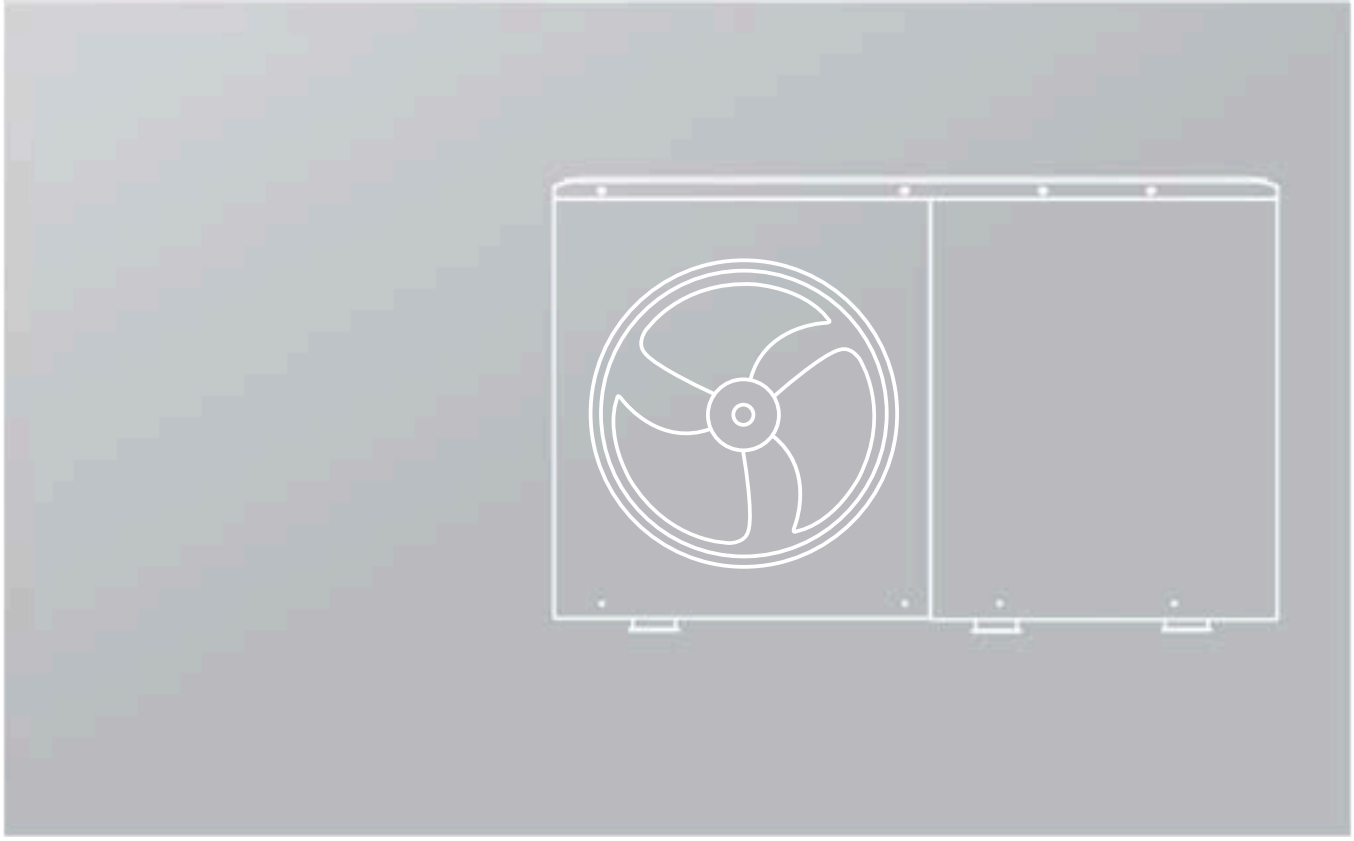
Firebird Enviroair R290 Safety Manual



Original instructions.
Please read this manual carefully and keep it for future reference.

September 2026

Safety Precautions for Flammable Refrigerants

The refrigerant circuit in the outdoor unit contains easily flammable refrigerant in safety group A3 as described in ISO 817 and ANSI/ASHRAE Standard 34. Before installing the equipment, read all product-related documents carefully to get familiar with product information and safety precautions. All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including danger to life.

⚠ Qualification of workers

- All operators or refrigeration circuit maintenance personnel should obtain valid certificates issued by industry recognized evaluation agencies to recognize their qualifications for safe disposal of refrigerants as required by industry recognized evaluation standards.
- If other professionals are needed to assist in maintaining and repairing equipment, they should be supervised by personnel qualified to use flammable refrigerants.

⚠ General information

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Protection devices, piping and fittings shall be protected as far as possible against adverse environmental effects, for example the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris.
- Do not pierce or burn.
- Be aware that refrigerants might not contain an odour.
- Compliance with the relevant national regulations shall be observed.
- Escaping refrigerant can lead to fires and explosions that result in very serious injuries or death. If a leak is suspected, all naked flames shall be removed/extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system.

⚠ Installation

- Ensure that cabling is not subject to adverse environmental effects (e.g., wear, corrosion, excessive pressure, sharp edges). Always consider aging effects and vibration.
- Prior and during installation, make sure that there are no refrigerant leaks using an appropriate refrigerant detector that is adequately sealed and intrinsically safe (i.e., no sparking). Never use potential sources of ignition to search for refrigerant leaks. A halide torch (or any other detector using a naked flame) must not be used.
- The outdoor unit contains flammable refrigerant R290 (propane C3H8). In case of a leak, the escaping refrigerant may form a flammable or explosive atmosphere in the ambient air. A safety zone is defined in the immediate vicinity of the outdoor unit, in which special rules apply when work is performed on the appliance. See "Safety zone" section of installation Manual.
- Do not introduce ignition sources into the safety zone.
- All tools for working in the safety zone must be designed and explosion-protected in accordance with the applicable standards and regulations for refrigerant in safety groups A2L and A3.

⚠ Repair work

- Equipment maintenance and repair can only be carried out according to the methods recommended by the equipment manufacturer.
- Replace faulty components only with genuine spare parts from the manufacturer. Replacement with other parts may result in the ignition of refrigerant in the event of a leak.
- Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised.
- Work in confined spaces shall be avoided.
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification.
- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. Initial safety checks shall include:
  - that capacitors are discharged;
  - this shall be done in a safe manner to avoid possibility of sparking;
  - that no live electrical components and wiring are exposed while charging, recovering or purging the system;
  - that there is continuity of earth bonding.
- Sealed electrical components shall not be repaired but directly replaced.
- Wear suitable personal protective equipment when carrying out any work. Do not touch any switch or electrical parts with wet fingers. It may cause electrical shock.

⚠ Working on the refrigerant circuit

- No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it can lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.
- Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.



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