Midea Chiller Product Lineup

- Water Cooled Centrifugal Chiller
- Water Cooled Screw Chiller
- Air Cooled Screw Chiller
- Air Cooled Scroll Chiller
- Air Handling Unit (AHU)
- Fan Coil Unit (FCU)

Commercial Air Conditioner Business Units
Midea Group
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http://www.midea.com

Note: The data in this book may be changed without notice for further improvement on quality and performance.
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With half century experience in chiller industry, Midea Chongqing chiller manufacturing base is becoming one of the largest chiller companies in China. It covers an area of 800 Mu (137 acre), with a registered capital of 12.5 million US$ and a total investment of over 0.85 billion US$. There are 6 product series and over 100 model products including centrifugal chillers, screw water chillers, scroll water chillers, water-cooled packaged units, and central air-conditioning indoor terminal devices(AHU/FCU). Five chiller manufacture plants with 14 flexible production lines lead a manufacturing capacity of 500 units centrifugal chillers, 1,000 units of air cooled screw, 2,000 units of water cooled screw and 200,000 units of AHU products.

Strong R&D and manufacturing capacity make Midea Chongqing general become the fastest developing company in chiller industry. The chiller testing lab which is certified by China National Refrigeration Equipment Inspection Center has become one of the largest refrigeration testing capacity in the world. The engineer team with 100 top engineers and international chiller experts who have been working many years in structure, electricity, and performance testing and software aspect make Midea the headship in chiller industry. In the year of 2011 Midea CAC invested another 150 million RMB for testing lab as ARI testing stand, big capacity air cooled screw life span testing room, 1,500kW compressor motor testing lab etc.

Concentrating on energy-saving and environment protection, Midea Chongqing chiller factory commits itself to the reliable and high efficiency products for the world. The chiller products are widely used in different countries and obtain good public praise from the clients. The solutions for the Beijing capital international airport, Jakarta international airport, China rapid transit station win good feedback and commendation. Continuing with the past and opening up the future, Midea chiller brand will go further and create an illustrious future.
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Air cooled screw chiller factory
Manufacturing capacity:
1000 units/Year

Centrifugal chiller factory
Manufacturing capacity:
500 units/Year

Water cooled screw chiller factory
Manufacturing capacity:
2000 units/Year

The 1200kW air cooled testing lab is one of the largest air cooled product testing labs. It can simulate all the actual ambient temperature range from -20 °C to 56 °C. It ensures all the air cooled chiller products work reliably in all temperature condition. Witness testing service is optional for all the clients to ensure the product performance. Every chiller will be tested in the stand before shipping.

8800kW water cooled chiller performance testing stand
The 8800kW water cooled chiller testing stand is one of the most advanced testing facilities in the world. It is able to simulate all the chiller running conditions like Chinese National standard condition (7/12°C,30/35°C), Chinese industry condition (7/12 °C,32/37 °C), AHRI testing condition (6.7/12.2 °C,29.4/35 °C). It provides all precise testing date for the IPLV and NPLV calculation. Witness testing service is optional for all the clients to ensure the product performance. Every chiller will be tested in the stand before shipping.

1500kW motor performance testing center
The 1500kW compressor motor testing lab used to simulate all the working condition for the actual situation. Provide the electrical correct factor for all the compressors. The cooling capacity ranges from 1200kW to 8800kW. Evaporating temperature ranges from -20 °C to 40 °C and condensing temperature ranges from 25 °C to 80 °C. It is one of the most advanced testing facility in China.

1200kW air cooled chiller performance testing lab
The 1200kW air cooled testing lab is one of the largest air cooled product testing labs. It can simulate all the actual ambient temperature range from -20 °C to 56 °C. It ensures all the air cooled chiller products work reliably in all temperature condition. Witness testing service is optional for all the clients to ensure the product performance. The 1200kW air cooled testing lab was certified by AHRI.
Air cooled screw chiller factory
Manufacturing capacity: 1000 units/Year

Centrifugal chiller factory
Manufacturing capacity: 500 units/Year

Water cooled screw chiller factory
Manufacturing capacity: 2000 units/Year

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8800kW water cooled chiller performance testing stand
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1500kW motor performance testing center
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1200kW air cooled chiller performance testing lab
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### WATER COOLED CENTRIFUGAL CHILLER

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>450RT - 1200RT single stage</td>
<td>Semi-Hermetic refrigerant-cooled compressor 50Hz/60Hz</td>
<td></td>
</tr>
<tr>
<td>1200RT - 2200RT dual stages</td>
<td>Flooded type evaporator for single stage</td>
<td></td>
</tr>
<tr>
<td>R134a</td>
<td>Full falling film evaporator for dual stage</td>
<td></td>
</tr>
<tr>
<td>COP 5.3~5.7</td>
<td>Gear Drive compressor low noise and vibration</td>
<td></td>
</tr>
<tr>
<td>Standard efficiency</td>
<td>Inlet guide vane plus adjustable diffuser capacity adjustment from 10%–100% without stall and surge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micro-Tech controller with PLC and touchable screen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open protocol RS485 BMS compatible</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VSD up to 1200Ton is optional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dual compressors for bigger capacity is optional</td>
<td></td>
</tr>
</tbody>
</table>

