development engineers
- ! 300 research and development laboratories
- ! 2000 patents for air conditioning products
- ! Gree units sold worldwide spanning 200 individual countries



Sales Centre



Mould Design Centre



Metal Sheet Processing Centre

One in three Air Conditioners sold worldwide are produced by Gree

World's number one Air Conditioning manufacturer

50 Million residential units annual capacity

5.5 Million commercial units annual capacity

8 Worldwide production bases

170 Million users

This is why Gree is the world's number one manufacturer of
Air Conditioners. ACS-ACD are proud to
supply Gree products



Water-Cooled Chiller



Centrifugal Chiller

- ◆ High efficient closed impeller.
- ◆ Ultra-high efficiency optimum design.
- ◆ Automatic stepless adjustment, adjustable capacity range from 10% to 100%.
- ◆ Instant response and excellent performance thank to advanced intelligent Fuzzy-PID compound control algorithm.
- ◆ Orifice throttle disc integrate with electronic expansion valve technology.
- ◆ All components optimized for use with 134a refrigerant.
- ◆ Completed safeties:

- Compressor high/low pressure protection
- High oil supply temperature protection
- Low oil supply pressure protection
- Oil pump over loaded protection
- Motor over current protection
- Surge protection
- Surge prevention

- High motor temperature protection
- Anti-freeze protection
- Loss of cooler/condenser water flow protection
- Sensor fault protection
- Reverse phase protection
- Starter fault protection

- ◆ Reserved interface for water pump and cooling tower.
- ◆ Low voltage starter (for 380~440V units).
- ◆ High voltage power cable connection cabinet (optional for 10kV units).
- ◆ Sight glasses, dryer filter, high and low pressure gauges.
- ◆ Oil heater, oil purifier.
- ◆ Water flow switch kit.
- ◆ Long distance monitoring and centralized control (optional).
- ◆ Inverter driver box(optional)

1400kW-7200kW
398RT-2044RT
R134a



Intelligent operation



Completed safeties



Low voltage startup



Colorful touch screen control panel

Operating Condition of Nominal Cooling

Chilled Water		Cooling Water	
Inlet water temp (°C)	Outlet water temp (°C)	Inlet water temp (°C)	Outlet water temp (°C)
12	7	30	35

Operating Range

Chilled Water		Cooling Water	
Outlet water temp (°C)	Temp.difference between inlet & outlet (°C)	Inlet water temp (°C)	Temp.difference between inlet & outlet (°C)
5 ~ 15	2.5 ~ 8	22 ~ 37	3.5 ~ 8

Water-Cooled Chiller

Model			LSBLX1400-M(G)	LSBLX1600-M(G)	LSBLX1800-M(G)	LSBLX2000-M(G)
Cooling capacity	kW		1400	1600	1800	2000
	RT		398	456	511	568
Cooling control		%	10~100			
EER	W/W		5.36	5.52	5.61	5.68
	IPLV		6.10	6.28	6.38	6.47
Motor	Power supply	V-Ph-Hz	380(10000)-3-50			
	Rated input	kW	261	290	321	352
Refrigerant Charge volume		kg	550	575	600	625
Refrigeration oil	Category		No.68 synthetic fatty oil			
	Charge volume	L	60	60	60	60
Evaporator	Type		Flooded type evaporator			
	Water flow volume	L/s	66.9	76.4	86.1	95.6
		GPM	1061.2	1210.9	1365.0	1514.7
	Pressure drop	kPa	80	80	80	80
		ft.WG	26.8	26.8	26.8	26.8
Condenser	Flow circuit		2	2	2	2
	Connection pipe	mm	200	200	250	250
	Type		Shell and tube condenser			
	Water flow volume	L/s	83.6	95.6	107.5	119.4
		GPM	1325.4	1514.7	1704.1	1893.4
Sound pressure level	Pressure drop	kPa	75	75	75	75
		ft.WG	25.1	25.1	25.1	25.1
	Flow circuit		2	2	2	2
Outside dimension	Connection pipe	mm	200	200	250	250
	Sound pressure level	dB(A)	≤ 88	≤ 88	≤ 88	≤ 90
	Width	mm	4150	4150	4150	4150
Weight	Depth	mm	1730	1730	1900	1900
	Height	mm	2150	2150	2250	2250
	Net weight	kg	7500	8000	8800	9200
	Operating weight	kg	8250	8750	9250	10000

