



Food Retail Newsletter - Extra Euroshop 2008

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Winds of change in the Food Retail industry

A clear trend is that energy and environment has moved to the top of the agenda of the leading retailers worldwide – retailers are now investing substantially in advanced control systems for refrigeration and utilities.

Only a few years ago the purchase price of the cooling & freezing equipment was the all dominant decision criteria, and rather simple mechanical solutions were generally preferred by most retailers – today the situation is quite different. Even the retail chains operating in the Middle East where energy costs are almost nothing are asking for the more advanced solutions with optimal energy performance.

What has changed ?

We are currently in the process of boiling our planet – **we are emitting more than twice as much CO₂ into the atmosphere as what scientists agree is a sustainable level** – and the trend is unfortunately getting worse.

Food retailing is a very energy intensive business – as a rule of thumb a supermarket uses 10 times as much energy per m² as a

regular home. This means that the energy consumption of a regular size supermarket is equal to that of more than 100 homes. The technology to address the issue is available – the best electronic systems for controlling refrigeration and utilities in a supermarket can typically reduce the energy consumption by 30% - and the cost of these systems is actually far from discouraging – **the investment is typically paid back in 1-3 years.**

In a situation of improved clarity about our CO₂ emission problem, rapidly rising energy cost, and increasing regulatory intervention, leading retailers worldwide are stepping up to the challenge and installing advanced electronic control systems to manage their refrigeration and utilities.

The main point today is the move away from individual components towards **full electronic systems** where the components communicate together and enable continuous optimization and monitoring of store performance. Our ADAP-KOOL® systems and solutions provides exactly this.

A recent independent German research made by the Biberach University of Applied Sciences shows substantial ener-

gy savings simply by going from mechanical to electronic expansion (25% energy saving, and payback of 1,8 years) ... **a full ADAP-KOOL solution will obviously provide substantially larger benefits.**

Danfoss started by introducing the ADAP-KOOL® adaptive electronic expansion valve control in the Food Retail sector in 1988...**“one step for man, one giant leap for mankind”.**

With **20 years of experience** in the food retail sector and as pioneers of energy efficiency in cooling, we have expanded our skills and knowledge to a total approach in energy saving with ADAP-KOOL® Next Generation.

On the following pages you can discover our innovative solutions designed to meet the actual demands of the Food Retail Industry or even better, pay us a visit at EuroShop 2008!



New AKD 102 - the simplest refrigeration drive in the world !

Designed for Refrigeration applications in the Food Retail Industry, the new AKD 102 drive is one of the latest top innovations from Danfoss. Very well suited for refitting in existing store estates, the AKD 102 enables large energy savings for retailers and makes commissioning and installation a quick and simple task.



The AKD 102 Drive is designed to control single compressors as stand alone or in compressor packs, condenser fans and single fan/pump HVAC systems and features a built-in pack and condenser fan controller as standard. Controlling up to 3 compressors (one variable and two fixed speeds) this feature eliminates the need for external controllers saving both time and money.

Optimum potential to save energy within a food retail store

By simply refitting AKD's in existing store estates, retailers can expect large energy

savings even without having to replace existing equipment. A typical store that has an ADAP-KOOL® refrigeration system solution installed could achieve as much as a 25% energy saving when compared to a non-optimised system.

Easy and simple set-up

Be it compressor, condenser fans or single fan and pumps, the unique ADAP-KOOL® Application guide prompts you through the start up and commissioning process with ease, whilst the "info button" makes the need for a printed manual almost redundant.

The AKD 102 intuitive and dynamic menu structure is designed by refrigeration engineers, and uses plain text refrigeration language to simplify the commissioning process and reduce installation time.

Intelligent capacity control

The continuous variable speed control by AKD Drive Units makes intelligent capacity control possible. Intelligent compressor

and condenser fan control is a 'must' in any optimised refrigeration system. Our drives can control the speed of up to three compressors and improve control performance by minimising the number of cut-ins and cut-outs.

Supplied with a common interface, the AKD 102 Drive covers power ratings between 1.1-250 kW and is available with the standard enclosures; IP20, IP21 and IP55.

AKD 102 Works networked and as an integrated part with the rest of the ADAP-KOOL® System – the energy performance of an ADAP-KOOL® System including AKD 102 is second to none.

For more information please contact your local Danfoss sales office or visit our new website www.danfoss.com/foodretail