### WATER COOLED SCREW CHILLER (DX)

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>650R-1100RT single stage</td>
<td>Semi-Hermetic refrigerant-cooled compressor 50Hz/60Hz</td>
<td></td>
</tr>
<tr>
<td>1200RT-2200RT dual stages</td>
<td>Flooded type evaporator for single stage</td>
<td></td>
</tr>
<tr>
<td>R134a</td>
<td>Full falling film evaporator for dual stage</td>
<td></td>
</tr>
<tr>
<td>COP 5.6~6.8</td>
<td>Gear Drive compressor low noise and vibration</td>
<td></td>
</tr>
<tr>
<td>High efficiency</td>
<td>Inlet guide vane plus adjustable diffuser capacity adjustment from 10%–100% without stall and surge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micro-Tech controller with PLC and touchable screen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open protocol RS485 BMS compatible</td>
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<td>VSD up to 1200Ton is optional</td>
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<td>Dual compressors for bigger capacity is optional</td>
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</table>

### WATER COOLED SCREW CHILLER (FLOODED)

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>365/465/560/750kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz</td>
<td></td>
</tr>
<tr>
<td>Single compressor</td>
<td>Direct drive screw compressor</td>
<td></td>
</tr>
<tr>
<td>R134a</td>
<td>Flooded evaporator with high efficiency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microprocessor control and touchable screen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open protocol RS485 BMS compatible</td>
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</tr>
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### WATER COOLED SCREW CHILLER (DX)

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<th>Type</th>
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<tbody>
<tr>
<td>825/925/1120/1230/1500kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz</td>
<td></td>
</tr>
<tr>
<td>Single compressor</td>
<td>Direct drive screw compressor</td>
<td></td>
</tr>
<tr>
<td>R134a</td>
<td>Flooded evaporator with high efficiency</td>
<td></td>
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<td></td>
<td>Microprocessor control and touchable screen</td>
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<td>Open protocol RS485 BMS compatible</td>
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<tbody>
<tr>
<td>225/320/400/485/630/860kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz</td>
<td></td>
</tr>
<tr>
<td>Single compressor</td>
<td>Direct drive screw compressor</td>
<td></td>
</tr>
<tr>
<td>R134a</td>
<td>Direct expansion evaporator with stable performance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Microprocessor control and touchable screen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open protocol RS485 BMS compatible</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heat recovery type is optional (Hot water temp. up to 60°C)</td>
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### WATER COOLED CENTRIFUGAL CHILLER

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<th>Type</th>
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<tbody>
<tr>
<td></td>
<td>450RT - 1200RT single stage</td>
<td>Semi-Hermetic refrigerant-cooled compressor 50Hz/60Hz Flooded type evaporator for single stage Gear Drive compressor low noise and vibration Inlet guide vane plus adjustable diffuser capacity adjustment from 10%–100% without stall and surge Micro-Tech controller with PLC and touchable screen Open protocol RS485 BMS compatible VSD up to 1200Ton is optional Dual compressors for bigger capacity is optional</td>
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<tr>
<td></td>
<td>1200RT - 2200RT dual stages</td>
<td>R134a COP 5.3–5.7 Standard efficiency</td>
</tr>
<tr>
<td></td>
<td>650RT-1100RT single stage</td>
<td>Semi-Hermetic refrigerant-cooled compressor 50Hz/60Hz Flooded type evaporator for single stage Gear Drive compressor low noise and vibration Inlet guide vane plus adjustable diffuser capacity adjustment from 10%–100% without stall and surge Micro-Tech controller with PLC and touchable screen Open protocol RS485 BMS compatible VSD up to 1200Ton is optional Dual compressors for bigger capacity is optional</td>
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<td>1200RT-2200RT dual stages</td>
<td>R134a COP 5.6–6.8 High efficiency</td>
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<td></td>
<td>1200RT-2200RT dual stages</td>
<td>R134a COP 7 –7.11 Super high efficiency</td>
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</tr>
<tr>
<td></td>
<td>229/320/400/485 /630/ 860kW</td>
<td>Single compressor R134a</td>
</tr>
</tbody>
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### WATER COOLED SCREW CHILLER (FLOODED)

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<th>Type</th>
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<tr>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Flooded evaporator with high efficiency Microprocessor control and touchable screen Open protocol RS485 BMS compatible</td>
<td></td>
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<tr>
<td></td>
<td>365/465/560/750kW</td>
<td>Single compressor R134a</td>
</tr>
<tr>
<td></td>
<td>385/925/1120/1230/1500kW</td>
<td>Dual compressors R134a</td>
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<td>365/465/560/750kW</td>
<td>Single compressor R134a</td>
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<td>385/925/1120/1230/1500kW</td>
<td>Dual compressors R134a</td>
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<td>Type</td>
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<td>Notes</td>
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<tr>
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<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz</td>
<td>970/1060/1260/1490kW Dual compressors R22</td>
<td>Heat recovery type is optional (Hot water temp. up to 80°C)</td>
</tr>
<tr>
<td>Direct drive screw compressor</td>
<td></td>
<td></td>
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<tr>
<td>Direct expansion evaporator with stable performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microprocessor controller and touchable screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open protocol RS485 BMS compatible</td>
<td></td>
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<tr>
<td>AIR COOLED SCREW CHILLER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz</td>
<td>380/500/600kW</td>
<td>Anti-freeze in cold weather</td>
</tr>
<tr>
<td>Direct drive screw compressor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct expansion evaporator with stable performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microprocessor controller and touchable screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open protocol RS485 BMS compatible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent noise control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIR COOLED SCREW CONDENSERLESS CHILLER</td>
<td>380/500/600kW Condenser</td>
<td>Anti-freeze in cold weather</td>
</tr>
<tr>
<td>Direct drive screw compressor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct expansion evaporator with stable performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microprocessor controller and touchable screen</td>
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<td></td>
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<tr>
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<tbody>
<tr>
<td>970/1060/1260/1480kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Direct expansion evaporator with stable performance Microprocessor controller and touchable screen Open protocol RS485 BMS compatible Heat recovery type is optional (Hot water temp. up to 60°C)</td>
<td>Dual compressors R22</td>
</tr>
<tr>
<td>380/500/600kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Direct expansion evaporator with stable performance Microprocessor controller and touchable screen Open protocol RS485 BMS compatible</td>
<td>Single compressor R134a</td>
</tr>
<tr>
<td>900/1000/1200/1420 kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Direct expansion evaporator with stable performance Microprocessor controller and touchable screen Open protocol RS485 BMS compatible</td>
<td>Dual compressors R134a</td>
</tr>
</tbody>
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### AIR COOLED SCREW CONDENSERLESS CHILLER

