

## Rapid Growth in Demand for Electric Compressors in China

The rapid growth of China's new energy vehicle market is inseparable from the popularization of the concept of low-carbon and environmentally friendly development. Due to the increasing emphasis on environmental protection, many large cities are slowing down the development of fuel vehicles, and the market share of hybrid and pure electric vehicles is gradually increasing.

From January to May 2021, the production and sales of new energy vehicles in China will reach 967,000 and 950,000 respectively, a year-on-year increase of 2.2 times. Not only in big cities, but also in rural China, the market share of small pure electric passenger vehicles is growing rapidly. China not only has advantages in manufacturing, but also has huge potential in building its own brands. At the same time, China's demand for electric compressors for environmentally friendly vehicles has grown, led by pure electric vehicles (EVs).



Japan's Mitsubishi Heavy Industries is one of the first foreign companies to build an [electric compressor factory for automotive air conditioners](#) in China. On October 9, 2019, Mitsubishi Heavy Industries and Changshu City, Jiangsu Province reached an agreement on the establishment of a new factory that will be built in an industrial park in Changshu City and put into operation in 2021 at the earliest. The new plant is expected to have an annual production capacity of about 500,000 [electric car ac compressors](#). It will be Mitsubishi Heavy Industries' second auto air-conditioning parts plant in China. The electric compressors produced are characterized by small size, light weight and energy saving. It is planned to gradually expand production capacity in the future.

As a part of pure electric vehicles, Sanden will also sell electric compressors and thermal management systems for pure electric vehicles in China (to be used in conjunction with parts of heat pump air conditioners that use refrigerants).

The global market concentration of electric compressors is very high, with Denso, Sanden and Halla occupying more than half of the market share.



## Heat pump compressor technology in China

Entering the era of new energy vehicles, the scope, implementation and components of thermal management have undergone great changes. Due to the change of power source and heat source,

the cockpit air conditioning system has a new implementation scheme. The cooling of electric drive and high-power electrical components is also integrated into the overall thermal management scheme, and the thermal management system of the battery is the focus of the new energy vehicle. heavy. New energy vehicles, new thermal management systems, and new components have spawned a huge market for thermal management in the new electrification era.

# GUCHEN EAC



Through years of research, we found that the market requirements on high voltage AC compressor is higher than low voltage ones (only used for no-idling application).  
At Guchen, we supply both high voltage electric compressor (320V-600V),  
and low voltage compressor (12V-72V).

The heat pump system is a system controlled by multiple pumps and valves. It has a secondary compression process, which can transfer heat from a place with a low temperature to a place with a high temperature, so as to achieve the effect of cooling in summer and heating in winter. The advantage is that it is highly integrated. and high energy efficiency, but the current cost is high, and the heating performance and frosting problems at low temperatures need to be improved, requiring special compressors and additional electronic expansion valves and heat exchangers or four-way valves, sometimes combined with PTC. , only a few vehicles are fitted, such as Volkswagen e-Golf, Audi Q7 e-tron, Renault Zoe, BMW i3. [Heat pump electric compressors](#) have the advantages of high reliability, high efficiency and energy saving, higher comfort, and intelligent drive.

The new product "[high-efficiency electric air conditioner \(heat pump\) compressor for automobiles](#)" developed by Guchen EAC can be used at minus 25° C, effectively solving the low temperature heating problem of new energy vehicle air conditioners. At present, Denso, Sanden and Valeo all have heat pump systems internationally, and air conditioners are also being developed internationally.



## Electric Compressor Scroll Technology

The electric scroll compressor mainly adopts a fully enclosed or semi-enclosed structure. The BLDC motor and the scroll pump body are installed in the same casing.

- ◆ compact structure
- ◆ easy installation
- ◆ high reliability

It is the best choice for electric compressors for new energy electric vehicles.



[Electric scroll compressors](#) can be used in the air conditioning and braking systems of new energy vehicles. Due to the high-voltage power battery on the electric vehicle, the three-phase AC power is generated after the inverter converts the voltage, so the scroll compressor can be used in the electric vehicle. It has the advantages of

- ◆ fuel saving
- ◆ no speed loss when the air conditioner is turned on
- ◆ great high-speed performance
- ◆ high reliability,
- ◆ low failure rate
- ◆ increasingly being valued by automobile manufacturers.

The core advantages of scroll compressors are high efficiency and small size, which are suitable for electric air conditioners for passenger cars, light vehicles, especially energy-saving vehicles and new energy vehicles. The automotive air conditioner compressor is the "heart" of the entire

vehicle refrigeration system. The scroll compressor effectively solves the problem of power conversion of new energy vehicle air conditioners, realizes direct electric variable frequency drive, and greatly improves the efficiency and reliability of electric vehicle air conditioner power systems.



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Guchen EAC supplies the [best solutions for electric AC compressors](#) requirements. [High voltage electric compressor](#) and [low voltage compressor](#) are on hot sale at Guchen EAC. Top Manufacturer of Electric Compressor for All kinds of Electric Vehicle Air Conditioning DC320V, DC350V, DC380V high voltage electric air conditioning compressor sold at ex-factory prices. we have been in manufacturing and exporting of compressor for more than 20 years.