Model			LSBLX2200-M(G)	LSBLX2400-M(G)	LSBLX2600-M(G)	LSBLX2800-M(G)
Cooling capacity	kW		2200	2400	2600	2800
	RT		625	682	740	796
Cooling control		%	10~100			
EER	W/W		5.70	5.74	5.79	5.83
	IPLV		6.49	6.53	6.59	6.64
Motor	Power supply	V-Ph-Hz	380(10000)-3-50			
	Rated input	kW	386	418	449	480
Refrigerant Charge volume		kg	650	700	725	750
Refrigeration oil	Category		No.68 synthetic fatty oil			
	Charge volume	L	60	80	80	80
Evaporator	Type		Flooded type evaporator			
	Water flow volume	L/s	105.0	114.7	124.2	133.9
		GPM	1664.5	1818.6	1968.3	2122.4
	Pressure drop	kPa	80	90	90	90
		ft.WG	26.8	30.1	30.1	30.1
Condenser	Flow circuit		2	2	2	2
	Connection pipe	mm	250	250	250	250
	Type		Shell and tube condenser			
	Water flow volume	L/s	131.4	143.3	155.3	167.2
		GPM	2082.8	2272.1	2461.5	2650.8
Sound pressure level	Pressure drop	kPa	75	85	85	85
		ft.WG	25.1	28.5	28.5	28.5
	Flow circuit		2	2	2	2
Outside dimension	Connection pipe	mm	250	250	250	250
	Sound pressure level	dB(A)	≤ 90	≤ 90	≤ 90	≤ 90
	Width	mm	4150	4530	4530	4530
Weight	Depth	mm	1900	2070	2070	2070
	Height	mm	2250	2500	2500	2500
	Net weight	kg	9600	10800	11200	11600
	Operating weight	kg	10500	12000	12500	13000

Water-Cooled Chiller

Model			LSBLX3000-M(G)	LSBLX3200-M(G)	LSBLX3400-M(G)	LSBLX3600-M(G)
Cooling capacity	kW		3000	3200	3400	3600
	RT		854	909	967	1023
Cooling control		%	10—100			
EER	W/W		5.76	5.78	5.84	5.68
	IPLV		6.55	6.57	6.65	6.46
Motor	Power supply	V-Ph-Hz	380(10000)-3-50			
	Rated input	kW	521	554	582	634
Refrigerant Charge volume		kg	775	800	825	900
Refrigeration oil	Category		No.68 synthetic fatty oil			
	Charge volume	L	80	80	80	100
Evaporator	Type		Flooded type evaporator			
	Water flow volume	L/s	143.3	152.8	162.5	171.9
		GPM	2272.1	2421.8	2576.0	2725.7
	Pressure drop	kPa	90	90	90	115
		ft.WG	30.1	30.1	30.1	38.5
	Flow circuit		2	2	2	2
Condenser	Connection pipe	mm	300	300	300	300
	Type		Shell and tube condenser			
	Water flow volume	L/s	179.2	191.1	203.1	215.0
		GPM	2840.2	3029.5	3218.8	3408.2
	Pressure drop	kPa	85	85	85	115
		ft.WG	28.5	28.5	28.5	38.5
Outside dimension	Flow circuit		2	2	2	2
	Connection pipe	mm	300	300	300	350
	Sound pressure level	dB(A)	≤90	≤92	≤92	≤92
	Width	mm	4530	4530	4530	4750
	Depth	mm	2120	2120	2120	2330
	Height	mm	2500	2500	2500	2750
Weight	Net weight	kg	12200	12600	13000	14600
	Operating weight	kg	13500	14000	14500	15600

Model			LSBLX3800-M(G)	LSBLX4000-M(G)	LSBLX4400-M(G)
Cooling capacity	kW		3800	4000	4400
	RT		1081	1136	1251
Cooling control		%	10—100		
EER	W/W		5.74	5.83	5.87
	IPLV		6.53	6.64	6.69
Motor	Power supply	V-Ph-Hz	380(10000)-3-50		
	Rated input	kW	662	686	749
Refrigerant Charge volume		kg	925	950	1000
Refrigeration oil	Category		No.68 synthetic fatty oil		
	Charge volume	L	100	100	100
Evaporator	Type		Flooded type evaporator		
	Water flow volume	L/s	181.7	191.1	210.3
		GPM	2879.8	3029.5	3333.3
	Pressure drop	kPa	115	115	115
		ft.WG	38.5	38.5	38.5
	Flow circuit		2	2	2
Condenser	Connection pipe	mm	300	300	350
	Type		Shell and tube condenser		
	Water flow volume	L/s	226.9	238.9	262.8
		GPM	3597.5	3786.9	4165.6
	Pressure drop	kPa	115	115	115
		ft.WG	38.5	38.5	38.5
Outside dimension	Flow circuit		2	2	2
	Connection pipe	mm	350	350	350
	Sound pressure level	dB(A)	≤92	≤92	≤92
	Width	mm	4750	4750	4750
	Depth	mm	2330	2330	2380
	Height	mm	2750	2750	2750
Weight	Net weight	kg	14800	15200	15800
	Operating weight	kg	16100	16600	17200

