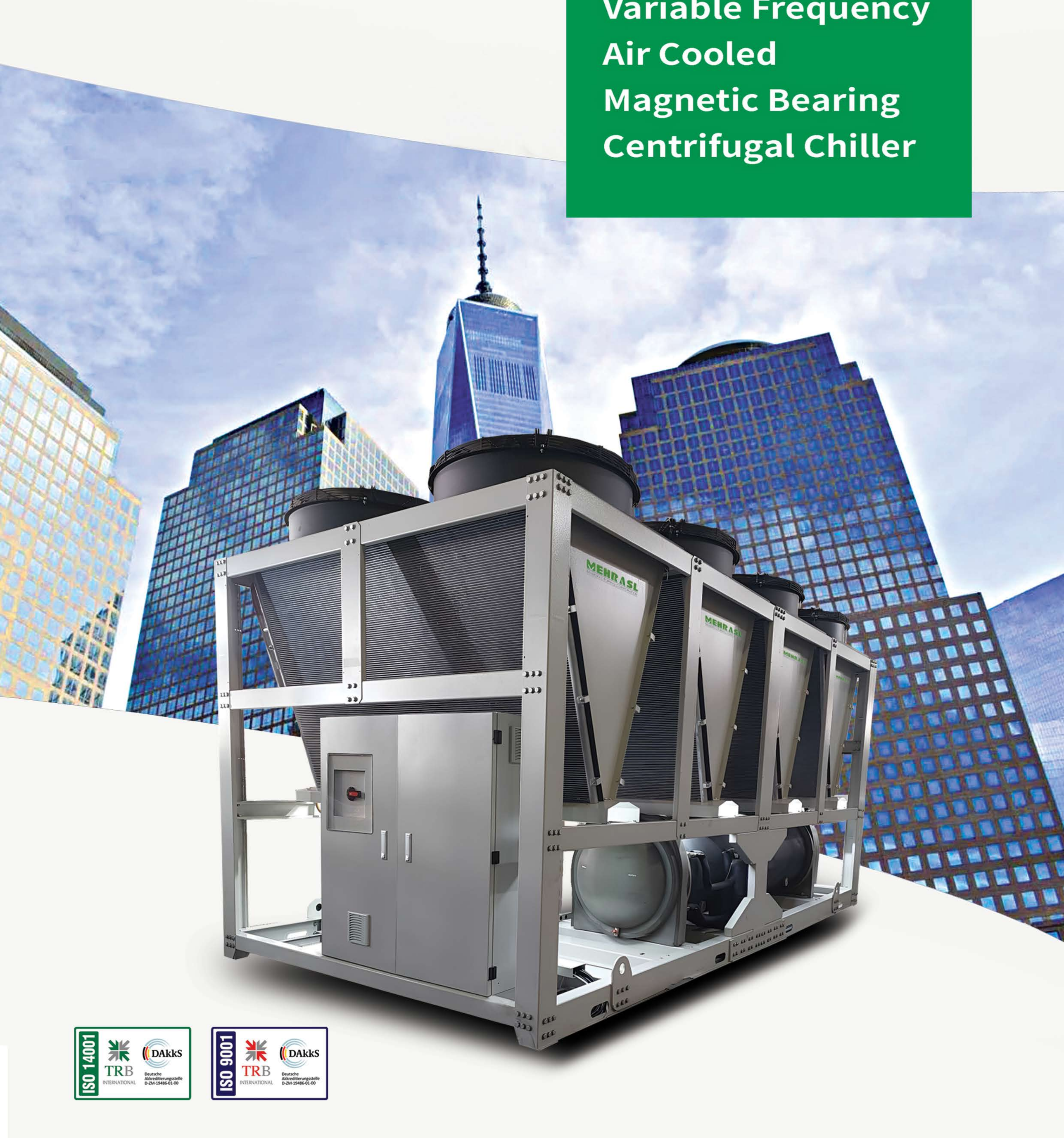
MEHRASL
MANUFACTURING CORPORATION

# Variable Frequency Air Cooled Magnetic Bearing Centrifugal Chiller

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## About Mehr Asl Company

In 1990, Mehr Asl manufacturing corporation has been established to provide new products with modern technology in the field of air-conditioning and industrial refrigeration relying on many years of experience. At the moment, this company is a leading innovator and provider of advanced in terms of size, production capacity, combination of a wide range of machines and experienced professionals in Iran. Also, a leader in ventilation, intelligent forward-looking planning.

