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Snowman Group reserves the right to change its products without notice in advance.
The technical parameters shall be subject to order contract or technical appendix of the contract.

RefComp

Reciprocating Compressor Unit

AC/AP Series Semi-Hermetic Reciprocating Compressor Condensing Units



Commercial
Advanced
Technology

Originally from Italy.
The Source of Power.
The Choice of Refrigeration.
RefComp Units.
Creating energy efficient
green refrigeration solutions.



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Company Introduction

Fujian Snowman Group Co., Ltd. was founded in March 2000 and listed on the Shenzhen Stock Exchange of China in December 2011 (stock code: 002639). With compressors as its core, the company is a high-tech company, integrating R&D, design, manufacturing, sales, engineering installation and after-sales service of industrial and commercial refrigeration, refrigeration and complete sets of refrigeration and ice-making systems.

Global Business Layout:



Applications

Compressor condensing unit is a common refrigeration equipment, widely used in:

-  Commercial ice-making
-  Food Processing and Cold Chain Logistics
-  Commercial & Industrial Manufacturing & Air Conditioning
-  Low temperature storage of medicines and vaccines.....and many other fields.

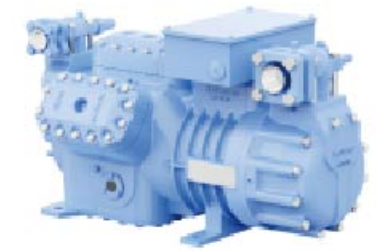


Examples of common freezing and refrigeration temperature ranges are as follows:

| Field | Temperature Range | Field | Temperature Range |
|---------------------|-------------------|-------------------------|-------------------|
| Cold Storage | -15~-0 °C | Ice making | -15~0°C |
| Supermarket freezer | -15~-20°C | Ice cream | -18~-22 °C |
| Flesh slaughter | -18~-25°C | Low temperature storage | -18~-30°C |

Product Introduction

The SP Series reciprocating compressor is RefComp's most widely used series of compressors, with a wide range of models. With a power range of 5~70HP and displacement range of 19.3~222m³/h, they are extensively applied in various industrial and commercial refrigeration and air-conditioning areas.



The RefComp compressors are technologically advanced and present a series of RefComp compressor condensing units, known as the AC/AP series.

- Optimized solutions: for commercial and industrial refrigeration
- Fast return on investment and low life cycle costs
- Stable and reliable, always adapted to system requirements
- Flexible installation
- Open control interfaces and multiple control forms, quick commissioning, easy operation
- Creating energy-efficient refrigeration solutions



Structural Diagram

Air-cooled Condenser

- Optimize airflow organization, improve internal circulation efficiency.
- Specific process to ensure the system's cleanliness.
- Corrosion prevention and thicker plates ensure reliability.
- Relatively low operating costs.

Oli Separator

- An indispensable key component that extends equipment life and improves overall performance.
- Accurate filtration technology and optimized structural design.
- Efficient oil separator can significantly reduce noise and pulsation on the discharge side.
- Optimized oil return line.

Junction Box

- Convenient for system linking and centralized control.
- IP65
- Control cabinet, PCL control cabinet, and VFD control cabinet are optional.



RefComp SP Series Compressor

- Fully equipped configuration, reliable semi-hermetic reciprocating compressor.
- Wide operation range.
- High efficiency and stable performance.

Liquid Reservoir

- Scientific flow field design and pressure control achieve efficient gas-liquid separation.
- Stable system function.
- Low resistance with compact design, preventing wet compression of the compressors.

Pressure Control Panel

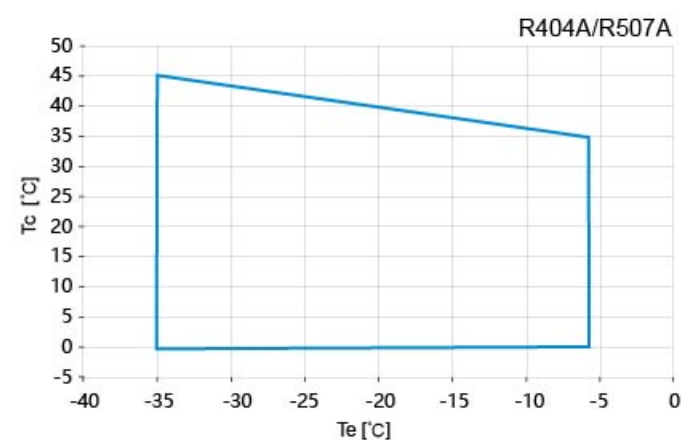
- Pressure controller with LP/HP pressure gauges.
- A highly sensitive and low-error pressure controller ensures that the system operates within a safe range.