Water-Cooled Chiller

Model			LSBLX4800-G	LSBLX5200-G	LSBLX5600S-G
Cooling capacity	kW		4800	5200	5600
	RT		1364	1479	1591
Cooling control			10~100		
EER	W/W		5.82	5.83	5.94
	IPLV	W/W	6.62	6.63	6.77
Motor	Power supply	V-Ph-Hz	10000V-3ph-50Hz		
	Rated input	kW	825	892	942
Refrigerant Charge volume			1050	1100	1150
Refrigeration oil	Category		No.68 synthetic fatty oil		
	Charge volume	L	100	100	125
Evaporator	Type		Flooded type evaporator		
	Water flow volume	L/s	229.4	248.3	267.5
		GPM	3637.2	3936.6	4240.4
	Pressure drop	kPa	115	115	125
		ft.WG	38.5	38.5	41.9
	Flow circuit		2	2	2
Condenser	Connection pipe	mm	350		
	Type		Shell and tube condenser		
	Water flow volume	L/s	286.7	310.6	334.4
		GPM	4544.2	4922.9	5301.6
	Pressure drop	kPa	115	115	125
		ft.WG	38.5	38.5	41.9
	Flow circuit		2	2	2
	Connection pipe	mm	350	350	400
Sound pressure level			dB(A)		
Outside dimension	Width	mm	4750	4750	5350
	Depth	mm	2380	2380	2620
	Height	mm	2750	2750	3100
	Net weight	kg	16600	17400	22500
Weight	Operating weight		18000	18800	25500

Model			LSBLX6000S-G	LSBLX6400S-G	LSBLX6800S-G	LSBLX7200S-G
Cooling capacity	kW		6000	6400	6800	7200
	RT		1706	1818	1934	2044
Cooling control			10~100			
EER	W/W		5.98	5.99	5.99	6.01
	IPLV	W/W	6.80	6.81	6.82	6.84
Motor	Power supply	V-Ph-Hz	10000V-3ph-50Hz			
	Rated input	kW	1004	1069	1135	1198
Refrigerant Charge volume			1200	1250	1300	1400
Refrigeration oil	Category		No.68 synthetic fatty oil			
	Charge volume	L	125			
Evaporator	Type		Flooded type evaporator			
	Water flow volume	L/s	286.7	305.8	325.0	343.9
		GPM	4544.2	4848.1	5151.9	5451.3
	Pressure drop	kPa	125	125	125	125
		ft.WG	41.9	41.9	41.9	41.9
	Flow circuit		2	2	2	2
Condenser	Connection pipe	mm	350	400	400	400
	Type		Shell and tube condenser			
	Water flow volume	L/s	358.3	382.2	406.1	430.0
		GPM	5680.3	6059.0	6437.7	6816.4
	Pressure drop	kPa	125			
		ft.WG	41.9			
	Flow circuit		2			
	Connection pipe	mm	400	450	450	450
Sound pressure level			dB(A)			
Outside dimension	Width	mm	5350			
	Depth	mm	2620	2820	2820	2820
	Height	mm	3100			
	Net weight	kg	23800	25500	26100	26500
Weight	Operating weight		27100	29000	29700	30500

Water-Cooled Screw Chiller

182kW–1275kW
52RT–323RT

- ◆ Flooded type evaporator .
 - ◆ Multi compressor paralleling technology for high capacity units.
 - ◆ Orifice throttle disc integrate with electronic expansion valve technology.
 - ◆ Automatic stepless or stepped capacity adjustment.
 - ◆ Compact design.
 - ◆ Reliable oil return system.
 - ◆ High efficient oil separator system thanks to mechanical and adsorptive fractionation devices.
 - ◆ Accurate high–pressure liquid injection oil return technology.
 - ◆ Low oil level protection technology.
 - ◆ Completed safeties:
 - Compressor high/low pressure protection
 - Oil box high temperature protection
 - Over load protection
 - Anti–freeze protection
 - High discharges temperature protection
 - Loss of cooler/condenser water flow protection
 - Sensor fault protection
 - Reverse phase protection
 - Fusible plug or relief valve
 - Refrigerant liquid injection valve
 - Water low flow volume protection
-
- ◆ High coefficient of performance, nearly 1/3 more energy saving than ordinary chiller unit. For wide working range, the machine may run within 25% – 100% energy range.
 - ◆ LCD control panel (optional to upgrade to colorful touch screen control panel) .
 - ◆ Water flow switch kit.
 - ◆ Reserved interface for water pump and cooling tower.
 - ◆ Oil heater.
 - ◆ Sight glasses, dryer filter, high and low pressure gauges, high and low pressure switches.
 - ◆ Long distance monitoring and centralized control (optional).



Operating Condition Of Nominal Cooling

Chilled Water		Cooling Water	
Inter water temp (°C)	Outlet water temp (°C)	Inter water temp (°C)	Outlet water temp (°C)
12	7	30	35

Operating Range

Chilled Water		Cooling Water	
Outlet water temp (°C)	Temp.difference between inlet & outlet (°C)	Inlet water temp (°C)	Temp.difference between inlet & outlet (°C)
5 ~ 15	2.5 ~ 8	22 ~ 37	3.5 ~ 8

