

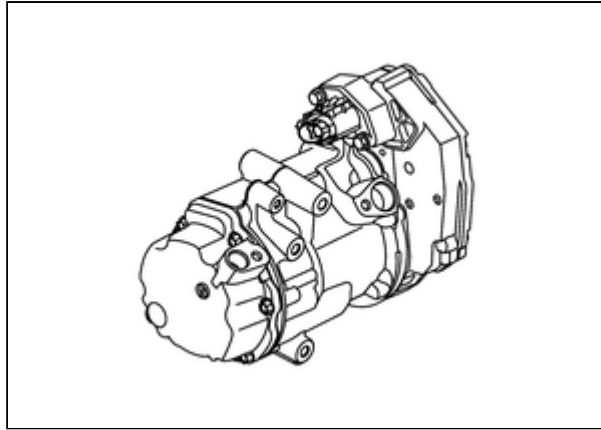
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2023 NISSAN X-Trail Service and Repair Manual

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- An electric scroll compressor is used.



SIEMD-7216022-01-000359986

- A 3-phase output inverter with IGBT^{Note} is used.

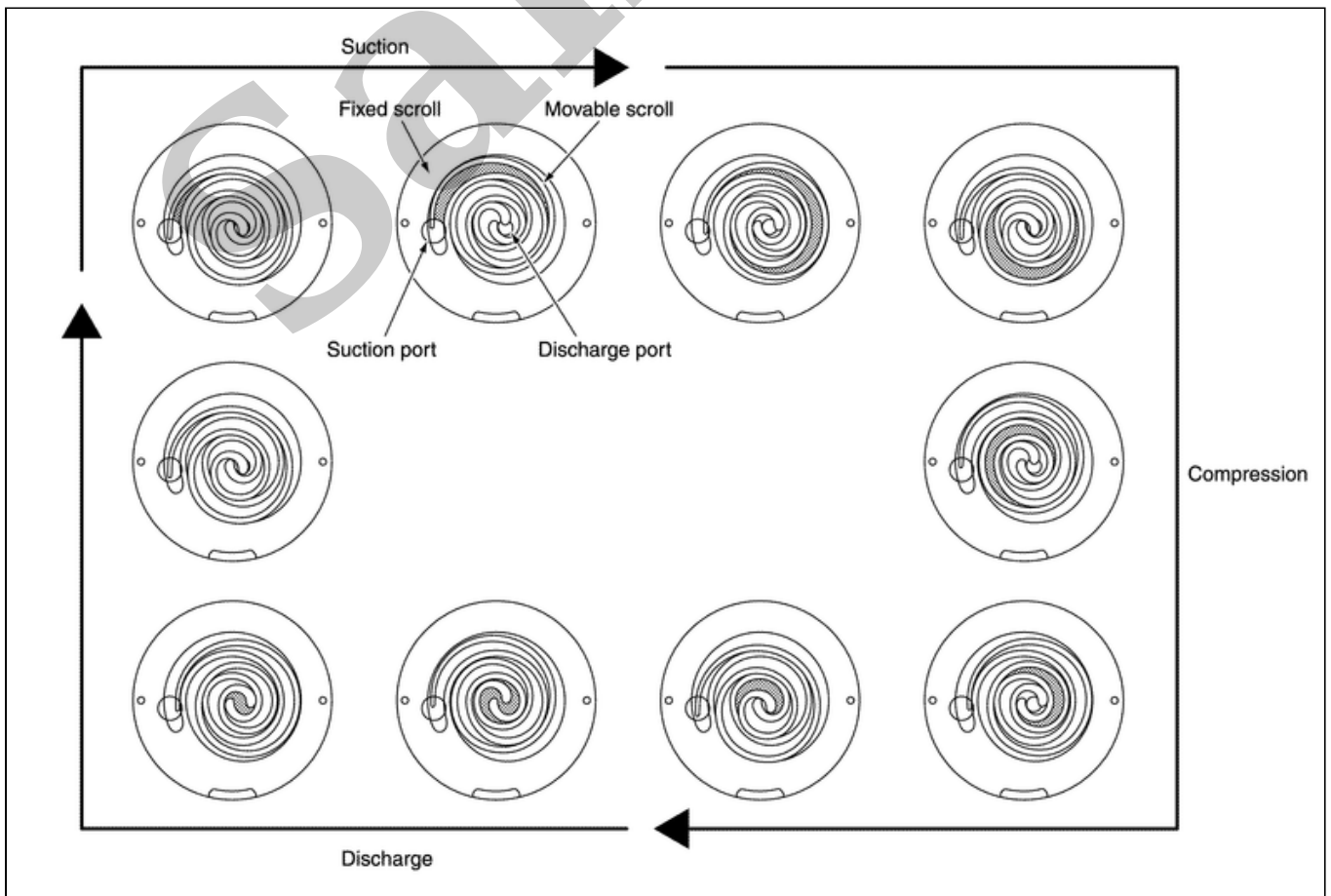
**NOTE:**

IGBT (Insulated Gate Bipolar Transistor) is a transistor which is suitable for high voltages and large currents and which can control large electrical power using a small gate voltage.

- The inverter and motor portion.

Refer to [Electric Compressor](#).

- The structure integrates the inverter, compressor, and motor, allowing compressor to operate at any speed.
