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# 2010

## R410a COMMERCIAL CHILLERS

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# COMPANY PROFILE

Gree Electric Appliances, Inc. of Zhuhai (“Gree”) is the largest specialized air conditioner enterprise in the world.

Including Zhuhai headquarters, we have 6 production bases located in Chongqing, Brazil, Hefei, Pakistan and Vietnam with over 40,000 employees in total. Our annual production capacity is over 27 million sets of residential air conditioners and 2 million sets of commercial air conditioners. In 2008, we reached total revenue 42.2 billion Yuan (approximately 6.18 billion USD).

Over the years, we have consolidated our status of pacesetter on the domestic air conditioner market. Under the effort of more than 2,300 R&D engineers, we have obtained nearly 2,000 patents. Additionally, about 300 labs and an Incoming Inspection Factory with more than 300 inspectors guaranteed the high quality of our products. So far, we have set up sales and service networks in more than 200 countries and regions and launched Gree brand products into the household appliance market in more than 100 countries and regions successfully. Till 2008, Gree products had been presented to over 8.8 million users all over the world.

Now, our products are steadily distributed to every corner in the world to create a more comfortable and harmony working environment and family atmosphere. To make people a better life, we will continue to do more.

## GREE, MAKING BETTER AIR CONDITIONERS


Sales Center

Mould Design Center

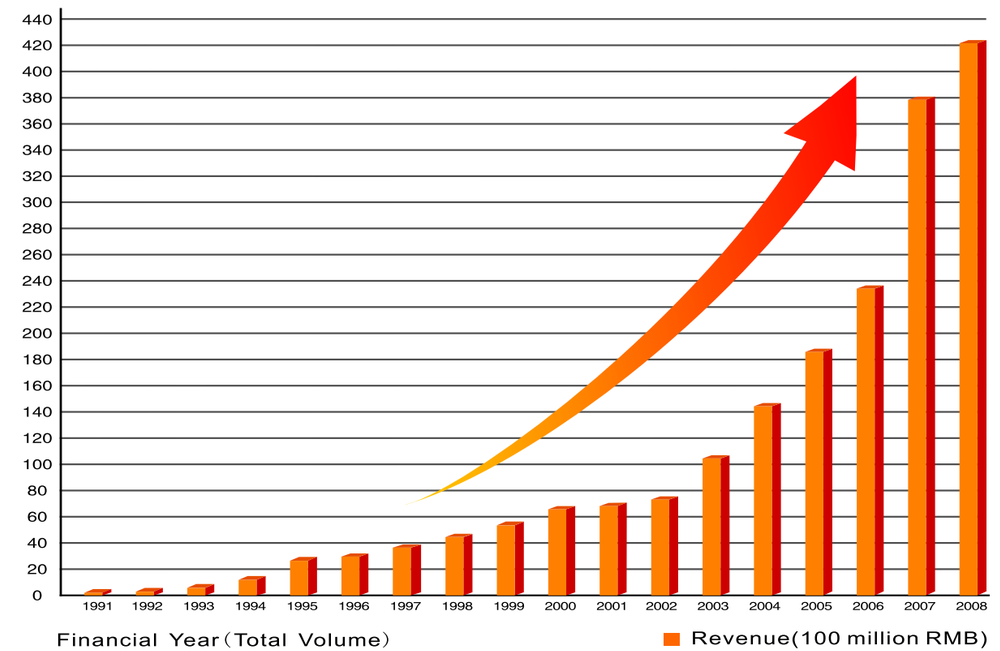
Metal Sheet Processing Center

Material Storage Center

Manufacture Base for Commercial Air Conditioners

R&D Center

| Year | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue (100 million RMB) | 1.03 | 1.62 | 6.47 | 11.11 | 25.64 | 28.41 | 34.51 | 42.98 | 51.66 | 63.42 | 65.88 | 70.3 | 100.42 | 138.32 | 182.48 | 238.03 | 380.41 | 422.00 |



# Contents

## Chiller


# CENTRIFUGAL CHILLER

R134a 50Hz

1400kW–7200kW
398RT–2044RT

- 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)

Intelligent operation


Completed safeties


Low voltage startup

Colorful touch screen control panel

Operating Condition of Nominal Cooling

| Chilled Water | | Cooling Water | |
|---|---|---|---|
| Inter water temp (℃) | Outlet water temp (℃) | Inter water temp (℃) | Outlet water temp (℃) |
| 12 | 7 | 30 | 35 |