Water-Cooled Screw Chiller

Model			LSBLG180H/Nb-M	LSBLG210H/Nb-M	LSBLG240H/Nb-M	LSBLG300H/Nb-M
Cooling capacity	kW		182	212	238	296
	RT		51.7	60.3	67.7	84.2
Capacity control			Continuous adjustment			
IPLV	W/W		5.87	5.71	5.8	5.91
	EER	W/W	5.06	5.05	5.06	5.19
Power input	kW		36	42	47	57
Power supply	V-Ph-Hz		380V-3N-50Hz			
Compressor	Type		Semi-hermetic twin screw compressor			
	Starting mode		Y—Δ or Part Winding			
Refrigerant	Quantity		1	1	1	1
	Refrigerant Charge volume	kg	80	90	100	110
oil	Category		BSE170			
	Charge volume	L	15			
Evaporator	Type		Flooded evaporator			
	Water flow volume	L/s	8.61	10	11.39	14.17
		GPM	136	159	181	225
	Pressure drop	kPa	40	45	50	60
		ft.WG	13.39	15.06	16.73	20.08
Condensor	Connection pipe	mm	DN100			
	Type		Shell and tube condenser			
	Water flow volume	GPM	171.7	202.6	224.6	281.8
		L/s	10.8	12.8	14.2	17.8
	Pressure drop	kPa	56	57	65	85
Sound		ft.WG	18.7	19.1	21.8	21.8
	Connection pipe	mm	DN100	DN100	DN100	DN125
	Sound pressure level	dB(A)	76.2	76.6	77.4	80.1
	Width	mm	3160	3160	3160	3160
	Depth	mm	1150	1150	1150	1400
Outline dimension	Height	mm	1487	1487	1487	1680
	Net weight	kg	1800	1900	1900	2800
Weight	Operating weight	kg	1890	1995	1995	2940

Model			LSBLG340H/Nb-M	LSBLG380H/Nb-M	LSBLG450H/Nb-M	LSBLG500H/Nb-M
Cooling capacity	kW		340	363	445	508
	RT		96.7	108.9	126.5	144.4
Capacity control			Continuous adjustment			
IPLV	W/W		6.02	5.94	6.09	6.08
	EER	W/W	5.23	5.18	5.30	5.35
Power input	kW		65	74	84	95
Power supply	V-Ph-Hz		380V-3N-50Hz			
Compressor	Type		Semi-hermetic twin screw compressor			
	Starting mode		Y—Δ or Part Winding			
Refrigerant	Quantity		1	1	1	1
	Refrigerant Charge volume	kg	120	130	140	160
oil	Category		BSE170			
	Charge volume	L	19	19	35	35
Evaporator	Type		Flooded evaporator			
	Water flow volume	L/s	16.11	18.33	21.39	24.17
		GPM	255	291	339	383
	Pressure drop	kPa	60	62	64	66
		ft.WG	20.08	20.75	21.42	22.09
Condensor	Connection pipe	mm	DN125	DN125	DN150	DN150
	Type		Shell and tube condenser			
	Water flow volume	GPM	321.4	361.1	422.7	480
		L/s	20.3	22.8	26.7	30.3
	Pressure drop	kPa	66	67	69	71
Sound		ft.WG	22.1	22.4	23.1	23.8
	Connection pipe	mm	DN125			
	Sound pressure level	dB(A)	81.2	83.3	83.9	84.1
	Width	mm	3160			
	Depth	mm	1520			
Outline dimension	Height	mm	2130			
	Net weight	kg	1680	1720	3850	4600
Weight	Operating weight	kg	2900	3100	4043	4830

Water-Cooled Screw Chiller

Model			LSBLG580H/Nb-M	LSBLG640H/Nb-M	LSBLG680H/Nb-M	LSBLG760H/Nb-M
Cooling capacity	kW		582	637	680	767
	RT		165.5	181.1	193.3	218.1
Capacity control				Continuous adjustment		
IPLV	W/W		5.87	5.85	6.01	6.02
EER	W/W		5.20	5.22	5.23	5.18
Power input	kW		112	122	130	148
Power supply	V-Ph-Hz			380V-3N-50Hz		
Compressor	Type		Semi-hermetic twin screw compressor			
	Starting mode		Y—△or Part Winding			
Quantity			1	1	2	2
Refrigerant	Charge volume	kg	180	200	250	260
oil	Category			BSE170		
	Charge volume	L	35	35	38	38
Evaporator	Type		Flooded evaporator			
	Water flow volume	L/s	27.78	30.56	32.5	36.67
		GPM	440	484	515	581
	Pressure drop	kPa	68	74	76	76
		ft.WG	22.76	24.76	25.43	25.43
Condensor	Connection pipe	mm	DN150	DN150	DN200	DN200
	Type		Shell and tube condenser			
	Water flow volume	GPM	550.4	603.3	642.9	726.6
		L/s	34.7	38.1	40.6	45.8
	Pressure drop	kPa	72	73	76	77
Sound		ft.WG	24.1	24.4	25.4	25.8
	Connection pipe	mm	DN150	DN150	DN200	DN200
	Sound pressure level	dB(A)	84.3	85.4	82.5	84.6
Outline dimension	Width	mm		3160		3400
	Depth	mm		1520		1700
	Height	mm		2130		2030
Weight	Net weight	kg	3850	4600	5100	
	Operating weight	kg	4043	4830	5355	