Piping

- Optimize the piping layout and flow velocity to ensure smooth flow of refrigerant.
- Fully consider the convenience of equipment maintenance.
- An optimized structural design reduces pipe vibration.

Application Range

AP4L022E Unit Operating Range



The above is a diagram of the operating range of a compressor condensing unit, using AP4L022E as an example. Please note that parameters are subject to change without notice.

For more information on refrigerant types etc. Please contact us.

Conditions of Use

| Low temperature | | Middle and high temperature | |
|--|---------------------------|-----------------------------|---------------------------|
| Design working condition | Storage temperature range | Design working condition | Storage temperature range |
| -23/48°C | -25~-15°C | -7/48°C | -15~0°C |
| Electrical System: 400V/3P/50Hz | | | |
| Oil: Use RefComp supplied or approved refrigeration oils | | | |
| Refrigerant: R404A/R507A | | | |

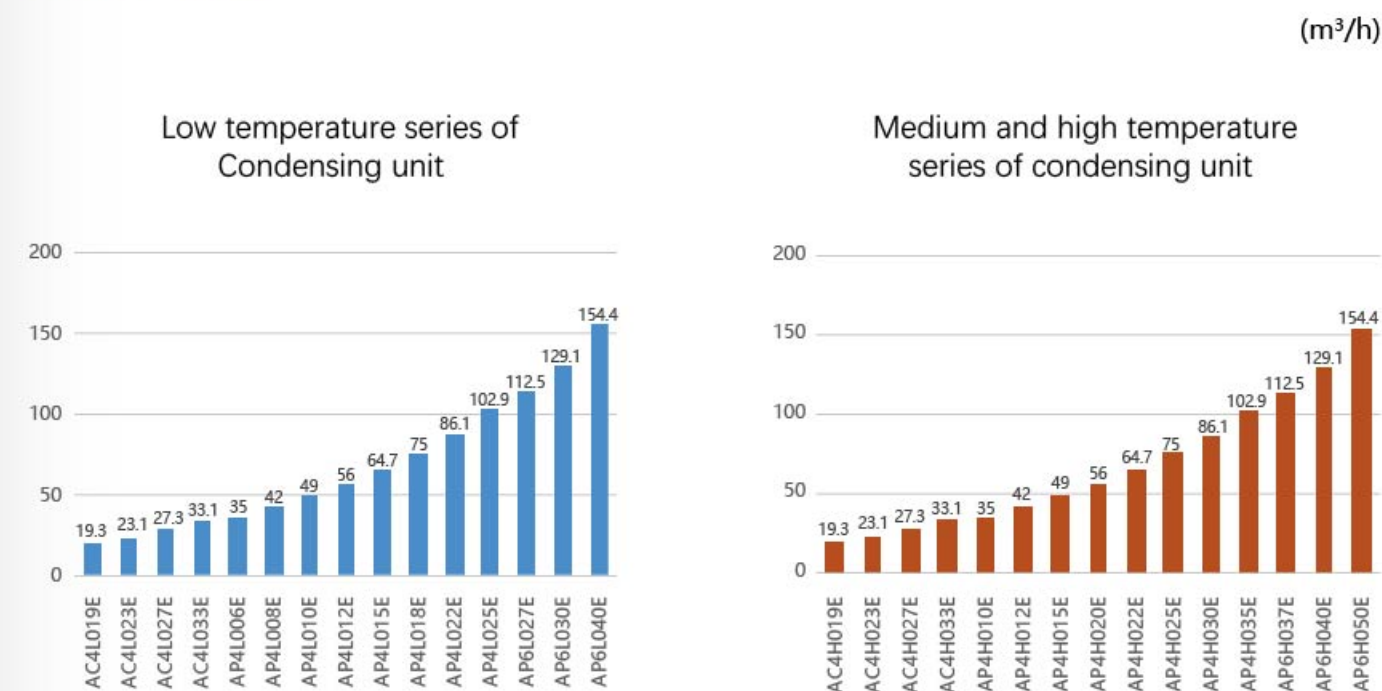
Application environment: ventilated room, relative humidity is not more than 85% (temperature of 20 °C ±5 °C)The altitude of the installation place is not more than 1000 meters above sea level, and there is no gas, liquid and conductive dust in the environment that is enough to corrode the metal and destroy the insulation.Note: If you need to use other refrigerants, please contact us to confirm; if you need more compressor in parallel, please contact us.