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<tbody>
<tr>
<td>380/500/600kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Direct expansion evaporator with stable performance Microprocessor controller and touchable screen Open protocol RS485 BMS compatible</td>
<td>Single compressor R134a</td>
</tr>
<tr>
<td>380/500/600kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Direct expansion evaporator with stable performance Microprocessor controller and touchable screen Open protocol RS485 BMS compatible</td>
<td>Condenser Module combination for big capacity</td>
</tr>
<tr>
<td>900/1000/1200/1420 kW</td>
<td>Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz Direct drive screw compressor Direct expansion evaporator with stable performance Microprocessor controller and touchable screen Open protocol RS485 BMS compatible</td>
<td>Dual compressors R134a</td>
</tr>
</tbody>
</table>

- **AIR COOLED SCREW CHILLER**
  - Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz
  - Direct drive screw compressor
  - Direct expansion evaporator with stable performance
  - Microprocessor controller and touchable screen
  - Open protocol RS485 BMS compatible
  - Heat recovery type is optional (Hot water temp. up to 60°C)

- **AIR COOLED SCREW CONDENSERLESS CHILLER**
  - Semi-Hermetic refrigerant-cooled motor 50Hz/60Hz
  - Direct drive screw compressor
  - Direct expansion evaporator with stable performance
  - Microprocessor controller and touchable screen
  - Open protocol RS485 BMS compatible
  - Anti-freeze in cold weather
  - Excellent noise control
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</tr>
</thead>
<tbody>
<tr>
<td>25/30/35 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion double pipe evaporator with stable performance</td>
<td>Open protocol RS232 BMS compatible Factory packaged hydraulic module Digital scroll compressor is optional Tropic condition available Low ambient temperature in cooling available</td>
</tr>
<tr>
<td>55/60/65 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
<td>Wire controller Factory packaged hydraulic module Digital scroll compressor is optional Tropic condition available Low ambient temperature in cooling available</td>
</tr>
<tr>
<td>120/130 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
<td>Wire controller Factory packaged hydraulic module Digital scroll compressor is optional Tropic condition available Low ambient temperature in cooling available</td>
</tr>
<tr>
<td>180/200 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
<td>Wire controller Factory packaged hydraulic module Tropic condition available Low ambient temperature in cooling available</td>
</tr>
<tr>
<td>250 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
<td>Wire controller Factory packaged hydraulic module Tropic condition available Low ambient temperature in cooling available</td>
</tr>
<tr>
<td>250 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
<td>Wire controller Factory packaged hydraulic module Tropic condition available Low ambient temperature in cooling available</td>
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<td>180/200 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
<td>Wire controller Factory packaged hydraulic module Tropic condition available Low ambient temperature in cooling available</td>
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<td>250 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
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<td>250 kW Module</td>
<td>Cooling and heating Scroll compressor 50Hz/60Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible</td>
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<td>180/200 kW Module</td>
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<td>Water volume 10/20 m³/h</td>
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<tr>
<td>35 kW Module</td>
<td>Cooling and heating Scroll compressor R410A Module combination for big capacity</td>
<td>Scroll compressor 50Hz motor Direct expansion tube in tube evaporator with stable performance Open protocol RS232 BMS compatible Wire controller Low ambient temperature in cooling available</td>
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<tr>
<td>65/80 kW Module</td>
<td>Cooling and heating Scroll compressor R410A Module combination for big capacity</td>
<td>Scroll compressor 50Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible Wire controller Low ambient temperature in cooling available</td>
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<td>130kW Module</td>
<td>Cooling and heating Scroll compressor R410A Module combination for big capacity</td>
<td>Scroll compressor 50Hz motor Direct expansion shell and tube evaporator with stable performance Open protocol RS232 BMS compatible Wire controller Low ambient temperature in cooling available</td>
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<tbody>
<tr>
<td>Suspended type</td>
<td>2000-15000 m³/h</td>
<td>50Hz/60Hz available Double skin type with high strength Cold-bridge free structure with low air leakage Anti-vibration design for fan and fan motor</td>
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<tr>
<td>Horizontal type</td>
<td>5000-40000 m³/h</td>
<td>Modular design for various applications Double skin type with high strength Low air leakage Accessories can be selected for different applications</td>
</tr>
<tr>
<td>Vertical type</td>
<td>3000-40000 m³/h</td>
<td>Modular air handling unit 3000-200000 m³/h 50Hz/60Hz available Modular design for various applications Double skin type with high strength Low air leakage Accessories can be selected for different applications</td>
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### FAN COIL UNIT (FCU)