Model		LSBLG880H/Nb-M	LSBLG1000H/Nb-M	LSBLG1160H/Nb-M	LSBLG1280H/Nb-M	
Cooling capacity	kW	880	1006	1155	1275	
	RT	250.2	286.0	328.4	362.5	
Capacity control			Continuous adjustment			
IPLV	W/W	5.94	5.97	5.82	5.98	
EER	W/W	5.24	5.29	5.16	5.23	
Power input	kW	168	190	224	244	
Power supply	V-Ph-Hz		380V-3N-50Hz			
Compressor	Type	Semi-hermetic twin screw compressor				
	Starting mode	Y— Δor Part Winding				
Quantity		2	2	2	2	
Refrigerant	Charge volume	kg	270	280	300	
oil	Category		BSE170			
	Charge volume	L	70	70	70	
Evaporator	Type	Flooded evaporator				
	Water flow volume	L/s	41.94	48.06	55.28	60.83
		GPM	665	762	876	964
	Pressure drop	kPa	76	77	78	78
		ft.WG	25.43	25.77	26.10	26.10
Condensor	Connection pipe	mm	DN200	DN200	DN200	
	Type	Shell and tube condenser				
	Water flow volume	GPM	832.2	951.1	1092.0	1206.5
		L/s	52.5	60.0	68.9	76.1
	Pressure drop	kPa	82	83	84	85
Sound		ft.WG	27.4	27.8	28.1	28.4
	Connection pipe	mm		DN250		
	Sound pressure level	dB(A)	85.2	85.4	85.6	86.8
Outline dimension	Width	mm		3900		
	Depth	mm		1900		
	Height	mm		2230		
Weight	Net weight	kg	6200	6500	6500	7000
	Operating weight	kg	6510	6825	6825	7350

Modular Air-Cooled Screw Chiller

230kW–430kW
65RT–122RT



R134a

- ◆ Modular operation, up to 8 units (no matter what capacity) can be integrated, to achieve a maximum capacity of 3920kW output system
- ◆ Flexible main module patent, any unit can be as main module just by connected with wired controller
- ◆ High efficient heat operation even in low temperature thanks to real time intelligent defrost mode, COP is improved with 10% upon that at traditional timed defrost mode
- ◆ Advanced error self diagnosis
- ◆ Unit optimized design with 0–50–75–100% multi-step energy adjustment



Modular
structure



Intelligent
defrosting



Diagnosis
displaying



Wired controller

- ◆ Cool operating range up to 48°CDB and heating down to -10°C
- ◆ Completed safeties
- ◆ Screw compressor
- ◆ Thermal expansion valves
- ◆ Sight glasses, dryer filter, high and low pressure sensors, high and low pressure switch
- ◆ Rubber damper kit
- ◆ Water flow switch kit
- ◆ Wired LCD controller (operation, extendable up to 1000m away from the unit)
- ◆ Long distance monitoring (optional)
- ◆ Heat recovery available (optional)
- ◆ BMS kit is optional

Item	Water side				Air side		
	Nominal Operating Condition		Operating Range		Nominal Operating Condition		Operating Range
	Outdoor temp. (DB°C)	Outdoor temp. (WB°C)	Outdoor temp. (DB °C)	Temp. Difference between Inlet&Outlet(°C)	Outdoor temp. (DB °C)	Outdoor temp. (WB °C)	Outdoor temp. (DB °C)
Cooling	12	7	10~18	2.5~8	35	—	18~48

Model			LSBLGF230MT3/Nb-M	LSBLGF350MT3/Nb-M	LSBLGF430MT3/Nb-M
Cooling capacity	kW		230	350	430
	RT		65	100	122
Capacity control	%		25%-50%-75%-100% or 25%-100% stepless		
EER	W/W		2.88	2.80	2.83
Power supply	V-Ph-Hz		380V-3N-50Hz		
Power input	kW		80	125	152
Water side heat exchanger	Type		Shell and Tube Evaporator		
	Water flow volume	L/s	11.1	16.7	20.6
		GPM	176	264	326
	Pressure drop		≤50		
		ft. WG	≤16		
Air-side heat exchanger	Connection pipe	mm	DN100	DN100	DN125
	Heat exchanger type		Finned Coil Type Condenser		
	Fan type/ Number of fans		Axial Fan/4	Axial Fan/6	Axial Fan/8
	Total fan air flow	m³/h	10 ×10 ⁴	15 ×10 ⁴	20 ×10 ⁴
		CFM	5.9 ×10 ⁴	8.8 ×10 ⁴	11.8 ×10 ⁴
Dimension	Total fan motor power		4 ×2.0	6 ×2.0	8 ×2.0
	Sound pressure level		76	78	80
	Outline(W×D×H)	mm	3150 × 2100 × 2300	4330 × 2100 × 2300	5250 × 2100 × 2300
Weight	Packaged(W×D×H)	mm	3230 × 2180 × 2300	4410 × 2180 × 2300	5330 × 2180 × 2300
	Net weight	kg	2880	3880	4500
	Operating weight	kg	3080	4180	4880

Modular Air-Cooled Screw Chiller (B series)

65kW–130kW
R407c

- ◆ Modular operation, up to 8 units (no matter what capacity) can be integrated, to achieve a maximum capacity of 1040kW output system.
- ◆ Flexible main module patent, any unit can be as main module just by connected with wired controller.
- ◆ High efficient heat operation even in low temperature thanks to real time intelligent defrost mode, COP is improved with 13.6% upon that at traditional timed defrost mode.
- ◆ Advanced error self diagnosis.
- ◆ Cool operating range up to 50°CDB and heating down to -10°CDB ambient.
- ◆ Completed safeties.
- ◆ Scroll compressor.
- ◆ Two circuits.
- ◆ Thermostatic expansion valves.
- ◆ Dryer filter, high and low pressure gauges, high and low pressure switch.
- ◆ Water flow switch kit.
- ◆ Wired LCD Controller (optional, extendable up to 1000m away from the unit).
- ◆ Long distance monitoring (optional).