Operating Range

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

CENTRIFUGAL CHILLER

# 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 | | W/W | 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 |
| | Flow circuit | | 2 | 2 | 2 | 2 |
| | Connection pipe | mm | 200 | 200 | 250 | 250 |
| Condenser | 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 |
| | Pressure drop | kPa | 75 | 75 | 75 | 75 |
| | | ft.WG | 25.1 | 25.1 | 25.1 | 25.1 |
| | Flow circuit | | 2 | 2 | 2 | 2 |
| | Connection pipe | mm | 200 | 200 | 250 | 250 |
| Sound pressure level | | dB(A) | ≤ 88 | ≤ 88 | ≤ 88 | ≤ 90 |
| Outside dimenstion | Width | mm | 4150 | 4150 | 4150 | 4150 |
| | Depth | mm | 1730 | 1730 | 1900 | 1900 |
| | Height | mm | 2150 | 2150 | 2250 | 2250 |
| Weight | 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 | | W/W | 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 |
| | Flow circuit | | 2 | 2 | 2 | 2 |
| | Connection pipe | mm | 250 | 250 | 250 | 250 |
| Condenser | 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 |
| | Pressure drop | kPa | 75 | 85 | 85 | 85 |
| | | ft.WG | 25.1 | 28.5 | 28.5 | 28.5 |
| | Flow circuit | | 2 | 2 | 2 | 2 |
| | Connection pipe | mm | 250 | 250 | 250 | 250 |
| Sound pressure level | | dB(A) | ≤ 90 | ≤ 90 | ≤ 90 | ≤ 90 |
| Outside dimenstion | Width | mm | 4150 | 4530 | 4530 | 4530 |
| | Depth | mm | 1900 | 2070 | 2070 | 2070 |
| | Height | mm | 2250 | 2500 | 2500 | 2500 |
| Weight | Net weight | kg | 9600 | 10800 | 11200 | 11600 |
| | Operating weight | kg | 10500 | 12000 | 12500 | 13000 |





| 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 | | W/W | 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 |
| | Connection pipe | mm | 300 | 300 | 300 | 300 |
| Condenser | 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 |
| | Flow circuit | | 2 | 2 | 2 | 2 |
| | Connection pipe | mm | 300 | 300 | 300 | 350 |
| Sound pressure level | | dB(A) | ≤90 | ≤92 | ≤92 | ≤92 |
| Outside dimenstion | 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 | | W/W | 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 |
| | Connection pipe | mm | 300 | 300 | 350 |
| Condenser | 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 |
| | Flow circuit | | 2 | 2 | 2 |
| | Connection pipe | mm | 350 | 350 | 350 |
| Sound pressure level | | dB(A) | ≤92 | ≤92 | ≤92 |
| Outside dimenstion | 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 |

| 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 | | kg | 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 |
| | Connection pipe | mm | 350 | | |
| Condenser | 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) | ≤95 | | |
| Outside dimenstion | Width | mm | 4750 | 4750 | 5350 |
| | Depth | mm | 2380 | 2380 | 2620 |
| | Height | mm | 2750 | 2750 | 3100 |
| Weight | Net weight | kg | 16600 | 17400 | 22500 |
| | Operating weight | kg | 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 | | kg | 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 |
| | Connection pipe | mm | 350 | 400 | 400 | 400 |
| Condenser | 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) | ≤95 | | | |
| Outside dimenstion | Width | mm | 5350 | | | |
| | Depth | mm | 2620 | 2820 | 2820 | 2820 |
| | Height | mm | 3100 | | | |
| Weight | Net weight | kg | 23800 | 25500 | 26100 | 26500 |
| | Operating weight | kg | 27100 | 29000 | 29700 | 30500 |







# WATER-COOLED SCREW CHILLER

R134a 50Hz

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 dischargs temperature protection
  - Loss of cooler/conderser 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).

Completed protection

Compact design

Operating Condition Of Nominal Cooling

| Chilled Water | | Cooling Water | |
|---|---|---|---|
| Inter water temp (℃) | Outlet water temp (℃) | Inter water temp (℃) | Outlet water temp (℃) |
| 12 | 7 | 30 | 35 |