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</thead>
<tbody>
<tr>
<td>Two pipes and four pipes</td>
<td>Air flow : 150-2200 CFM Cooling capacity : 1.15-20kW</td>
<td>50Hz/60Hz available Wide capacity range for various application Most of the product are Eurovent certified</td>
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<td>Cooling and heating&lt;br&gt;Scroll compressor&lt;br&gt;R410A&lt;br&gt;Module combination for big capacity</td>
<td>Scroll compressor 50Hz motor&lt;br&gt;Direct expansion tube in tube evaporator with stable performance&lt;br&gt;Open protocol RS232 BMS compatible&lt;br&gt;Wire controller&lt;br&gt;Low ambient temperature in cooling available</td>
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<tr>
<td>Modular air handling unit&lt;br&gt;3000-20000 m³/h</td>
<td>50Hz/60Hz available&lt;br&gt;Modular design for various applications&lt;br&gt;Double skin type with high strength&lt;br&gt;Cold-bridge free structure with low air leakage&lt;br&gt;Various accessories can be selected for different applications</td>
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PRODUCT INTRODUCTION

Standard-Efficiency Centrifugal Chiller
LC-M  450 to 2200 Nominal Tons (1582 to 7735 kW)
COP 5.3 ~ 5.7
R134a

High-Efficiency Centrifugal Chiller
LC-H  650 to 2200 Nominal Tons (2285 to 7735 kW)
COP 5.7 ~ 6.2
R134a

Options and accessories
■ Water inlet/outlet Victaulic connection
■ High pressure water box up to 2.0Mpa
■ Marine water box
■ VSD (Variable speed drive) for single stage
■ Starter (Delta star, Solid state soft starter, Direct on line for high voltage chiller)
■ Chiller vibration isolator
■ Refrigerant isolation valve
■ Non-standard pass on Evaporator or Condenser
■ Remote unit control panel
■ Dual compressor for big capacity
■ Chiller centralized management (Chiller Plant Manager)
■ Sectional transportation
■ Witness performance testing

Product feature
◆ Environment friendly HFC-134a refrigerant
◆ Positive pressure design for compact size
◆ Semi-Hermetic compressor with gas cooled motor
◆ Flooded type/full falling film evaporator and shell and tube condenser
◆ Micro-Tech controller with PLC and 10.4 inch touchable screen
◆ Open protocol RS485 BMS compatible
◆ Cost-effective for various applications

Options and accessories
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◆ Flooded type/full falling film evaporator and shell and tube condenser
◆ Micro-Tech controller with PLC and 10.4 inch touchable screen
◆ Open protocol RS485 BMS compatible
◆ High efficiency (National energy efficiency Grade One)
PRODUCT INTRODUCTION

Standard-Efficiency Centrifugal Chiller
LC-M  450 to 2200 Nominal Tons (1582 to 7735 kW)
COP 5.3 ~ 5.7
R134a

High-Efficiency Centrifugal Chiller
LC-H  650 to 2200 Nominal Tons (2285 to 7735 kW)
COP 5.7 ~ 6.2
R134a

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- Refrigerant isolation valve
- Non-standard pass on Evaporator or Condenser
- Remote unit control panel
- Dual compressor for big capacity
- Chiller centralized management (Chiller Plant Manager)
- Sectional transportation
- Witness performance testing
Super High-Efficiency Centrifugal Chiller
LC-EH 650 to 2200 Nominal Tons (2285 to 7735 kW)
COP 7.05 ~ 7.11
R134a

Product feature
- Environment friendly HFC-134a refrigerant
- Positive pressure design for compact size
- Semi-Hermetic compressor with gas cooled motor
- Full falling film evaporator and shell and tube condenser
- Micro-Tech controller with PLC and 10.4 inch touchable screen
- Super high efficiency, COP up to 7.11 in AHRI condition
- High efficiency (National energy efficiency Grade One)

Options and accessories
- Water inlet/outlet Victaulic connection
- High pressure water box up to 2.0Mpa
- Marine water box
- Starter (Delta star, Solid state soft starter, Direct on line for high voltage chiller)
- Chiller vibration isolator
- Refrigerant isolation valve
- Non-standard pass on Evaporator or Condenser
- Remote unit control panel
- Dual compressor for big capacity
- Chiller sequence management (Chiller Plant Manager)
- Sectional transportation
- Witness performance testing

Super High-Efficiency Centrifugal Chiller
LC-EH 650 to 2200 Nominal Tons (2285 to 7735 kW)
COP 7.05 ~ 7.11
R134a

Product feature
- The latest generation semi-Hermetic dual screw compressor
- Direct expansion evaporator (shell and tubes)
- Independent circuit or each compressor
- Build in two stages oil separate for better lubricant
- Factory standard microprocessor with 7 inch touchable screen
- Open protocol RS485 BMS compatible
- Reliable and highly cost-effective product

Options and accessories
- High pressure water box up to 1.6Mpa
- Stepless capacity control
- High entering condenser water temperature up to 35°C
- Spring isolator/Standard Neoprene pad (field installed)
- Soft starter
- Water flow switch
- Multi units centralized control
- Big chilled water temperature difference from 4 to 8 °C
- Service shut off valve
- Different fouling factor
- Heat recovery with the max hot water temperature to 60 °C
- Remote control panel
- PLC (programmable logic control)
Super High-Efficiency Centrifugal Chiller
LC-EH  650 to 2200 Nominal Tons (2285 to 7735 kW)
COP 7.05 ~ 7.11
R134a

Options and accessories
- Water inlet/outlet Victaulic connection
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- Dual compressor for big capacity
- Chiller sequence management (Chiller Plant Manager)
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- Witness performance testing

Product feature
- Environment friendly HFC-134a refrigerant
- Positive pressure design for compact size
- Semi-Hermetic compressor with gas cooled motor
- Full falling film evaporator and shell and tube condenser
- Micro-Tech controller with PLC and 10.4 inch touchable screen
- Super high efficiency, COP up to 7.11 in AHRI condition
- High efficiency (National energy efficiency Grade One)