Modular structure



Intelligent defrosting



Diagnosis displaying



Two circuits

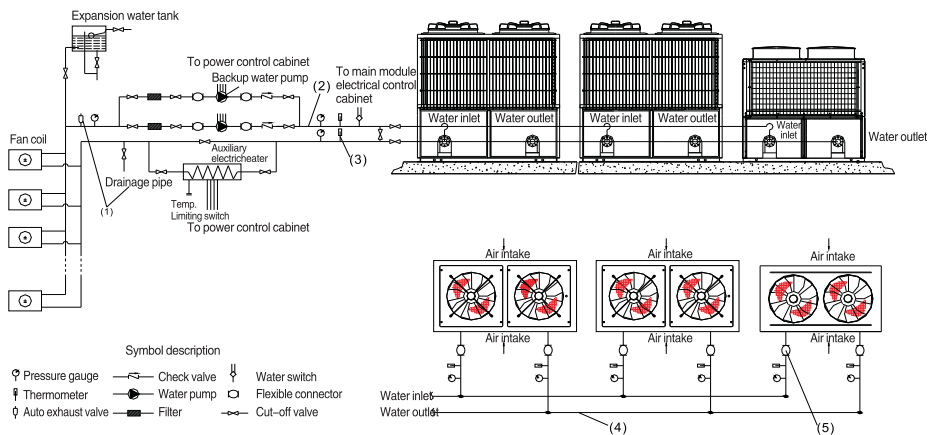


Wired controller



Golden fin

Item	Water side				Air side		
	Nominal Operating Condition		Operating Range		Nominal Operating Condition		Operating Range
	Inlet water temp.(°C)	Outlet water temp.(°C)	Outlet water temp.(°C)	Temp. Difference between Inlet&Outlet t(°C)	Outdoor temp. (DB°C)	Outdoor temp. (WB°C)	Outdoor temp. (DB°C)
Cooling	12	7	6~7	2.5~8	35	/	18~48
Heating	40	45	46~48	2.5~8	7	6	-15~21



Model	Cooling only		LSQWF65M/N-M	LSQWF80M/N-M	LSQWF130M/N-M
	Heat pump		LSQWRF65M/N-M	LSQWRF80M/N-M	LSQWRF130M/N-M
Capacity	Cooling	kW	65	80	130
	Heating*	kW	70	85	140
EER		W/W	2.9	2.9	3.0
COP*		W/W	3.2	3.2	3.3
Power supply		V-Ph-Hz	380V ~415-3Ph-50Hz		
Power input	Cooling	kW	22.3	27.3	43.9
	Heating*	kW	22	26.8	43
Water side heat exchanger	Type		Shell and Tube Evaporator		
	Water flow volume	L/s	11.2	13.7	22.3
		GPM	176.9	216.5	352.3
	Pressure drop	kPa	10	15	17.5
		ft.WG	3.28	4.92	5.74
Air side heat exchanger	Connection pipe		DN65	DN65	DN80
	Fan type/ Number of fans		Axial fan 2	Axial fan 2	Axial fan 4
	Total fan air flow	m ³ /h	32000	37000	61000
		CFM	18835.2	21778.2	35904.6
	Total fan motor power		1150×2	1150×2	750×4
Sound pressure level		dB(A)	67	68	69
Dimension	Outline(W×D×H)		2110×2140×1100	2110×2140×1100	2410×2240×1900
	Packaged(W×D×H)		2150×2140×1140	2150×2140×1140	2450×2240×1940
Net weight	Cooling only		1000	1100	1800
	Heat pump		1050	1150	1850
Operating weight	Cooling only		1050	1150	1860
	Heat pump		1100	1200	1900

* for heat Pump unit Only

Notice: 1. Up to 8 modular air cooled screw chillers can be combined to get a max. 1040kW output.