Operating Range

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

# Water-cooled 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— △or Part Winding | | | |
| | Quantity | | 1 | 1 | 1 | 1 |
| Refrigerant Charge volume | | kg | 80 | 90 | 100 | 110 |
| Refrigerant oil | Category | | BSE170 | | | |
| | Charge volume | L | 15 | | | 22 |
| 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 |
| | Connection pipe | mm | DN100 | | | DN125 |
| Condensor | 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 | 65 |
| | | 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 |
| Outline dimension | Width | mm | 3160 | 3160 | 3160 | 3160 |
| | Depth | mm | 1150 | 1150 | 1150 | 1400 |
| | Height | mm | 1487 | 1487 | 1487 | 1680 |
| Weight | Net weight | kg | 1800 | 1900 | 1900 | 2800 |
| | Operating weight | kg | 1890 | 1995 | 1995 | 2940 |

| Model | | | LSBLG340H/Nb-M | LSBLG380H/Nb-M | LSBLG450H/Nb-M | LSBLG500H/Nb-M |
|---|---|---|---|---|---|---|
| Cooling capacity | | kW | 340 | 383 | 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— △or Part Winding | | | |
| | Quantity | | 1 | 1 | 1 | 1 |
| Refrigerant Charge volume | | kg | 120 | 130 | 140 | 160 |
| Refrigerant 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 |
| | Connection pipe | mm | DN125 | DN125 | DN150 | DN150 |
| Condensor | 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 |
| | | ft.WG | 22.1 | 22.4 | 23.1 | 23.8 |
| | Connection pipe | mm | DN125 | | DN150 | |
| Sound pressure level | | dB(A) | 81.2 | 83.3 | 83.9 | 84.1 |
| Outline dimension | Width | mm | 3160 | | | |
| | Depth | mm | 1400 | | 1520 | |
| | Height | mm | 1680 | 1720 | 2130 | |
| Weight | Net weight | kg | 2900 | 3100 | 3850 | 4600 |
| | Operating weight | kg | 3045 | 3255 | 4043 | 4830 |





| 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 |
| Refrigerant 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 |
| | Connection pipe | mm | DN150 | DN150 | DN200 | DN200 |
| Condensor | 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 |
| | | 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— △or Part Winding | | | |
| | Quantity | | 2 | 2 | 2 | 2 |
| Refrigerant Charge volume | | kg | 270 | 270 | 280 | 300 |
| Refrigerant oil | Category | | BSE170 | | | |
| | Charge volume | L | 70 | 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 |
| | Connection pipe | mm | DN200 | DN200 | DN200 | DN200 |
| Condensor | 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 |
| | | 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

R134a 50Hz

230kW–430kW
65RT–122RT

- 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
- Cool operating range up to 48℃DB and heating down to –10℃
- 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


Modular structure | Intelligent defrosting | Diagnosis displaying | Wired controller

| Item | Water side | | | | Air side | | |
|---|---|---|---|---|---|---|---|
| | Nominal Operating Condition | | Operating Range | | Nominal Operating Condition | | Operating Range |
| | Outdoor temp. (DB℃) | Outdoor temp. (WB℃) | Outdoor temp. (DB ℃) | Temp.Difference between Inlet&Outlet(℃) | Outdoor temp. (DB ℃) | Outdoor temp.(WB ℃) | Outdoor temp.(DB ℃) |
| 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 | | |
| | Connection pipe | mm | DN100 | DN100 | DN125 |
| Air-side heat exchanger | 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 | $m^3/h$ | $10\times10^4$ | $15\times10^4$ | $20\times10^4$ |
| | | CFM | $5.9\times10^4$ | $8.8\times10^4$ | $11.8\times10^4$ |
| | Total fan motor power | kW | 4×2.0 | 6×2.0 | 8×2.0 |
| Sound pressure level | | dB(A) | 76 | 78 | 80 |
| Dimension | Outline(W×D×H) | mm | 3150×2100×2300 | 4330×2100×2300 | 5250×2100×2300 |
| | Packaged(W×D×H) | mm | 3230×2180×2300 | 4410×2180×2300 | 5330×2180×2300 |
| Weight | Net weight | kg | 2880 | 3880 | 4500 |
| | Operating weight | kg | 3080 | 4180 | 4880 |