**1. Mehr Asl Manufacturing Corporation & Company Headquarter**

Located in Salimi.Ind.Zone, Km 35 Azarshahr Road, Tabriz, Iran, consists of three factories.

**1.1. Electrical Chiller Factory**

Located in Salimi.Ind.Zone, Km 30, this factory produces all types of Chiller, Package Unit with Compression Cycle, AHU and Cooling Tower.

**1.2. Aria Air Conditioning & Refrigeration (subsidiary company of Mehr Asl)**

Located in Salimi.Ind.Zone, Km 30, this factory produces different varieties of Industrial Refrigeration Equipment, Cryogenic Insulation (Vulcanized Rubber) and Fiberglass Cooling Tower.

**1.3. Mehr Asl Main Complex**

Located in Salimi.Ind.Zone, Km 45, production factories of Copper Tube, Nitrogen Separation, Absorption Chillers, Brass and Copper Fittings, Coil, Industrial Radiator, Fan Coil and Air Conditioning Systems are founded in this complex.

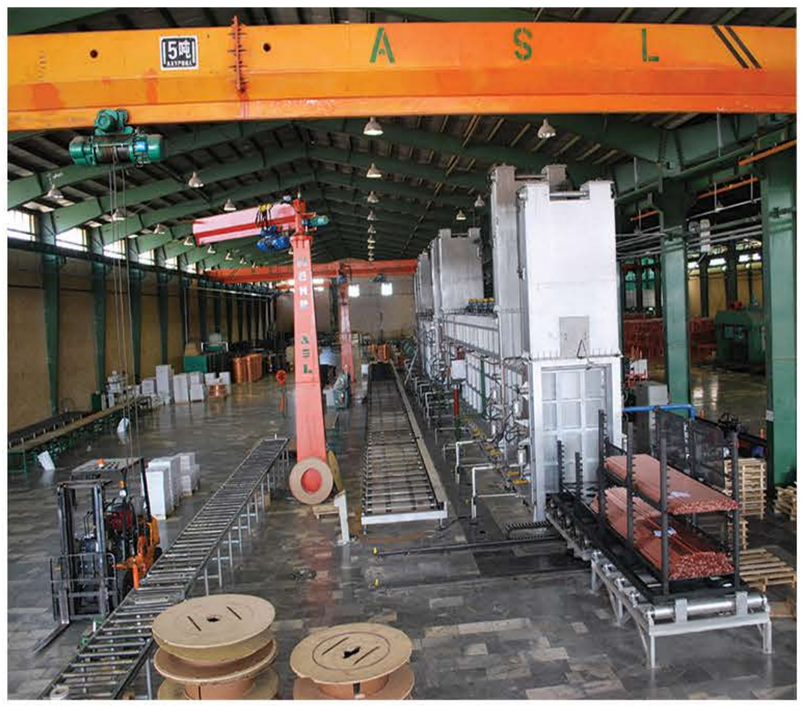
**2. Certificates, Standards & Laboratories**

All stages of production, sale and after-sale services are under ISO 9001 quality assurance standards and ISO 14000 for activities affect the environment. This company is dedicated to quality and has a variety of laboratories using developed methods to meet the quality standards of:

2.1. ASTM B280 standard specification for copper tube is used in metallurgical laboratories

2.2. ISRI 6016 (ISO 5151) and ISRI 3740 (ARI 440) standards specification for testing air conditioning system, fan coil and coil

2.3. ARI 590 standard specification for electric chillers




# Air Cooled Magnetic Bearing Centrifugal Chiller

## Features & Advantages:

### Energy Efficiency

Adopt natural cooling, no cooling water loss, save water. When running at low ambient temperature, switch to natural air cooling, run all year round, save 50% of costs.