2. Products are designed and tested according to ARI International Standard.

3. The parameter of heating capacity, heating input and COP are Only available for the heatPump type units.

4. Please refer the nameplate for detail performance specification of the unit.

Modular Air-Cooled Scroll Chiller (C series)



R410A

65kW–160kW

- ◆ Flexible main module patent, any unit can be set as main module just by connected with wired controller
- ◆ High efficient heat operation even in low temperature and high humidity thanks to real time intelligent defrost mode and gas discharging feed-through structure
- ◆ Modular operation, up to 16 units can be integrated
- ◆ Easy maintenance thanks for gapless modular design
- ◆ Multi compressor paralleling technology to guarantee longer usage life
- ◆ Completed safeties
- ◆ Quiet mode available
- ◆ Easy maintenance, thanks to unique structural design
- ◆ Saving installation space by 35% compared to conventional design
- ◆ Throttling controlled by electronic expansion valve, more accurate and rapid
- ◆ Wide ambient range ensure stable operation in extreme climate



Modular
structure



Intelligent
defrosting



Diagnosis
displaying



Two circuits



Wired controller

Nominal operation condition and operation range

Item	Water side				Air side		
	Nominal Operating Condition		Operating Range		Nominal Operating Condition		Operating Range
	Inlet water temp.(℃)	Outlet water temp.(℃)	Outlet water temp.(℃)	Temp. Difference between Inlet&Outlet(℃)	Outdoor temp.(DB℃)	Outdoor temp.(WB℃)	Outdoor temp.(DB℃)
Cooling	12	7	10~25	2.5~8	35	/	5~48
Heating	40	45	35~50	2.5~8	7	6	-15~21

Model	Cooling only		LSQWF65MG/NaC-M	LSQWF80MG/NaC-M	LSQWF130MG/NaC-M	LSQWF160MG/NaC-M
	Heat pump		LSQWRF65MG/NaC-M	LSQWRF80MG/NaC-M	LSQWRF130MG/NaC-M	LSQWRF160MG/NaC-M
Capacity	Cooling	kW	60	76	120	152
	Heating*	kW	65	80	130	160
EER		W/W	2.8			
COP*		W/W	3.0			
Power supply		V-Ph-Hz	380V-3Ph-50Hz			
Power input	Cooling	kW	21.4	27.1	42.8	54.2
	Heating*	kW	21.7	26.7	43.4	53.4
Water side heat exchanger	Type		shell and tube evaporator			
	Water flow volume	L/s	2.9	3.6	5.7	7.2
		GPM	37.8	47.7	75.5	95.3
	Pressure drop	kPa	30	35	30	35
	Connection pipe	ft.WG	9.8	11.5	9.8	11.5
Air side heat exchanger	Fan type/ Number of fans		axial fan/3		axial fan/6	
	Total fan air flow	m ³ /h	3.6×10 ⁴		7.2×10 ⁴	
		CFM	2.1×10 ⁴		4.2×10 ⁴	
	Total fan motor power	W	700×3	700×3	700×6	700×6
Sound pressure level		dB(A)	67	68	69	70
Dimension	Outline(W×D×H)	mm	1100×2250×2214	1100×2250×2214	2200×2250×2214	2200×2250×2214
	Packaged(W×D×H)	mm	1180×2330×2214	1180×2330×2214	2280×2330×2214	2280×2330×2214
Net weight	Cooling only	kg	900	1000	1780	1980
	Heat pump	kg	950	1050	1880	2080
Operating weight	Cooling only	kg	990	1100	1958	2178
	Heat pump	kg	1045	1155	2068	2288

* for heat Pump unit Only

Notice: 1. Up to 8 modular air cooled screw chillers can be combined to get a max. 1280kW output.

2. Products are designed and tested according to ARI International Standard.

3. The parameter of heating capacity, heating input and COP are Only available for the heatPump type units.

4. Please refer the nameplate for detail performance specification of the unit.

Mini Chiller



R410A

▲ Integral type

22kW–45kW

- ◆ Memory restart.
- ◆ Safety and reliability thanks to advance compressor balance operation time control.
- ◆ Low noise design.
- ◆ High/low voltage protection, overload protection, anti-freezed funtion, reversephase/phase-open protection, water depletion/break protection.



8kW–15kW

R410A

- ◆ Interface kit for up to 16 indoor units (FCU/AHU) linked control.
- ◆ High and low pressure switch.
- ◆ Completed safties:
 - High/low voltage protection
 - Overload protection
 - Phase-inverse/phase-open protection
 - Water depletion/break protection
 - Anti-freezed funtion



Memory function



Two circuits



Quiet design

Nominal operation condition and operation range

Item	Water side				Air side		
	Nominal operating		Operating range		Nominal operating condition		Operating range
	Inlet water temp. (°C)	Outlet water temp. (°C)	Outlet water temp. (°C)	Temp. difference between inlet & outlet (°C)	Outdoor temp. (DB °C)	Outdoor temp. (WB °C)	Outdoor temp. (DB °C)
Cooling	12	7	7 ~ 12	2.5 ~ 8	35	—	16 ~ 48
Heating	40	45	45 ~ 50	2.5 ~ 8	7	6	−15 ~ 24