Explanation of Type Designation

| Number | Designation | Indicate | Interpretations |
|--------|-----------------------------|---------------|--|
| 1 | Condensor Type | A | A—Air Cooling |
| 2 | Compressor NO. | 1、2、3、4、5、6 | e.g.: 1 - single compressor (may be omitted); 2 - two compressors in parallel; 3 - three compressors in parallel |
| 3 | Compressor Type | Three in all. | e.g.: C4L、C4H、P4L、P4H、P6L、P6H and so on |
| 4 | Compressor Motor Horsepower | Three in all. | 006~050 |
| 5 | Oil | One in all. | E-ester oils |

The above is the naming of the compressor condensing unit.

Displacement



Performance

The following performance data are based on RefComp Selection Software v2.0.7, R404A/R507A refrigerants.

| Type (standard) | Refrigeration Capacity Q0/kW MT T0=-7°C/ Tc=48°C R404A/R507A | Refrigeration Capacity Q0/kW LT T0=-23°C/ Tc=48°C R404A/R507A |
|--------------------|---|--|
| AC4L019E | 10.5 | 4.8 |
| AC4H019E | 10.3 | 4.4 |
| AC4L023E | 12.1 | 5.5 |
| AC4H023E | 12.4 | 5.5 |
| AC4L027E | 14.8 | 6.9 |
| AC4H027E | 15.2 | 7 |
| AC4L033E | 18.6 | 8.3 |
| AC4H033E | 18.4 | 8.6 |
| AP4L006E | 19.4 | 8.8 |
| AP4H010E | 18.9 | 8.6 |
| AP4L008E | 23.3 | 10.6 |
| AP4H012E | 22.7 | 10.3 |
| AP4L010E | 27.2 | 12.3 |
| AP4H015E | 26.5 | 12 |
| AP4L012E | 31.1 | 14.1 |
| AP4H020E | 30.3 | 13.7 |
| AP4L015E | 35.9 | 16.3 |
| AP4H022E | 35.5 | 16.1 |
| AP4L018E | 41.7 | 18.9 |
| AP4H025E | 41.2 | 18.6 |
| AP4L022E | 47.8 | 21.7 |
| AP4H030E | 47.2 | 21.4 |
| AP4L025E | — | 26.1 |
| AP4H035E | 56.6 | 25.7 |
| AP6L027E | 62.5 | 28.4 |
| AP6H037E | 61.8 | 28 |
| AP6L030E | 71.9 | 32.6 |
| AP6H040E | 71 | 32.1 |
| AP6L040E | 86.2 | 39.1 |
| AP6H050E | 85 | 38.5 |