### Intelligent Control

Microcomputer intelligent control, intelligent switching of natural cooling, pre-cooling and host cooling, no manual intervention; intelligent load adjustment, 20 seconds fast restart, guarantee the terminal process, 10% load can still operate normally.

### Safety, Reliable

Compressor convenient cabin protection design to ensure the rock-solid quality of the unit, corrosive environment, continuous operation environment, extreme environment 2500 application experience.

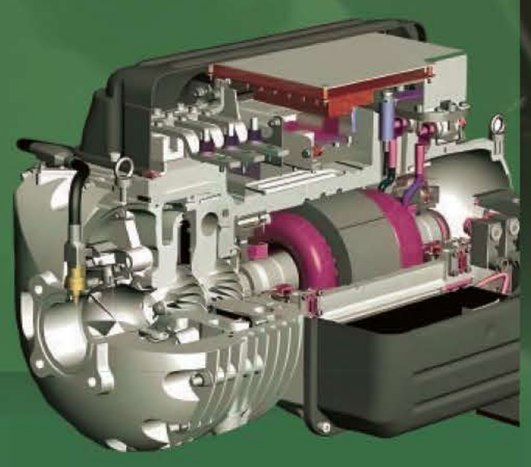
### Maintenance Easy

After-sales system is perfect, lifelong maintenance of the unit; remote monitoring, early warning monitoring, fault notification processing and other functions.

# CORE TECHNICAL

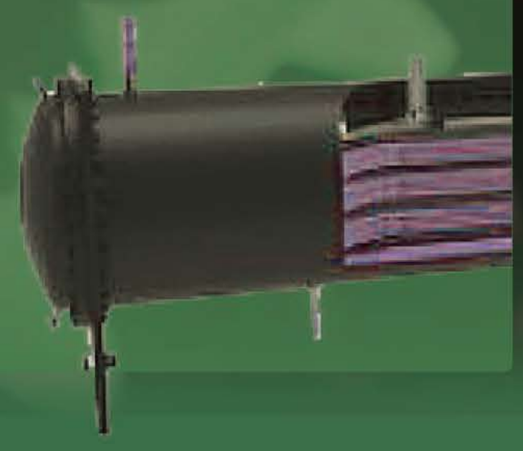
## Compressor

Magnetic suspension technology, oil-free and friction-free, reduces maintenance work, and has no performance degradation throughout the life cycle;
Frequency conversion start, current as low as 2AMP;
Permanent magnet synchronous direct drive, efficiency up to 98%;
The impeller is the only running part, stable and reliable.



## Falling-film Evaporator

Avoids energy efficiency loss caused by conventional full liquid, improves heat exchange efficiency by 15%;
Refrigerant filling is reduced by 40%;
Avoids suction with liquid, the compressor can reach the highest speed, and runs continuously and stably.



## Control Technology

Powerful control function, optimizes the unit to operate at the best efficiency under different working conditions;
Operation data pre-analysis, avoids the operation surge zone, ensures the best compression operation state, and has a friendly human-computer interaction interface for convenient adjustment.

## Microchannel condenser

Technologically advanced microchannel heat exchanger, with a heat transfer rate that is 30% better than the coil heat exchanger;
W-shaped structural design, uniform wind speed distribution, more uniform contact between the heat exchanger and the airflow, and an overall energy efficiency improvement of 15.2%;
Advanced die-casting production process, with the same heat exchange area, the weight is reduced by 60% and the volume is reduced by 40%.