Split type

- ◆ Detached cooler/heater design, which make installation more flexible
- ◆ Compact design, the height the cooler/heater is only 288mm
- ◆ Wide operation range of heat mode in cold season, thanks for the cooler/heater can be installed in indoor ceiling void to avoid freezing problem
- ◆ Water pump
- ◆ Expansion vessel
- ◆ Water flow switch kit
- ◆ LCD thermostat
- ◆ Safety valve, auto water replenishing valve, auto air evacuation valve



split type

Model	Heat pump		HLR8WZNa-K	HLR10WZNa-M	HLR12.5WZNa-M	HLR15WZNa-M
Capacity	Cooling	kW	8	10	12.5	15
	Heating	kW	9	11	13	16
EER		W/W	2.58	2.27	2.40	2.68
COP		W/W	3.00	2.62	2.60	2.91
Power supply		V-Ph-Hz	220~240V-1Ph-50Hz		380~415V-3Ph-50Hz	
Power input	Cooling	kW	3.1	4.4	5.2	5.6
	Heating	kW	3.0	4.2	5.0	5.5
Compressor quantity		Unit	1	1	1	1
Refrigerant charge volume		kg	3	3.55	3.6	5.5
Build-in chilled water pump	Water flow volume	m ³ /h	1.3	1.8	2.0	2.6
		GPM	5.7	7.9	8.8	11.4
	Head of delivery	m	18	18	18	18
	Power input	W	550	550	550	550
Build-in expansion tank volume		L	5	5	5	5
Chilled water outlet/inlet dimension		inch	φ 1	φ 1	φ 1	φ 1
Indoor unit	Outline dimension (L×W×H)		mm	1100×450×288	1100×450×288	1100×450×288
	Packaged dimension (L×W×H)		mm	1285×682×385	1285×682×385	1285×682×385
	Net Weight		kg	84	84	84
	Gross weight		kg	96	96	96
	Sound pressure level		dB(A)	40	40	40
Outdoor unit	Outline dimension (L×W×H)		mm	1018×412×840	950×412×1250	950×412×1250
	Packaged dimension (L×W×H)		mm	1110×450×880	1110×450×1280	1110×450×1280
	Net Weight		kg	90	112	121
	Gross weight		kg	100	123	134
	Sound pressure level		dB(A)	65	65	65
Connection pipe	Liquid	Inch	φ 1/2	φ 1/2	φ 1/2	φ 1/2
	Gas	Inch	φ 3/4	φ 3/4	φ 3/4	φ 3/4

Air-Cooled Chiller

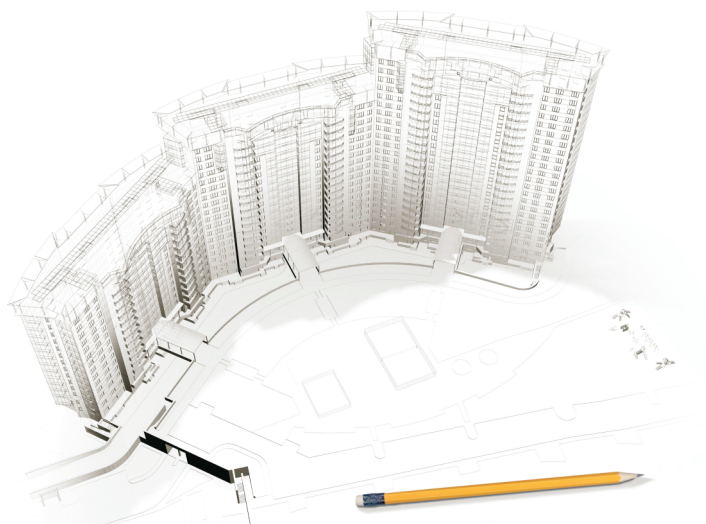
Integral

- ◆ Flexible installation thanks to slope up air discharge structure.
- ◆ Water pump.
- ◆ Expansion vessel.
- ◆ Water flow switch kit.
- ◆ LCD thermostat.
- ◆ Safety valve, auto water replenishing valve, auto air evacuation valve.
- ◆ Modular operation optional, up to 8 units (no matter what capacity) can be integrated, to achieve a maximum capacity of 360kW output(optional).



Integral type

Model	Heat pump		HLR22SNa-M	HLR25SNa-M	HLR35SNa-M	HLR45SNa-M
Capacity	Cooling	kW	22.0	25.0	32.0	43.0
	Heating	kW	26.0	27.0	39.0	47.5
EER		W/W	2.52	2.86	2.73	2.52
COP		W/W	2.91	3.03	3.20	2.81
Power supply		V-Ph-Hz	380~415V-3Ph-50Hz			
Power input	Cooling	kW	8.7	9.0	11.8	17.1
	Heating	kW	8.8	8.9	12.3	15.8
Compressor quantity		Unit	2	2	2	2
Refrigerant charge volume		kg	3.5×2	4.8×2	6.5×2	8.5×2
Build-in chilled water pump	Water flow volume	m ³ /h	3.7	4.3	5.2	8.0
		GPM	16.3	18.9	22.9	35.2
	Head of delivery	m	22	24	25	27
	Power input	W	750	750	1500	1500
Build-in expansion tank volume		L	8	8	8	8
Chilled water outlet/inlet dimension		inch	φ1	φ1	φ1-1/2	φ1-1/2
Dimension	Outline(L×W×H)	mm	1460×530×1850	1460×530×1850	1750×800×1760	1750×800×1760
	Packaged(L×W×H)	mm	1540×610×1960	1540×610×1960	1830×880×1870	1830×880×1870
Net weight		Kg	390	380	450	450
Gross weight		Kg	405	385	455	455
Sound pressure level		dB(A)	64	64	64	66



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