For further details
Please refer to RefComp Software



Technical Data

| Series | Compressor Condensing Unit | Compressor | | | Condenser | | | |
|--------|-------------------------------|------------|-----------------------|----------------------|-----------|--------|----------|-------|
| | | Models | Displacement /m³/h | Nominal Power /HP | Diameter | Number | Air flow | Power |
| SPC4 | AC4L019E | SPC4-19L | 19.3 | 5 | 500 | 1 | 6416 | 504 |
| | AC4H019E | SPC4-19H | | 6 | 500 | 2 | 12832 | 1008 |
| | AC4L023E | SPC4-23L | 23.1 | 5 | 500 | 1 | 6187 | 504 |
| | AC4H023E | SPC4-23H | | 6 | 500 | 2 | 12832 | 1008 |
| | AC4L027E | SPC4-27L | 27.3 | 6 | 500 | 1 | 6187 | 504 |
| | AC4H027E | SPC4-27H | | 8 | 500 | 2 | 12374 | 1008 |
| | AC4L033E | SPC4-33L | 33.1 | 8 | 500 | 2 | 12832 | 1008 |
| | AC4H033E | SPC4-33H | | 10 | 400 | 4 | 12852 | 864 |
| SP4 | AP4L006E | SP4LN0600 | 35 | 6 | 500 | 2 | 12832 | 1008 |
| | AP4H010E | SP4HN1000 | | 10 | 400 | 4 | 12852 | 864 |
| | AP4L008E | SP4LN0800 | 42 | 8 | 500 | 2 | 12374 | 1008 |
| | AP4H012E | SP4HN1200 | | 12 | 400 | 6 | 19896 | 1296 |
| | AP4L010E | SP4LN1000 | 49 | 10 | 400 | 4 | 12852 | 864 |
| | AP4H015E | SP4HN1500 | | 15 | 500 | 4 | 25664 | 2016 |
| | AP4L012E | SP4LN1200 | 56 | 12 | 400 | 6 | 19896 | 1296 |
| | AP4H020E | SP4HN2000 | | 20 | 500 | 4 | 24748 | 2016 |
| | AP4L015E | SP4L1500 | 64.7 | 15 | 400 | 6 | 19896 | 1296 |
| | AP4H022E | SP4H2200 | | 22 | 500 | 4 | 24748 | 2016 |
| | AP4L018E | SP4L1800 | 75 | 18 | 500 | 4 | 25664 | 2016 |
| | AP4H025E | SP4H2500 | | 25 | 600 | 4 | 35808 | 3300 |
| | AP4L022E | SP4L2200 | 86.1 | 22 | 500 | 4 | 24748 | 2016 |
| | AP4H030E | SP4H3000 | | 30 | 710 | 2 | 26998 | 3242 |
| | AP4L025E | SP4L2500 | 102.9 | 25 | 600 | 4 | 35808 | 3300 |
| | AP4H035E | SP4H3500 | | 35 | 630 | 4 | 40388 | 3748 |
| SP6 | AP6L027E | SP6L2700 | 112.5 | 27 | 600 | 4 | 35808 | 3300 |
| | AP6H037E | SP6H3700 | | 37 | 630 | 4 | 40388 | 3748 |
| | AP6L030E | SP6L3000 | 129.1 | 30 | 710 | 2 | 26998 | 3242 |
| | AP6H040E | SP6H4000 | | 40 | 710 | 4 | 53996 | 6484 |
| | AP6L040E | SP6L4000 | 154.4 | 40 | 630 | 4 | 40388 | 3748 |
| | AP6H050E | SP6H5000 | | 50 | 630 | 6 | 62820 | 5622 |

1. The above data is based on the electric system 400V/3P/50Hz.

2. Refrigerant R404A/507A.

3. SPH series air-cooled compressor-condensing units are designed for -7/48°C, SPL series air-cooled compressor-condensing units are designed for -23/48°C, beyond the above conditions, please contact us for customization.

Note: Snowman Group reserves the right to change its products without prior notice, and the technical parameters of the products are subject to the order contract or the technical annex of the contract.

Configuration

| No. | Item | Standard | Optional |
|------|---|----------|----------|
| 1 | Compressor components | | |
| 1.1 | Compressor | √ | |
| 1.2 | Electrical accessories (include INT69/Crankcase heater) | √ | |
| 1.3 | Discharge shut-off valve | √ | |
| 1.4 | Suction shut-off valve | √ | |
| 1.5 | Rubber vibration dampers | √ | |
| 1.6 | Electronic oil pressure differential switch (for SP series) | √ | |
| 1.7 | Mechanical oil pressure differential switch (for SP series) | | √ |
| 1.8 | Pressure controller | √ | |
| 1.9 | High pressure gauges | √ | |
| 1.10 | Low pressure gauges | √ | |
| 2 | Discharge line components | | |
| 2.1 | Copper tube | √ | |
| 2.2 | Needle Charging Valve | √ | |
| 3 | Air-cooled condenser component | | |
| 3.1 | Air-cooled condenser | √ | |
| 4 | Liquid Line Components | | |
| 4.1 | Receiver | √ | |
| 4.2 | Safety valve | √ | |
| 4.3 | Ball valve | √ | |
| 4.4 | Filter | √ | |
| 4.5 | Sight glass | √ | |
| 4.6 | Solenoid valve | √ | |
| 4.7 | Solenoid coil | √ | |
| 4.8 | Copper tube | √ | |
| 5 | Oil Line Components | | |
| 5.1 | Oil separator | √ | |
| 5.2 | Coiled copper tube | √ | |
| 5.3 | Shut-off valve | √ | |
| 6 | Suction Line Components | | |
| 6.1 | Suction accumulator (for low temperature models) | √ | |
| 6.2 | Copper tube | √ | |
| 7 | Unit Electrical Components | | |
| 7.1 | Wiring box | √ | |
| 7.2 | Control cabinet | | √ |
| 7.3 | PLC control cabinet | | √ |
| 7.4 | VFD control cabinet | | √ |
| 8 | Others | | |
| 8.1 | SRMTEC refrigeration oil | √ | |
| 8.2 | Unit baseframe | √ | |