# TECHNICAL PARAMETERS

## Air Cooled Magnetic Bearing Chiller SALCxxM6W for General Applications

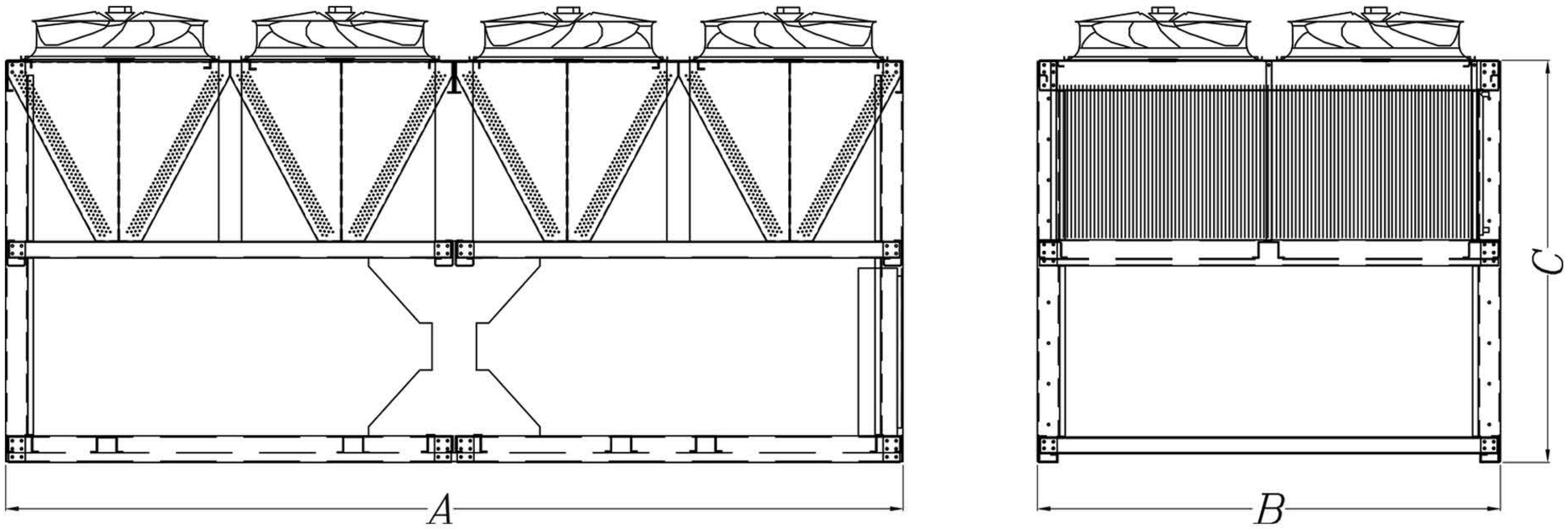
| Model | | SALC1TD120M6W | SALC1TD140M6W | SALC1TD160M6W |
|---|---|---|---|---|
| Cooling Capacity | KW | 360 | 470 | 550 |
| | Kcal/h×$10^4$ | 30.9 | 40.4 | 47.3 |
| Nominal Input Power（KW） | | 101 | 133 | 142 |
| COP | | 3.55 | 3.53 | 3.87 |
| IPLV | | 5.7 | | |
| Medium | | Clean Water | | |
| Input Power | | 3PH-380V/400V/ 50HZ | | |
| Compressor | Mode | Magnetic Bearing Centrifugal | | |
| | Quantity | 1 | 1 | 1 |
| | Max. Input Power (KW) | 92 | 121 | 127 |
| | Max.Rated Load Current (A) | 158 | 208 | 218 |
| | Starting Current (A) | 2.0 | | |
| Fan Motor | Quantity | 8 | 8 | 10 |
| | Total Input Power (KW) | 24 | 24 | 32 |
| Load / Unload | | 0～100% | | |
| Refrigerant | | R134A | | |
| Condenser | Mode | High efficiency microchannel heat exchanger | | |
| | Ambient temperature (Dry bulb) | 35℃ | | |
| Evaporator | Mode | High efficient falling film shell and tube type | | |
| | Chilled Water Flow（$m^3/h$） | 61.7 | 80.8 | 94.6 |
| | Hydraulic Pressure （kPa） | 63 | 63 | 63 |
| | Chilled Water temperature ℃ | Inlet water 12℃, outlet water 7℃ | | |
| Refrigerant Control | | Electronic expansion valve | | |
| Safety Protection | | Water pump interlocking protection, leakage protection, overload protection, overpressure, reverse phase protection, refrigerant abnormality protection, compressor overtemperature protection, ultra-high pressure safety valve protection, water shortage protection, etc. | | |
| Pipe Diameter | Chilled Water inlet & outlet diameter | DN100 | DN125 | DN125 |
| Noise（dB） | | 85 | 85 | 85 |
| Weight (kg) | | 2800 | 3500 | 4300 |
| Dimension（L×W×H）(mm) | | 4700*2200*2500 | 4700*2200*2500 | 5900*2200*2500 |

