



EFCTC NEWSLETTER

An update on fluorocarbons and sulfur hexafluoride

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HFCs FOR THE LARGEST PAPER MACHINE IN THE WORLD

Liquid radiators based on R-410A, developed for [liquid cooling](#) in large commercial and industrial applications have been installed in Germany, in the world largest paper-making machine, supplying process cold water and the plant [air conditioning](#).

The large paper-making machine is 200m long, delivering 10 m broad paper rolls, with an annual production of 600,000 t high-quality cardboards for the packaging industry.

The system consists of 3 liquid radiators of 500 kW cooling capacity each with six independent electrical feeds, nine refrigerant cycles and 27 Scroll compressors. This design, associated with a sophisticated control system of the unit adjusting the cooling water demand to the load, results in a cooling capacity of 4.5 kW produced per kW electric power consumed during 95 % of the time.

Source : [Kaelte-und Klimatechnik](#) (subscription required) and Equipment Manufacturer





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HFCS ECO-EFFICIENT IN SUPERMARKETS REFRIGERATION

[An eco-efficiency](#) study on supermarket [refrigeration](#) has been carried out, based on measured data from six real systems using different refrigerant combinations.


R-134a presents the better eco-efficiency at medium temperature, while, at low temperature, the data give the advantage to R-744 (CO₂). However, by reducing the energy consumption by 20 % and improving refrigerant losses, entailing a cost increase of 15 %, the combination R-134a/R-404a becomes the most eco-efficient.

It appears therefore that alternative refrigerants are not always as favourable as sometimes believed, and have to be evaluated case by case.

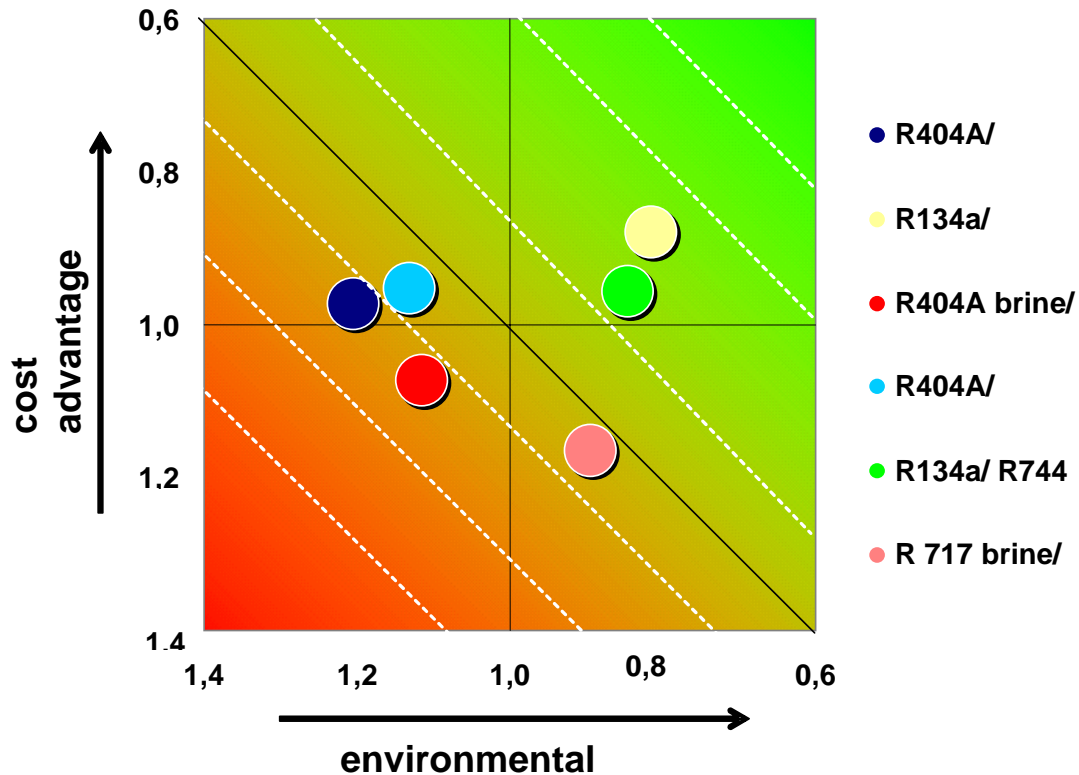
Eco-efficiency is a [concept developed by the WBCSD](#) (World Business Council for Sustainable Development) which combines both an environmental [Life Cycle Analysis](#) and a complete Life Cycle Cost Evaluation (incorporating investment, operation and maintenance of a system).

A broad set of "real life" data was produced by the advisory group members, bringing together equipment manufacturers, supermarkets engineers and refrigerant producers. Different technical solutions (direct or indirect cooling) and different refrigerants for both medium and low temperature supermarkets refrigeration systems. The concept of eco-efficiency is an adequate method to evaluate and compare different supermarket refrigeration units.

It is anticipated to extend the study to cover other EU countries.

Source : Presentation at the 2005 [Vicenza IIR Conference](#) and the 2005 Annual Meeting of the DKV (Deutscher Kaelte- und Klimatechnischer Verein) 

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RECOVERY, RECLAIM OR DESTRUCTION OF REFRIGERANTS

[Refrigerant Reclaim Australia](#) (RRA) has received an [US EPA Climate Protection Award](#) for [Recovery, reclaim and destruction](#) of more than 1350 tons of mixed fluorocarbons refrigerants, reducing greenhouse gas emissions by the equivalent of approximately seven million tons of CO₂.

RRA is a non-profit, industry-funded company, responsible for the recovery and safe destruction of refrigerants. RRA established a national facility for safe destruction of the refrigerants in a plasma-arc furnace, including material from other countries like New Zealand and Indonesia.

RRA aims are to recover, reclaim or destroy a maximum of contaminated or recycled refrigerants, thereby [minimizing their emissions](#). They work with governments, support industry, help contractors, and operate a national collection service.



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SIGNS OF OZONE RECOVERY, A SUCCESS FOR THE MONTREAL PROTOCOL

A scientific paper was published confirming confidence that the [ozone layer](#) is responding to the decreases in [chlorine levels](#) in the atmosphere, a consequence of the progressive phase-out of ODS resulting from the [Montreal Protocol](#).

It is the first paper to confirm this theory.

The progressive phase-out of ODS, compounds containing chlorine, should lead to [positive changes in the ozone layer](#), in agreement with the decrease of chlorine levels in the upper atmosphere.

The authors said they are seeing signs of ozone recovery "in the right seasons, in the right latitudes and at the right altitudes." These positive signs are a success story for international action to protect the environment.

Earlier measurements from a number of scientific bodies have shown that chlorine has levelled off in the atmosphere, and now clearly show that ozone loss is levelling off, too.

The new study also details a larger than expected recovery of [ozone in the northern mid-latitudes](#) in recent years.

Source: <http://www.noaanews.noaa.gov/stories2006/s2624.htm> and http://www.scenta.co.uk/scenta/news.cfm?cit_id=752219&FAArea1=widgets.content_view_1

NEW ON OUR SITE

[Stationary Air Conditioning](#) : update to 2008 of the World Demand for Air Conditioners forecast.