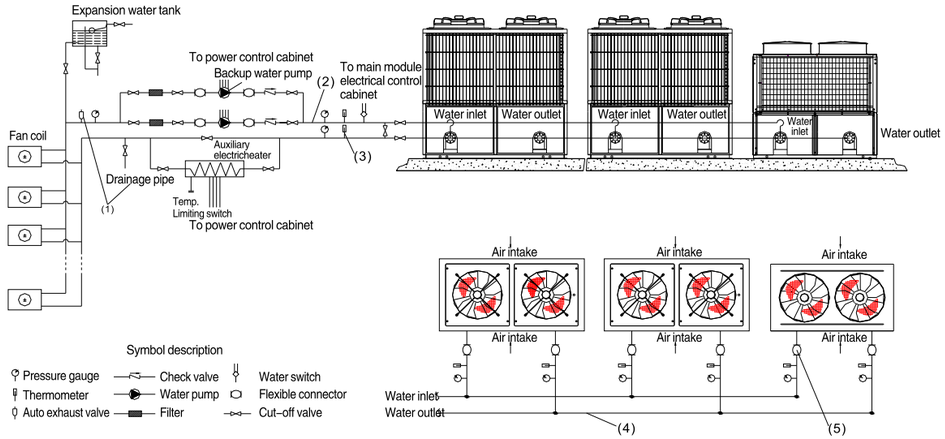


MODULAR AIR COOLED SCREW CHILLER

# MODULAR AIR COOLED SCROLL CHILLER(B series)

R407C 50Hz

65kW–130kW




- 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℃DB and heating down to –10℃DB ambient.
- Compeleted 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.(℃) | Outlet water temp.(℃) | Outlet water temp.(℃) | Temp. Difference between Inlet&Outlet(℃) | Outdoor temp. (DB℃) | Outdoor temp. (WB℃) | Outdoor temp. (DB℃) |
| Cooling | 12 | 7 | 6~7 | 2.5~8 | 35 | / | 18~48 |
| Heating | 40 | 45 | 46~48 | 2.5~8 | 7 | 6 | –15~21 |

| Model | | | 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 |
| | Connection pipe | mm | DN65 | DN65 | DN80 |
| Air side heat exchanger | 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 | W | 1150×2 | 1150×2 | 750×4 |
| Sound pressure level | | dB(A) | 67 | 68 | 69 |
| Dimension | Outline(W×D×H) | mm | 2110×2140×1100 | 2110×2140×1100 | 2410×2240×1900 |
| | Packaged(W×D×H) | mm | 2150×2140×1140 | 2150×2140×1140 | 2450×2240×1940 |
| Net weight | Cooling only | kg | 1000 | 1100 | 1800 |
| | Heat pump | kg | 1050 | 1150 | 1850 |
| Operating weight | Cooling only | kg | 1050 | 1150 | 1860 |
| | Heat pump | kg | 1100 | 1200 | 1900 |

* for heat Pump unit Only

Notice: 1. Up to 8 modular air coooled 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

# MODULAR AIR COOLED SCROLL CHILLER( C SERIES)

R410A 50Hz

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 clinate


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 | | | 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 |
| | | ft.WG | 9.8 | 11.5 | 9.8 | 11.5 |
| | Connection pipe | mm | seamless steel tube 20 ¢168×5 | | | |
| Air side heat exchanger | Fan type/ Number of fans | | axial fan/3 | | axial fan/6 | |
| | Total fan air flow | $m^3/h$ | $3.6\times10^4$ | | $7.2\times10^4$ | |
| | | CFM | $2.1\times10^4$ | | $4.2\times10^4$ | |
| | 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 coooled 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



▲Integral type

R410A 50Hz

22kW–45kW

▲ Split type

R410A 50Hz

8kW–15kW

- 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.
- 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. (℃) | Outlet water temp. (℃) | Outlet water temp. (℃) | Temp. difference between inlet & outlet (℃) | Outdoor temp. (DB ℃) | Outdoor temp. (WB ℃) | Outdoor temp. (DB ℃) |
| 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 | φ1 | φ1 | φ1 | φ1 |
| Indoor unit | Outline dimension (L×W×H) | mm | 1100×450×288 | 1100×450×288 | 1100×450×288 | 1100×450×288 |
| | Packaged dimension (L×W×H) | mm | 1285×682×385 | 1285×682×385 | 1285×682×385 | 1285×682×385 |
| | Net Weight | kg | 84 | 84 | 84 | 84 |
| | Gross weight | kg | 96 | 96 | 96 | 96 |
| | Sound pressure level | dB(A) | 40 | 40 | 40 | 40 |
| Outdoor unit | Outline dimension (L×W×H) | mm | 1018×412×840 | 950×412×1250 | 950×412×1250 | 950×412×1250 |
| | Packaged dimension (L×W×H) | mm | 1110×450×880 | 1110×450×1280 | 1110×450×1280 | 1110×450×1280 |
| | Net Weight | kg | 90 | 112 | 121 | 123 |
| | Gross weight | kg | 100 | 123 | 132 | 134 |
| | Sound pressure level | dB(A) | 65 | 65 | 65 | 65 |
| Connection pipe | Liquid | Inch | φ1/2 | φ1/2 | φ1/2 | φ1/2 |
| | Gas | Inch | φ3/4 | φ3/4 | φ3/4 | φ3/4 |

# 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).



Inte gral 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 |