Technical description:

1. The chilled water flow rate of the unit under standard working conditions is cooling capacity*0.172$m^3$/h. When using, the corresponding water flow rate should be selected according to the cooling capacity of different working conditions.
2. Evaporator: inlet water temperature 12℃, outlet water temperature 7℃; water side pressure: 1.0MPa.
3. The above parameters are subject to change without prior notice. Please refer to the actual product.

# Dimension

## Unit size schematic diagram R134A (7 °C)




## Unit size table R134A (7 °C)

| No | Model | Dimension | | |
|---|---|---|---|---|
| | | **A** | **B** | **C** |
| 1 | **SALC1TD120M6W** | 4700 | 2200 | 2500 |
| 2 | **SALC1TD140M6W** | 4700 | 2200 | 2500 |
| 3 | **SALC1TD160M6W** | 5900 | 2200 | 2500 |

Based on the actual product, no further notice will be given for any changes.

# TECHNICAL PARAMETERS

## Air Cooled Magnetic Bearing Chiller SALCxxM6W for Data Center

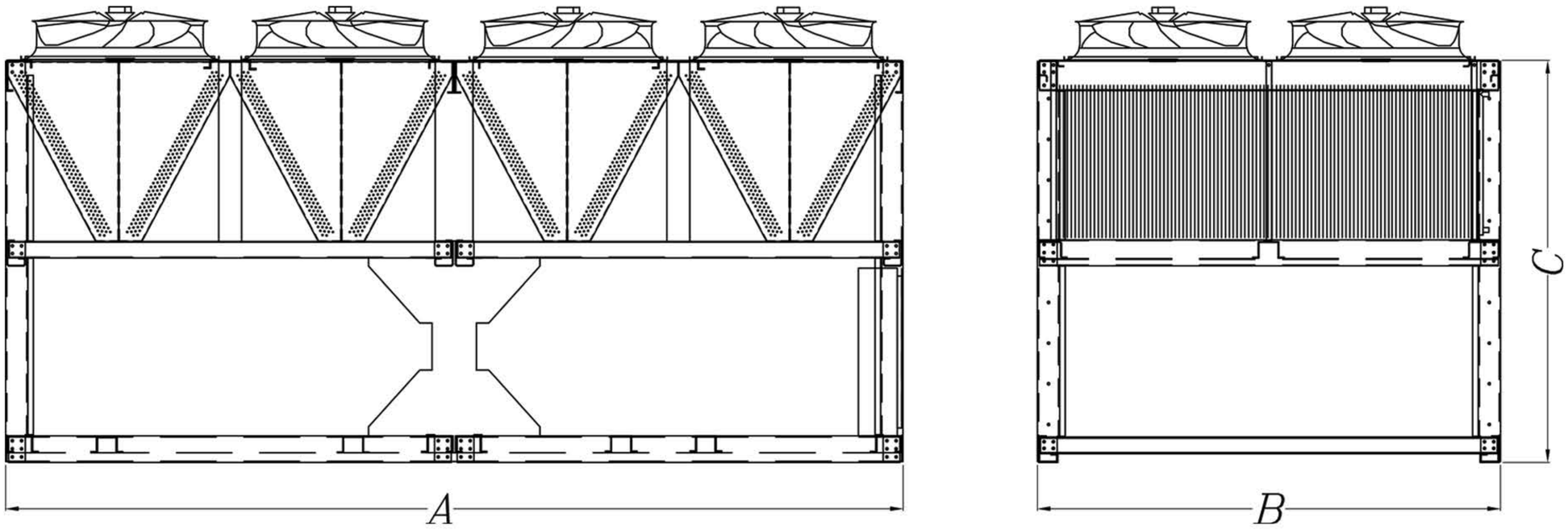
| Model | | SALC1TD130M6W | SALC1TD180M6W | SALC1TD200M6W |
|---|---|---|---|---|
| Cooling Capacity | KW | 420 | 570 | 675 |
| | Kcal/h×$10^4$ | 36.1 | 49 | 58.1 |
| Nominal Input Power（KW） | | 104 | 136 | 145 |
| COP | | 4.04 | 4.19 | 4.66 |
| IPLV | | 6.7 | | |
| Medium | | Clean Water | | |
| Input Power | | 3PH-380V/400V/ 50HZ | | |
| Compressor | Mode | Magnetic Bearing Centrifugal | | |
| | Quantity | 1 | 1 | 1 |
| | Max. Input Power (KW) | 92 | 121 | 127 |
| | Max.Rated Load Current (A) | 158 | 208 | 218 |
| | Starting Current (A) | 2.0 | | |
| Fan Motor | Quantity | 8 | 10 | 12 |
| | Total Input Power (KW) | 24 | 32 | 38 |
| Load / Unload | | 0～100% | | |
| Refrigerant | | R134A | | |
| Condenser | Mode | High efficiency microchannel heat exchanger | | |
