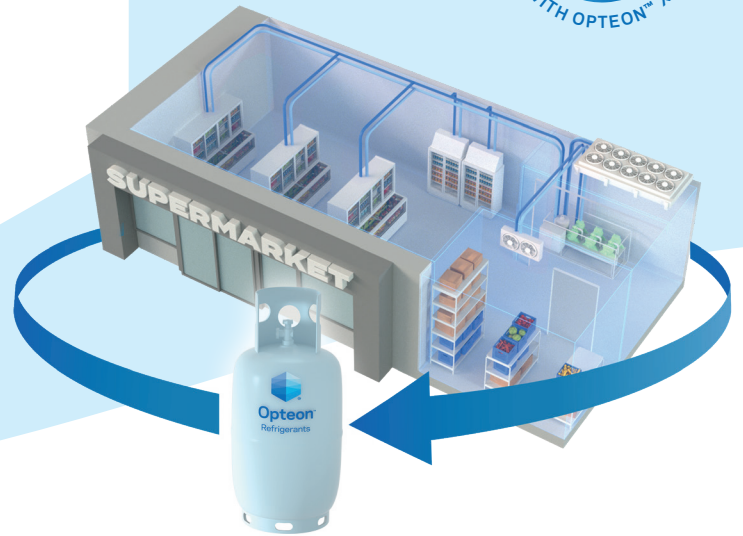




Opteon™ XL Time for Energy Efficiency



Commercial refrigeration system essentials

1. How a refrigerant solution influences energy efficiency, cost and sustainability?

Operational consumption of electric energy influences costs and carbon emissions, and refrigerants play a role in optimising energy expenditure.

It's essential to evaluate how a working fluid performs within a commercial refrigeration system architecture, from the retailing surface of store to the cold store and through energy recovery systems to reduce indirect emissions.

But also consider how optimised equipment performance with consistent operation is essential to maintain the integrity of the cold supply chain.

2. What solutions are available which are compliant with climate change protocols?

Climate change protocols drive a phase-out of ozone depleting refrigerants and a phase-down of those carrying high global warming potential (GWP).

This chart shows the properties of commonly found refrigerants, some of which are phased-out in favour of low-GWP alternatives with lower flammability and lower toxicity.

Group	R-Number	Known as	GWP (AR4)	Toxicity	Flammability	Supply status	Typical system application
Hydrocarbon (HC)	R-290	Propane	3	Lower (A)	Higher (3)	Good	Residential and commercial refrigeration and heating
Inorganic	R-744	CO ₂	1	Lower (A)	NFP (1)	Dependent on other industries	Commercial refrigeration & Industrial refrigeration
	R-717	Ammonia	0	Higher (B)	Lower (2L)		
HydroFluoroCarbons (HFC)	R-404A	Freon™ 404A	3922	Lower (A)	NFP (1)	Low Low Low	Commercial refrigeration, Heat Pump & Mobile air conditioning
	R-410A	Freon™ 410A	2088	Lower (A)	NFP (1)		
	R-134a	Tetrafluoroethane	1430	Lower (A)	NFP (1)		
Hydrochlorofluorocarbon (HCFC)	R-22	Freon™ 22	1810	Lower (A)	NFP (1)	Very low	Air conditioning & commercial refrigeration (being phased-out)
Hydrofluoroolefins (HFO)	R-454C	Opteon™ XL20	148	Lower (A)	Lower (2L)	Good	Commercial refrigeration, Heat Pump & Mobile air conditioning
	R-454B	Opteon™ XL41	466	Lower (A)	Lower (2L)		
	R-1234yf	Opteon™ YF	4	Lower (A)	Lower (2L)		
	R-513A	Opteon™ XP10	631	Lower (A)	NFP (1)		

Another question to consider is the supply availability of current and future solutions.



3. How versatile, safe refrigerants maintain equipment integrity?

Any transitions to new system solutions should be seamless and support a safe handling environment. Some existing systems can benefit from low-GWP products that can be retrofitted into equipment with relatively low impact and straightforward component upgrades. The chart above also shows the safety classification regarding flammability risk for compatible solutions.

Opteon™ XL: Power in Partnership

Opteon™ XL refrigerants are a range of non-ozone-depleting, GWP solutions. They are designed for enabling modern equipment to work efficiently and safely.

Opteon™ XL refrigerants offer multiple essential benefits for a wide variety of applications.



Cost-effective

Opteon™ XL refrigerants offer lower installation, operation and maintenance costs.



Energy-efficient

The Opteon™ XL range allows for the reduction of system emissions through increased efficiency.



Reliable equipment

Opteon™ XL refrigerants are versatile and offer long-term operational benefits for system equipment.



Sustainable

Opteon™ XL refrigerants have lower global warming potential meaning lower carbon emissions and long-term sustainability.



Compliant

The Opteon™ XL range facilitates compliance with new regulations driving higher global warming potential refrigerants phase down.



Safe

Opteon™ XL refrigerants are less likely to ignite as they are low flammability.

Our Team

We believe in superior product solutions paired with a strong, knowledgeable team to support our customers. Rely on our experts to help you build a more sustainable solution for your business.

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