



PIERBURG



PI 2193

For technical personnel only!

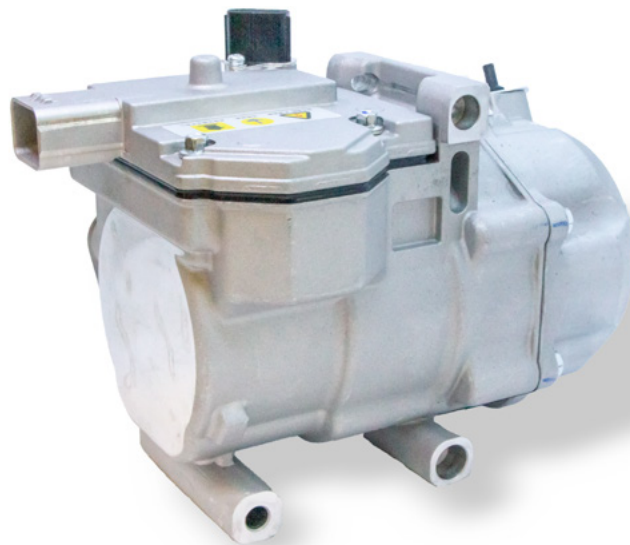
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PRODUCT INFORMATION

ELECTRIC AIR CONDITIONING COMPRESSOR

FOR TWO WELL-KNOWN HYBRID VEHICLES, THE PRIUS AND AURIS

With the electric air conditioning compressor (item no. 7.14832.00.0) for hybrid vehicles, Motorservice is further expanding its aftermarket portfolio. As a spare part for the Toyota Prius and Auris, the electric air conditioning compressor covers more than three million vehicles worldwide. The electric air conditioning compressor is supplied with two corresponding O-rings for the connections and is already filled with refrigerant oil.



The air conditioning compressor is an essential component of air conditioning systems. In contrast to air conditioning compressors in vehicles with a conventional combustion engine, the electric air conditioning compressor for hybrid and electric vehicles is equipped with its own electric motor. For this reason, electric air conditioning compressors also work when the vehicle's engine or motor is switched off. The OE-approved refrigerant must be used for the air conditioning compressor.

When replacing the electric air conditioning compressor, the system must be flushed beforehand. In addition, the seals, expansion valve and filter dryer must be replaced, as otherwise contamination will remain in the system and can then damage the newly installed air conditioning compressor. If the non-flushable parts are not replaced, the warranty of the new compressor will be invalidated.

Motorservice will add additional air conditioning compressors to its portfolio in the future – as always, in proven OE quality for the aftermarket.

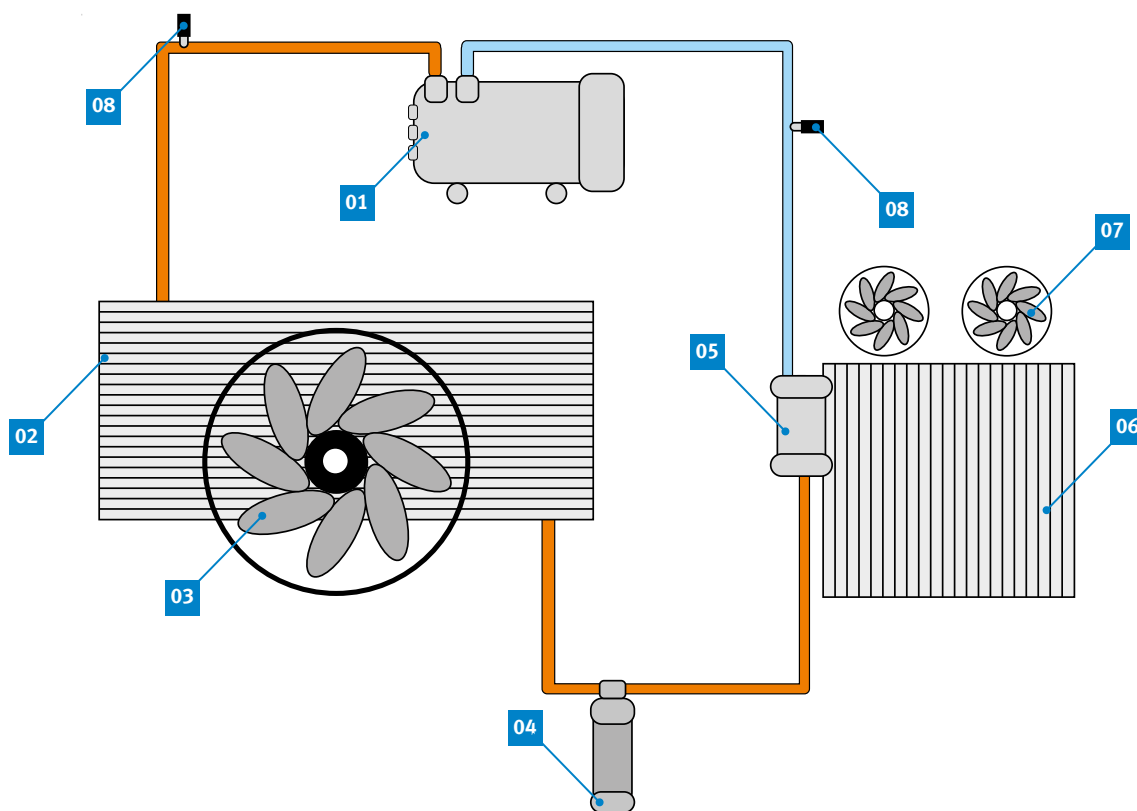


RHEINMETALL



REFRIGERANT CIRCUIT IN AIR CONDITIONING SYSTEMS

The air conditioning compressor draws in the evaporated refrigerant, heats it up and compresses it. The compressed refrigerant is then directed at high pressure to the condenser and condenser fan. There, the heat is extracted from the refrigerant and the refrigerant liquefies. From there, it is directed to the filter dryer, where impurities such as water or dirt are filtered out of the refrigerant. This reduces damage to the refrigerant circuit. The cooled and filtered refrigerant is directed from the filter dryer to the expansion valve. The expansion valve ensures a constant pressure and is located on the evaporator, where the refrigerant expands again due to the decreasing pressure and becomes gaseous. The refrigerant absorbs heat and the resulting cold air is released to the vehicle interior via the interior fan. At low pressure, the gaseous refrigerant is drawn in by the electric air conditioning compressor and the circuit starts again.



Refrigerant circuit in air conditioning systems (schematic diagram featuring two pressure switches)

- 01 (Electric) compressor
- 02 Condenser
- 03 Condenser fan
- 04 Filter dryer

- 05 Expansion valve
- 06 Evaporator
- 07 Interior fan
- 08 Pressure switch

- High-pressure side
- Low-pressure side