DX Type Water Cooled Screw Chiller
LSBLG/MZ  71 to 422 Nominal Tons (253 to 1487 kW)
R22

Options and accessories
- High pressure water box up to 1.6Mpa
- Stepless capacity control
- High entering condenser water temperature up to 35°C
- Spring isolator/Standard Neoprene pad (field installed)
- Soft starter
- Water flow switch
- Multi units centralized control
- Big chilled water temperature difference from 4 to 8 °C
- Service shut off valve
- Different fouling factor
- Heat recovery with the max hot water temperature to 60 °C
- Remote control panel
- PLC (programmable logic control)

Product feature
- The latest generation semi-Hermetic dual screw compressor
- Direct expansion evaporator (shell and tubes)
- Independent circuit or each compressor
- Build in two stages oil separate for better lubricant
- Factory standard microprocessor with 7 inch touchable screen
- Open protocol RS485 BMS compatible
- Reliable and highly cost-effective product
Options and accessories

- High pressure water box up to 1.6Mpa
- Stepless capacity control
- High entering condenser water temperature up to 35°C
- Spring isolator/Standard Neoprene pad (field installed)
- Soft starter
- Water flow switch
- Multi units centralized control
- Big chilled water temperature difference from 4 to 8°C
- Service shut off valve
- Different fouling factor
- Remote control panel
- PLC (programmable logic control)

Product feature

- The latest generation semi-Hermetic dual screw compressor
- Flooded evaporator (shell and tubes)
- Independent circuit or each compressor
- Build in two stages oil separate for better lubricant
- Electronic expansion device to control the precise gas flow
- Factory standard microprocessor with 7 inch touchable screen
- Open protocol RS485 BMS compatible
- High efficiency in full load as well as the partial load

Flooded Type Water Cooled Screw Chiller
LSBLG/MCFN  103 to 426 Nominal Tons (364 to 1500 kW)
R134a

Air Cooled Screw Chiller
LSBLGW/C   108 to 403 Nominal Tons (380 to 1420 kW)
R134a
Product feature
- The latest generation semi-Hermetic dual screw compressor
- Flooded evaporator (shell and tubes)
- Independent circuit or each compressor
- Build in two stages oil separate for better lubricant
- Electronic expansion device to control the precise gas flow
- Factory standard microprocessor with 7 inch touchable screen
- Open protocol RS485 BMS compatible
- High efficiency in full load as well as the partial load

Options and accessories
- High pressure water box up to 1.6Mpa
- Stepless capacity control
- High entering condenser water temperature up to 35°C
- Spring isolator/Standard Neoprene pad (field installed)
- Soft starter
- Water flow switch
- Multi units centralized control
- Big chilled water temperature difference from 4 to 8°C
- Service shut off valve
- Different fouling factor
- Remote control panel
- PLC (programmable logic control)

Product feature
- The latest generation semi-Hermetic dual screw compressor
- Direct expansion type evaporator with stable performance
- DX type evaporator (shell and tubes)
- Build in two stages oil separate for better lubricant
- Electronic expansion device to control the precise gas flow
- Factory standard microprocessor with 7 inch touchable screen
- Open protocol RS485 BMS compatible
- High efficiency in full load as well as the partial load

Options and accessories
- High pressure water box up to 1.6Mpa
- Stepless capacity control
- High ambient temperature type for tropical area is optional
- Spring isolator/Standard Neoprene pad (field installed)
- Soft starter
- Water flow switch
- Multi units centralized control
- Big chilled water temperature difference from 4 to 8°C
- Service shut off valve
- Different fouling factor
- PLC (programmable logic control)
Air Cooled Screw Condenserless Chiller
LSBLGCW/B  108 / 142 / 170 Nominal Tons (380 / 500 / 600 kW)
R134a

Product feature
- The latest generation semi-Hermetic dual screw compressor
- Direct expansion evaporator (shell and tubes)
- Build in two stages oil separate for better lubricant
- Electronic expansion device to control the precise gas flow
- Factory standard microprocessor with 7 inch touchable screen
- Open protocol RS485 BMS compatible
- High efficiency in full load as well as the partial load
- Modular combination for big capacity (Max 8 units)
- No freezing risk in deep winter
- Excellent noise control

Options and accessories
- High pressure water box up to 1.6Mpa
- Stepless capacity control
- Spring isolator/Standard Neoprene pad (field installed)
- Soft starter
- Water flow switch
- Multi units centralized control
- Big chilled water temperature difference from 4 to 8°C
- Service shut off valve
- Different fouling factor
- Remote monitor and control system

Product feature
- Available 50Hz/60Hz application
- Air-cooled condensers with propeller fans with big air flow
- Casing in galvanized sheet steel, powder-painted polyester with excellent corrosion protection
- The motor is big torque type with IP 54 protection
- Electrical connections in weatherproof boxes, easy access for maintenance

Options and accessories
- Anti-corrosive fin
- Additional anticorrosion frame painting
- Condensers fan with Variable speed
- Emergency switch
Product feature
- The latest generation semi-Hermetic dual screw compressor
- Direct expansion evaporator (shell and tubes)
- Build in two stages oil separate for better lubricant
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- Anti-corrosive fin
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- Condensers fan with Variable speed
- Emergency switch
**Options and accessories**

- Anti-corrosive fin
- Network controller (Group control)
- Water flow switch
- Evaporator electric heater
- Hydraulic system (30kW model integrated, 65&130kW model are split type)
- Chilled water temperature difference from 0 to 17°C
- Remote monitor and control system
- Low ambient kit for low ambient cooling mode
- Tropic type for high ambient temperature

