SAFE. COMPLIANT. FUTURE-READY.

COOLING FOR THE F-GAS TRANSITION

Application leads. Safety follows.
Regulation is built in.



Start with the application, not the refrigerant.

The EU F-Gas Regulation is accelerating the shift to lower-impact cooling, but every application has unique cooling and safety requirements. Pfannenberg evaluates performance, temperature stability, efficiency, operating environment, serviceability and lifecycle risk together, then recommends the solution that best balances safety, compliance and long-term reliability.

1 Application → 2 Safety → 3 Refrigerant Selection → 4 Solution

Safety across the entire lifecycle

- **Factory testing is just the start**
  A certified unit on day one is only part of the picture.
- **Real-world stress adds up**
  Transport, vibration, aging, maintenance and damage affect system integrity.
- **Assess the full lifecycle**
  Long-term safety matters as much as performance & compliance.

Why refrigerant classification matters

- **A1: non-flammable**
  A leak mainly creates environmental, performance & service risks.
- **A2L: mildly flammable**
  Assess whether a leak could form a flammable concentration, particularly inside a confined enclosure.
- **A3: flammable**
  Needs careful evaluation of ventilation, handling and installation.



The goal is not the lowest GWP at any cost. It is the lowest environmental impact that can be achieved without compromising the required level of safety.

Marcello Chiozza,
Global Thermal Solutions Leader, Pfannenberg

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Pfannenberg
ELECTRO-TECHNOLOGY FOR INDUSTRY

Make your cooling strategy ready for 2027, 2032 and beyond

Rather than starting with the refrigerant, Pfannenberg begins with the application, then helps you plan a cooling and refrigerant roadmap that stays safe, compliant and reliable through the transition.

The safest sustainable solution for every application

No single cooling technology is right for every application. Pfannenberg stays technology-neutral.

Refrigerant-free cooling technologies

Filterfans and air/air, air/water and water/water heat exchangers

Non-flammable A1 refrigerants

R513A cooling units and chillers

Ultra-low-GWP A2L refrigerants

R1234yf cooling units and chillers

CO_2 and other natural refrigerants

Cooling units and chillers

Pfannenberg Support

Application Assessment

Expert review of your application & refrigerant risks.

F-Gas Roadmaps

Cooling unit and chiller refrigerant roadmaps.

Customs and Safety Documents

Documentation to support compliance.

Cross-reference

Map existing cooling units and chillers to future-ready models.



What does this R513A label mean?

Required under Art. 12(15) of the F-Gas Regulation (EU) 2024/573 on R513A cooling units and chillers below 12 kW for the EU market. It is not a product limitation. It identifies applications where documented safety requirements justify a non-flammable refrigerant, and in those applications R513A remains a compliant, available solution.

Pfannenberg supports your risk assessment. Formal site-specific validation always remains with you or your appointed assessor.

Protecting People, Machines and the Environment

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