- A scroll-type compressor is used. The motor drive force is used to rotate the moveable scroll and perform refrigerant intake, compression, and discharge.

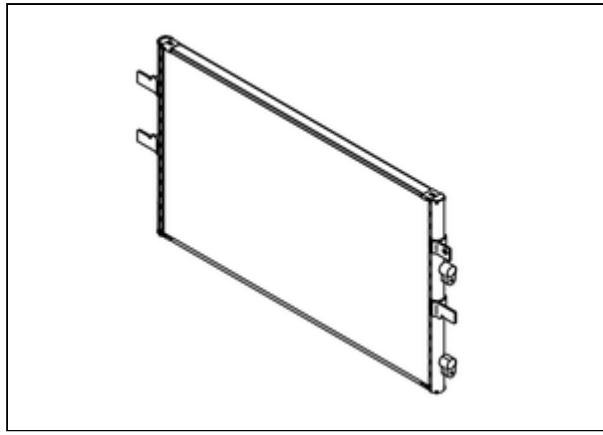


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Condenser

SIEMD-7216023

A parallel-flow condenser.



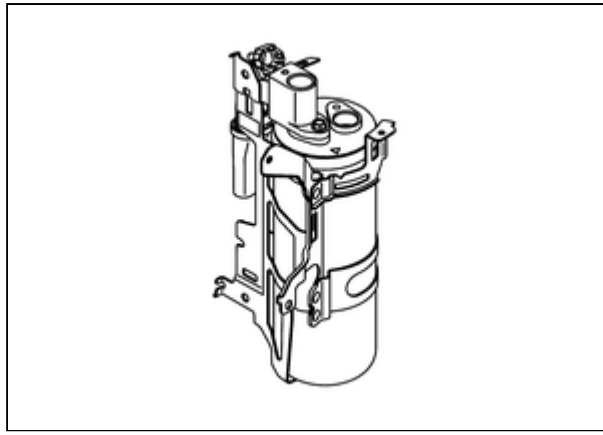
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Sample

Accumulator

SIEMD-7216024

A accumulator compatible with HFO-1234yf refrigerant is used.



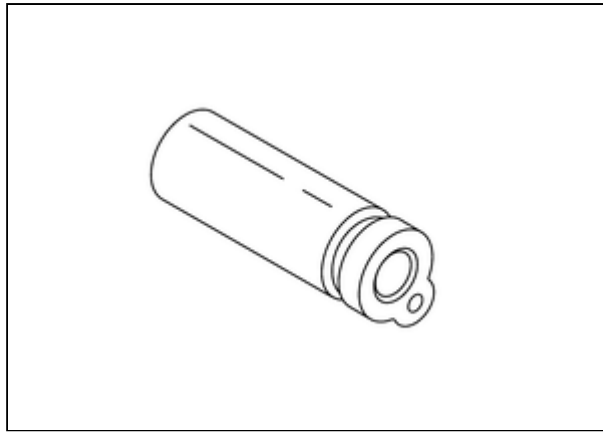
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Sample

Evaporator Pressure Regulator

SIEMD-7216025

By controlling the evaporation pressure (temperature), freezing of the evaporator is prevented.