**Product feature**

- Reliable scroll compressor
- Self-diagnosis function
- Modular design and mass production
- Direct expansion evaporator (Double tube & shell and tubes)
- Electronic expansion device to control the precise gas flow
- Open protocol RS485 BMS compatible
- High efficiency in partial load, high IPLV
- Lower cost in transportation, installation, operation and service
- Lower starting current and power consumption
- Excellent noise control and neighbor friendly

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**Options and accessories**

- Anti-corrosive fin
- Network controller (Group control)
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- Low ambient kit for low ambient cooling mode
- DC inverter for compressor and fan
- Packaged hydraulic modular system

**Product feature**

- Reliable scroll compressor
- Self-diagnosis function
- Cycle duty for sequence control
- Modular design and mass production
- Direct expansion evaporator (Double tube & shell and tubes)
- Electronic expansion device to control the precise gas flow
- Open protocol RS485 BMS compatible
- Intelligent anti freezing
- Super high efficiency in partial load, high IPLV
- Lower cost in transportation, installation, operation and service
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- Excellent noise control and neighbor friendly

Note: Some of the models and function are under developing.
Air Cooled Scroll Chiller – Aqua Power series
MGB-F(D) (25/30/55/60/65/130/200/250 kW)
R410A

Product feature

- Reliable scroll compressor
- Self-diagnosis function
- Modular design and mass production
- Direct expansion evaporator (Double tube & shell and tubes)
- Electronic expansion device to control the precise gas flow
- Open protocol RS485 BMS compatible
- High efficiency in partial load, high IPLV
- Lower cost in transportation, installation, operation and service
- Lower starting current and power consumption
- Excellent noise control and neighbor friendly

Options and accessories

- Anti-corrosive fin
- Network controller (Group control)
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- Chilled water temperature difference from 0 to 17°C
- Remote monitor and control system
- Low ambient kit for low ambient cooling mode
- Tropic type for high ambient temperature

Air Cooled Scroll Chiller – Aqua Super series
MC-S (25/35/65/80/130 kW)
R410A

Product feature

- Reliable scroll compressor
- Self-diagnosis function
- Cycle duty for sequence control
- Modular design and mass production
- Direct expansion evaporator (Double tube & shell and tubes)
- Electronic expansion device to control the precise gas flow
- Open protocol RS485 BMS compatible
- Intelligent anti freezing
- Super high efficiency in partial load, high IPLV
- Lower cost in transportation, installation, operation and service
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- Anti-corrosive fin
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- DC inverter for compressor and fan
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Note: Some of the models and function are under developing
Air Handling Units
Suspended type 2000-15000 m³/h
Horizontal type 5000-40000 m³/h
Vertical type 3000-40000 m³/h

Options and accessories
■ Type: Vertical, Horizontal, Ceiling suspended
■ Coil rows: 4, 6, 8 for difference capacity
■ Hot water and electric heating coils
■ Mixing box
■ Inlet damper
■ Stainless steel drain pan

Product feature
◆ Available 50Hz/60Hz application
◆ Double skin type with high strength
◆ Cold-bridge free structure with low air leakage
◆ High performance coil
◆ Anti-vibration design for fan and fan motor
◆ Belt drive
◆ Various types for different application

Modular Air Handling Units
Air volume 3000-200000 m³/h

Options and accessories
■ Mixing box
■ Stainless steel drain pan
■ Heat recovery systems
■ Air inlet/outlet selection
■ Filter: Plate type, bag filter and hyper filter with different grad
■ Coil: Chilled water coil, heating coil, steam coil etc
■ Humidifier: Steam type, electrode type, pleat spray type
■ Diffuser
■ Access door

Product feature
◆ Available 50Hz/60Hz application
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◆ Double skin type with high strength
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- Access door
Free cooling is an approach to lowering the air temperature in a building or data center by using naturally cool air or water instead of mechanical refrigeration. When the outdoor temperature is low and large commercial buildings interior spaces may need cooling, the main unit will work on 'Free Cooling mode. Free cooling is the production of chilled water without running compressor. The relative warm and the energy are carried directly to the low pressure condenser, where it is cooled and condensed by the water from the cooling tower. Then the low temperature liquid refrigerant flows to the evaporator driving by gravity, then naturally circulates. The cost is saved due to the compressor’s inactivity, zero power consumption of the main unit. The principle is that the refrigerant tends to move towards the coldest point in a refrigeration circuit. It can be used generally in the transition season such as late fall, winter and early spring.

**Free Cooling Technology**

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**Benefits**

- Free Cooling utilizes the cold external air temperature
- Existing compressor running would be significantly reduced.
- Reduced operation would result in less wear and tear, extending the life of your cooling equipment
- Reduction in power costs and energy consumption.
- A Free cooling system can be run automatically when required
- Payback for a new system investment is short

