Future-proof R290 controls solutions for refrigeration applications

Improving system architectures and using refrigerants with lower global warming potential (GWP) can significantly improve the carbon footprint of an installation.

R290 is one of the most discussed natural refrigerants, and it has been known for its good refrigerating performance, but also for its flammability. As a consequence, it implies strict considerations for manufacturers related to system design, installation and operation.

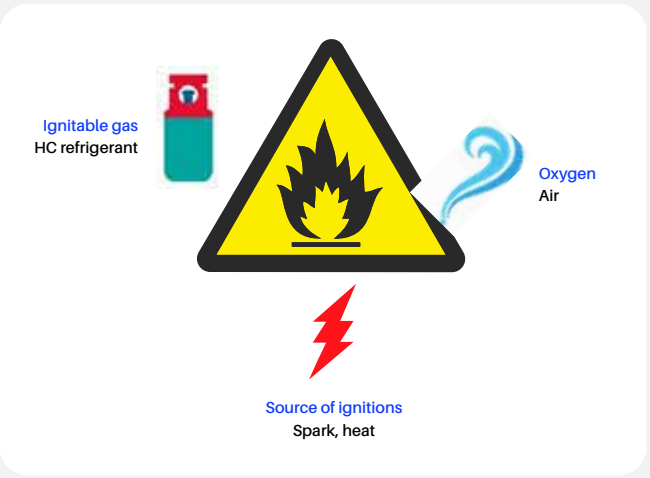
How can an explosion happen with refrigeration system having flammable refrigerant?

An explosion can only occur if an ignitable gas (R290), oxygen (air) and an ignition source, such as spark or heat, are coexisting. There is no explosion when one of these three elements is not present.

An additional condition is required for an explosion. The mixture of released flammable refrigerant from the refrigeration system and air in atmosphere must be within a certain mixture range.

No explosion can occur if R290 presents with less than 39 grams per cubic meter air or above 177 grams per cubic meter air.

Triangle of explosion



The key products include

The perfect solution for applications with wide load variation:

- Electrical control valves
- Electronic controllers and sensors
- Thermo™ expansion valves
- Solenoid valves
- Mechanical pressure regulators
- Oil management components
- Pressure controls
- System protectors and moisture
- Ball valves

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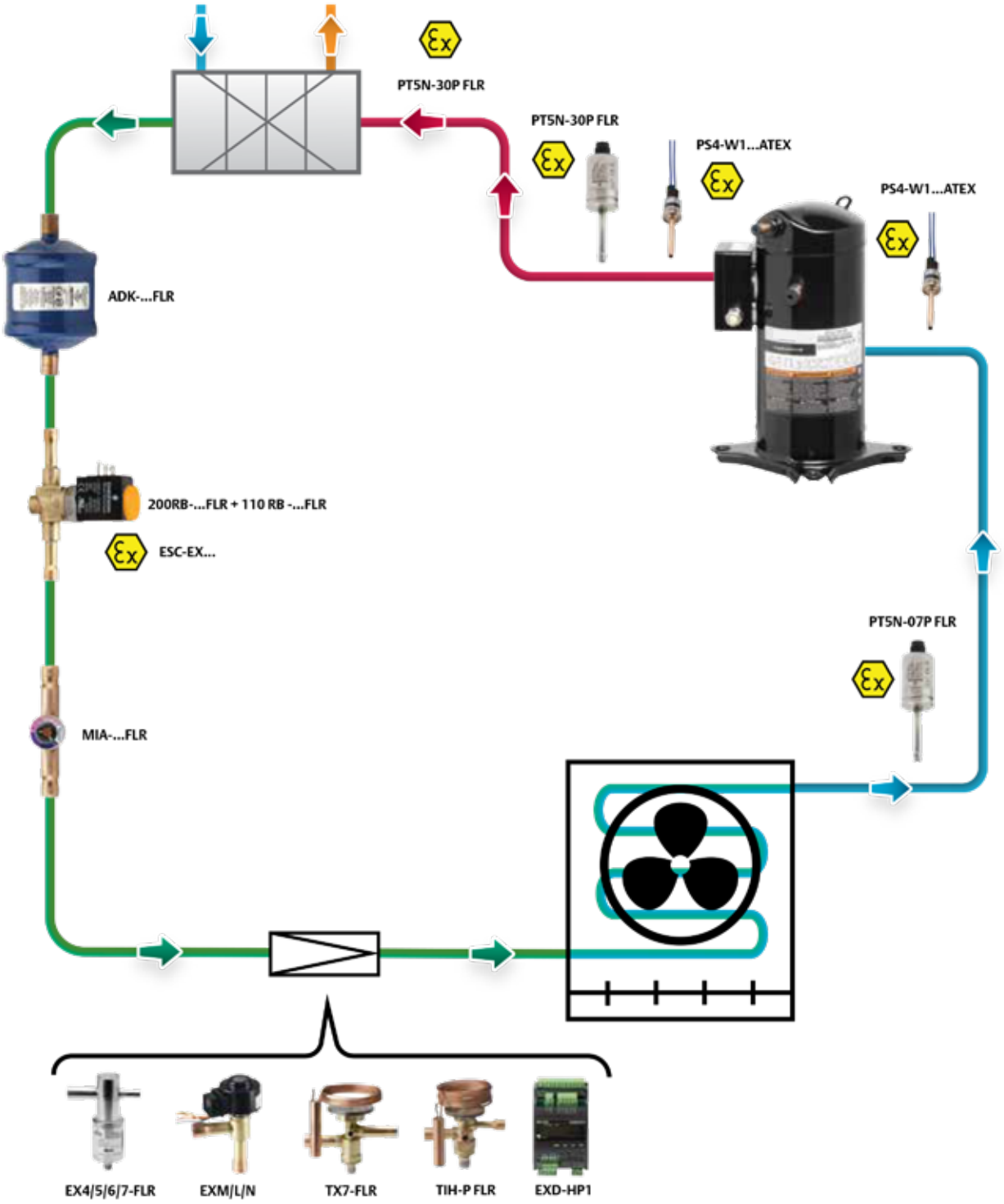
Full solution at a glance



For more details, see the R290 product guide and the selection tool Control Navigator, available on the Copeland website. Contact your local Copeland representatives in case of any further questions or need of support.

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