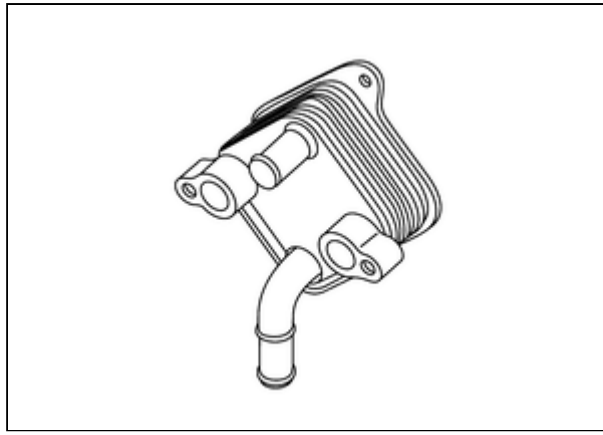
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Sample

Battery Coolant Chiller

SIEMD-7216026

A heat exchanger for cooling high-voltage battery was adopted.



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Sample

Refrigerant and Compressor Oil

SIEMD-7216030

- The refrigerant is HFO-1234yf, which contains no chlorine (Cl), a substance which damages the ozone layer.
- The compressor oil is ND-OIL11, an ester oil with high insulation performance, designed especially for electric compressors.

CAUTION:

- **The special electric compressor oil has different properties from the conventional HFO-1234yf, compressor oil (PAG oil) and CFC-12 compressor oil (mineral oil). Be sure not to mix these oil types with the compressor oil, as doing so may cause electric leakage.**



NOTE:

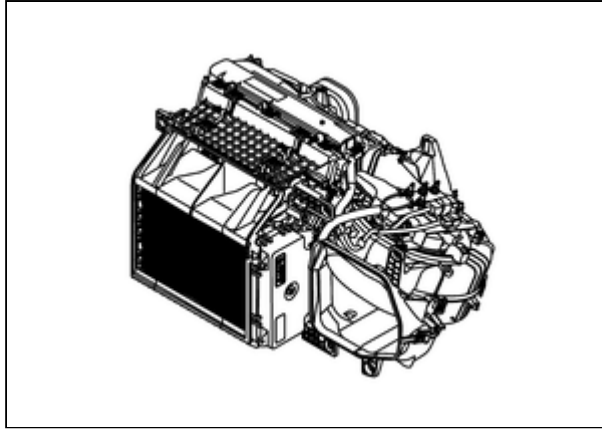
- **HFC: HydroFluoroCarbon**
- **CFC: ChloroFluoroCarbon**

Sample

A/C Unit

SIEMD-7216033

This system utilizes an A/C unit that combines blower unit, heater unit, and cooling unit.



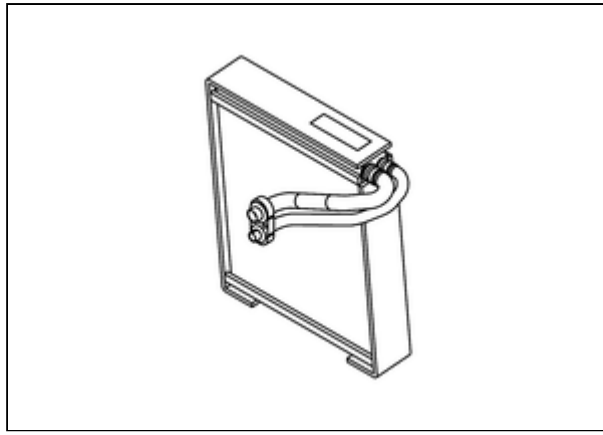
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Evaporator

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A thin laminate pipeless evaporator is used.



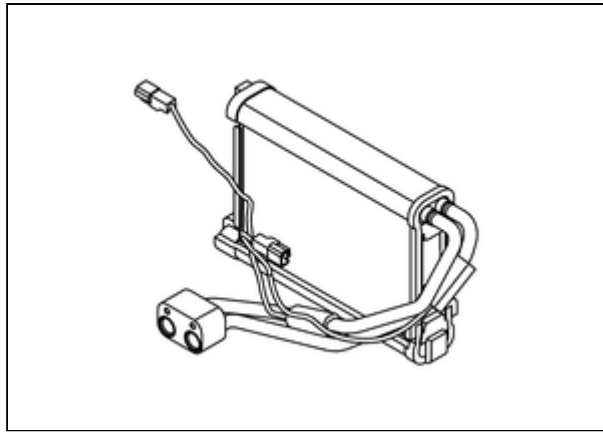
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Sample

Inner Condenser

SIEMD-7216037

A paralel-flow inner condenser.



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Sample