**SYSTEM ENERGY-SAVING SOLUTIONS**

**Chilled water fan coil unit**

<table>
<thead>
<tr>
<th>Two pipe product</th>
<th>Type</th>
<th>Air flow (CFM)</th>
<th>Capacity (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One way cassette type</td>
<td>300/400/600</td>
<td>3.04-5.7</td>
</tr>
<tr>
<td></td>
<td>Four way cassette type</td>
<td>600-1500</td>
<td>5.7-12.9</td>
</tr>
<tr>
<td></td>
<td>4-way cassette (compact)</td>
<td>300/400/500</td>
<td>3.4-5</td>
</tr>
<tr>
<td></td>
<td>Ductible type</td>
<td>200-2000</td>
<td>2.13</td>
</tr>
<tr>
<td></td>
<td>High pressure ductible type</td>
<td>800-2200</td>
<td>6.6-20</td>
</tr>
<tr>
<td></td>
<td>Wall mounted type</td>
<td>250-600</td>
<td>2.2-5</td>
</tr>
<tr>
<td></td>
<td>Floor standing type</td>
<td>150-900</td>
<td>1.15-7.8</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>4-way cassette (compact)</td>
<td>300/400/500</td>
<td>2.5-3.5</td>
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<td></td>
<td>Ductible type</td>
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- Free Cooling utilizes the cold external air temperature
- Existing compressor running would be significantly reduced.
- Reduced operation would result in less wear and tear, extending the life of your cooling equipment
- Reduction in power costs and energy consumption.
- A Free cooling system can be run automatically when required
- Payback for a new system investment is short

### System Energy-Saving Solutions

#### Free Cooling Technology

Free cooling is an approach to lowering the air temperature in a building or data center by using naturally cool air or water instead of mechanical refrigeration. When the outdoor temperature is low and large commercial buildings interior spaces may need cooling, the main unit will work on 'Free Cooling mode. Free cooling is the production of chilled water without running compressor. The relative warm and the energy are carried directly to the low pressure condenser, where it is cooled and condensed by the water from the cooling tower. Then the low temperature liquid refrigerant flows to the evaporator driving by gravity, then naturally circulates. The cost is saved due to the compressor’s inactivity, zero power consumption of the main unit. The principle is that the refrigerant tends to move towards the coldest point in a refrigeration circuit. It can be used generally in the transition season such as late fall, winter and early spring.

#### Benefits

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### Chilled Water Fan Coil Unit

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<td>3.4-5</td>
<td></td>
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<tr>
<td>Ductile type</td>
<td>200-2000</td>
<td>2.13</td>
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<td>200-1200</td>
<td>2.11.5</td>
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As compared to the traditional decoupled system, which limits variable flow to the chilled water distribution loop, a variable-primary-flow (VPF) system varies water flow through the chiller evaporators as well as the chilled water coils. The constant-flow chiller pumps are eliminated, and a somewhat larger variable-flow pump moves water throughout the entire system, saving pumping energy. A control valve in the bypass line helps assure that system water flow remains above the chillers' minimum limit for the system safety. Flow rate becomes the main indicator of the total system load instead of the delta T.

**Benefits**

- Lower capital cost (fewer pumps, and fewer electrical and piping connections)
- Lower operating cost (there’s seldom excess water in the bypass line)
- Smaller footprint (fewer pumps occupy less space)
- Greater reliability (fewer components)
- Design flexibility (bypass-line arrangement)

**Case**

**Country Garden 5-star beach resort hotel**

Building area: 104,290 m²  
Main function: hotel, multi-function conference, entertainment, restaurant, shopping mall  
Equipment configuration:  
Water-cooled centrifugal chiller: LC600 two units  
Water-cooled screw chiller:LSBLG1235 one unit  
Full heat recovery screw chiller: LSBLG570 one unit  
Half Million operation cost saved per year

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In conventional air conditioning systems, the difference between entering and leaving temperatures across the chillers (ΔT) is about 5 °C. However, it will be higher – at 9 to 14 °C – in the case of high-ΔT chilled water systems.

The most important benefits are, of course, reduction in sizes of pipes, valves, fittings, control valves, balancing valves and pumps. Obviously, the insulation cost will also be lower; likewise, connected pumps power requirements will also be lower. It follows therefore that one of the main themes in today’s air conditioning systems viz., conservation of energy, is well addressed in this system. It is needless to say that first cost of the entire piping system will also be lower in this system.

The saving in connected power due to smaller pumps employed will be greater than any increase in power requirements of the chillers due to the larger range through which the chillers will be required to work. These advantages become increasingly significant as the plant capacities go up. For large plants, therefore high-ΔT systems are the first choice. This is typified by the District Cooling Plants. Capacities of such plants range from about 10,000 TR to over 200,000 TR. Using normal ΔT systems for plants of such size is unthinkable.

**Benefits**

- Lower initial investment
- Bigger design capacity
- Energy saving especially for the pumps
- Total operation cost saving
- Reduce the life-cycle cost for the whole building

**Case**

**Hilton International 5 Star Hotel**

Construction Area: 176122 m²  
Functions: Hotel, Meetings, Entertainment, Catering, Shopping mall  
Midea Products:  
Centrifugal Water Chillers four units  
Screw Chiller (full heat recovery) two units  
1.3 million total operation cost saving per year
As compared to the traditional decoupled system, which limits variable flow to the chilled water distribution loop, a variable-primary-flow (VPF) system varies water flow through the chiller evaporators as well as the chilled water coils. The constant-flow chiller pumps are eliminated, and a somewhat larger variable-flow pump moves water throughout the entire system, saving pumping energy. A control valve in the bypass line helps assure that system water flow remains above the chillers’ minimum limit for the system safety. Flow rate becomes the main indicator of the total system load instead of the delta T.

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**High-Delta T Chilled Water Systems**

In conventional air conditioning systems, the difference between entering and leaving temperatures across the chillers ($\Delta T$) is about 5 °C. However, it will be higher – at 9 to 14 °C – in the case of high-$\Delta T$ chilled water systems. The most important benefits are, of course, reduction in sizes of pipes, valves, fittings, control valves, balancing valves and pumps. Obviously, the insulation cost will also be lower; likewise, connected pumps power requirements will also be lower. It follows therefore that one of the main themes in today’s air conditioning systems viz., conservation of energy, is well addressed in this system. It is needless to say that first cost of the entire piping system will also be lower in this system.