| | Ambient temperature (Dry bulb) | 35℃ | | |
| Evaporator | Mode | High efficient falling film shell and tube type | | |
| | Chilled Water Flow（$m^3/h$） | 60.5 | 82.1 | 97.2 |
| | Hydraulic Pressure （kPa） | 63 | 63 | 63 |
| | Chilled Water temperature ℃ | Inlet water 2 2 ℃, outlet water 1 5 ℃ | | |
| Refrigerant Control | | Electronic expansion valve | | |
| Safety Protection | | Water pump interlocking protection, leakage protection, overload protection, overpressure, reverse phase protection, refrigerant abnormality protection, compressor overtemperature protection, ultra-high pressure safety valve protection, water shortage protection, etc. | | |
| Pipe Diameter | Chilled Water inlet & outlet diameter | DN100 | DN125 | DN125 |
| Noise（dB） | | 85 | 85 | 85 |
| Weight (kg) | | 3200 | 3900 | 4700 |
| Dimension（L×W×H）(mm) | | 4700*2200*2500 | 5900*2200*2500 | 7100*2200*2500 |

Technical description:

1. The chilled water flow rate of the unit under standard working conditions is cooling capacity*0.144$m^3$/h. When using, the corresponding water flow rate should be selected according to the cooling capacity of different working conditions.
2. Evaporator: inlet water temperature 22℃, outlet water temperature 15℃; water side pressure: 1.0MPa.
3. The above parameters are subject to change without prior notice. Please refer to the actual product.

# Dimension

## Unit size schematic diagram R134A (15°C)




## Unit size table R134A (15°C)

| No | Model | Dimension | | |
|---|---|---|---|---|
| | | **A** | **B** | **C** |
| 1 | **SALC1TD130M6W** | 4700 | 2200 | 2500 |
| 2 | **SALC1TD180M6W** | 5900 | 2200 | 2500 |
| 3 | **SALC1TD200M6W** | 7100 | 2200 | 2500 |

Based on the actual product, no further notice will be given for any changes.

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