ADAP-KOOL®: Flexible solutions for Food Retailers

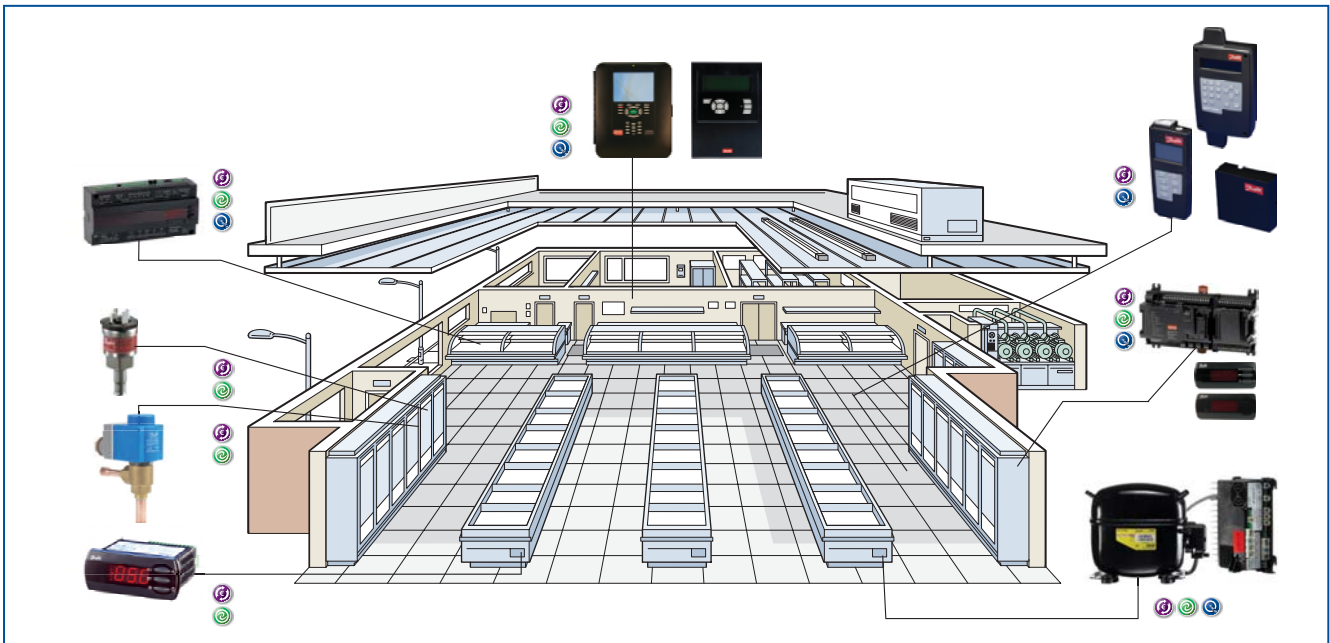
Whether it's a small store, a hypermarket or mobile food service, Danfoss ADAP-KOOL® Next Generation is the right solution in outstanding performance and reduced running costs.

Focusing on energy, the environment and food quality, ADAP-KOOL® Next Generation helps you optimise your store's energy costs. Easy to install and adapt as industry standards and legal requirements change, ADAP-KOOL® solutions are a versatile and

reliable investment that provide trouble-free operation for years.



The ADAP-KOOL® Next Generation products in the sales area of the store or hypermarket:



Energy savings and environmental protection

Any ADAP-KOOL® Next Generation product will help reduce energy consumption. But by combining these with ADAP-KOOL® valves, controls and sensors that are optimized to provide the best performance in your refrigeration system, you will see your

energy consumption drop by as much as 30%, reducing the burden on the environment, and thereby your company's carbon footprint, ensuring food quality and minimizing wastage cost.



Total Solutions

Danfoss is offering more than products, through our expertise in the refrigeration market, global support and new ADAP-KOOL® range:

- Ensuring best return on system investment and maximising store up-time by reducing installation and commissioning costs, simplified operation and minimized down time asset operation.
- Supporting the increasing environmen-

tal market demands by a dedicated Pack Control for CO₂

- Reducing necessity for costly on-site visits through ease of remote accessibility and troubleshooting and ADAP-KOOL® Next Generation products are designed to be integrated into a complete system but can easily adapt to work within existing installations if necessary.



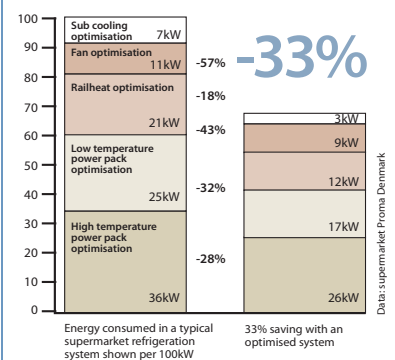
Food Quality

Increased Food Quality is assured through accuracy of control and monitoring of Critical Control Points. Danfoss ADAP-KOOL® provides documentary evidence and traceability for HACCP Compliance and a full local and remote temperature alarm monitoring for

increased food safety.

Danfoss ADAP-KOOL® products maintain correct and accurate product temperatures to avoid food loss and wastage costs and the temperature performance is accurately maintained across the display, storage and store facilities.

Refrigeration energy saving possibilities with ADAP-KOOL® total system solution



Danfoss offers the Total Solution

The ADAP-KOOL® Next Generation products are able to assure increased food quality, decreased food loss and wastage cost and to give full local and remote temperature alarm monitoring for increased food safety.

With the emphasis on the above mentioned core business values ADAP-KOOL® Next Generation products are able to provide small stores and hypermarkets with a Total Solution both environmentally and financially.



Come and visit us at EuroShop 2008

Danfoss will again be present at the Global Retail Trade Fair EuroShop 2008. The meeting point for the International Retail Industry will be in Düsseldorf, Germany from 23rd to 27th February. Discover Danfoss Food Retail Solutions at Booth C36 in Hall 16.



EuroShop is a one of the world's leading events in the International Retail Industry and is the ideal opportunity to see what is currently on offer in the market and to discover the solutions Danfoss can supply for the Food Retail industry.

ADAP-KOOL® Next Generation

A totally flexible system for all Food Retailers featuring a wide range of adaptive products that work to customer requirements and allow you to configure the optimum solution for any business.

All Danfoss ADAP-KOOL® Next Generation products are designed and manufactured in accordance with our core business values:

- Energy and Environment
- Total Solution
- Food Quality

Other Products and solutions

- Solutions for CO₂ applications
Danfoss can provide a wide range of products and solutions for CO₂ applications –transcritical and sub-critical.
- SLV – the electronically controlled compressor
- OPTYMA PLUS™ - the unique integral Danfoss Condensing unit
- BD 350 - the battery Driven compressor for mobile food service
- SC - the compressor for small commercial application packs

You can find a local Danfoss sales company all over Europe: (in alphabetical order)

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Dubai	+971 4 88 72220
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In addition details of our products, news and information can be found on our web site www.danfoss.com/foodretail



The Total solution of ADAP-KOOL® Next Generation

ADAP-KOOL® Refrigeration Controls is a trademark of Danfoss A/S

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