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Heat Recovery Chiller Systems

The heat recovery chiller system uses unique technology to recover large amounts of low grade heat that would typically be rejected from a process or the building to a cooling tower. Heat recovery chiller can raise the temperature of the water up to 140 °F (60 °C), making the heated water usable for processes, building heat, or domestic hot water. Saves energy by heating water more economically than fuel-fired boilers or electric resistance heat and widely used in hotels, hospitals, school fitness centers and industrial processing etc. On the other hand it will reduce the cooling tower load to reduce power consumption and make up water from the cooling tower.

Benefits

- Produce free-cost hot water, temperature up to 60°C
- Single chiller but multiple uses to save the initial cost
- Cleaning hot water is separated from the condenser water by using different bundle
- Save the initial investment and decrease the running cost

Case

Ramada Plaza 5-star hotel, Foshan city
Building area: 260,000 m²
Main function: hotel, multi-function conference, entertainment, restaurant, shopping mall
Equipment configuration
Water-cooled centrifugal chiller: LC800M two units
VSD water-cooled centrifugal chiller: LC600MB one unit
Full heat recovery screw chiller: LSBLGW1250 one unit
VSD centrifugal chiller and full heat recovery chiller

Geo Source Heat Pump Water System

Geo Source heating and cooling systems use the earth as an energy source and heat sink. A series of pipes, commonly called a "loop," are used to connect the Geo Source system’s heat pump to the earth. In a few installations, refrigerant from the heat pump is circulated through the ground in a closed loop. The pipes which are buried in the ground can extract cooling and heating energy from the ground. This energy can then be used to cool or heat radiators to provide cooling or heating for the terminal.

Geo Source heating and cooling systems use the earth as an energy source and heat sink. In many applications, the ground temperature during mid-winter can be 40 degrees warmer than the coldest air temperature. This significantly increases both the capacity and efficiency of the heat pump system. Depending on geographic location, Geo source heat pump systems have reduced heating costs 75% more than electric furnaces and about 50% more than air-source units. In extreme cold climates, the advantage over air-source heat pumps for heating has been even greater. Also, reduced improvements in cooling costs have been around 25% over high efficiency conventional air conditioners.

Benefits

- Simultaneously heat & cool different parts of the same building
- Very quiet operation
- Can be set up in multiple zones, with each zone having an individual room control
- Greater freedoms in building design due to 50-80% less mechanical room space
- Long system life span
- Big saving in maintenance and operation
- Ground heat exchanger is maintenance free and will last 40+ years
- Lower lift-cycle cost and fast payback

Case

Tianjin Binhai Industrial Park
Construction Area: 217,000 m²
Functions: Gourmet restaurants, Science and technology park
Midea Products:
- LC1200R10 Centrifugal heat pump three units
- LC1800MS10 Centrifugal water chiller one unit
Annual operating cost saving 3.2 million yuan.
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Chiller performance varies significantly with operating conditions. Full-load performance is not a good indicator of overall performance, because chiller plants rarely operate at full load. Instead, part load performance is critical to good overall chiller plant performance.

In order to optimize the working of chillers, pumps, cooling towers and all other valves we need a microprocessor controller which is commonly named chiller plant manager to monitor as well as control the whole system. The optimized method requires auto-adaptive controls. This control logic constantly adjusts the condenser water supply temperature to the value that uses the least amount of power. The controller measures the power requirement for the chiller and cooling tower. The condenser water temperature set point then is altered and the power consumption is checked again. If the total power consumption goes down, a similar adjustment is made and the total power is checked again.

The chiller plant manager can be used to control multiple chillers at the same time and it is open protocol which is BMS compatible. The system can control cooling source systems simply and in an integrated manner by controlling a variety of heat source equipment and their optimum load distribution, variable flow rate of chilled water and cooling water, and air flow of the cooling tower, with the goal of improving COP in the entire system.

**Benefits**

- Pragmatic control modes
- Equalized operation time
- Optimum operation schedule
- System data report
- Strategies to address problems
- Remote communication function

**Case**

**Dragon Prosperous International Hotel**

Centrifugal chiller two units

Screw water chiller three units

**VSD (Variable Speed Drive)**

A variable speed drive (VSD) is a type of adjustable speed drive used to control the rotational speed of an alternating current electric motor by adjusting the frequency and voltage applied to the motor. From the Affinity Laws for Centrifugal Loads as follows, we can see the idea of the VSD (Variable speed drive) in the chiller application. The motor power consumption is cubic times related to the RPM. It means power consumption is proportional to speed cubed; this is why VSDs save energy and have become prevalent in centrifugal devices. As can be seen from the graphs above, lowering the speed reduces the power requirement greatly. If the motor speed decreases, the power consumption will decrease tremendously.

**Benefits**

- Super energy saving up to 30%, quick payback
- Soft start less stress to the motor and bearing, extends the chiller life and reliability
- Free standing design for a wide range of applications and versatility
- Quieter operation in the partial load condition
- Amazing NPLV for the sustainability strategy

**Case**

**BYD industrial park**

Centrifugal chillers eight units
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Case
BYD industrial park
Centrifugal chillers eight units
Midea Chiller Product Lineup

- Water Cooled Centrifugal Chiller
- Water Cooled Screw Chiller
- Air Cooled Screw Chiller
- Air Cooled Scroll Chiller
- Air Handling Unit (AHU)
- Fan Coil Unit (FCU)

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Note: The data in this book may be changed without notice for further improvement on quality and performance.
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