

AKV electronic expansion valve

Simply a matter of fit and forget



Simple



Proven



Evolving

The Danfoss AKV electronic expansion valve has been designed with energy savings in mind. At the same time, the simplicity and robustness of the design reduces possible failures and will save you both time and money.

Faster installation and less maintenance ensure you service savings

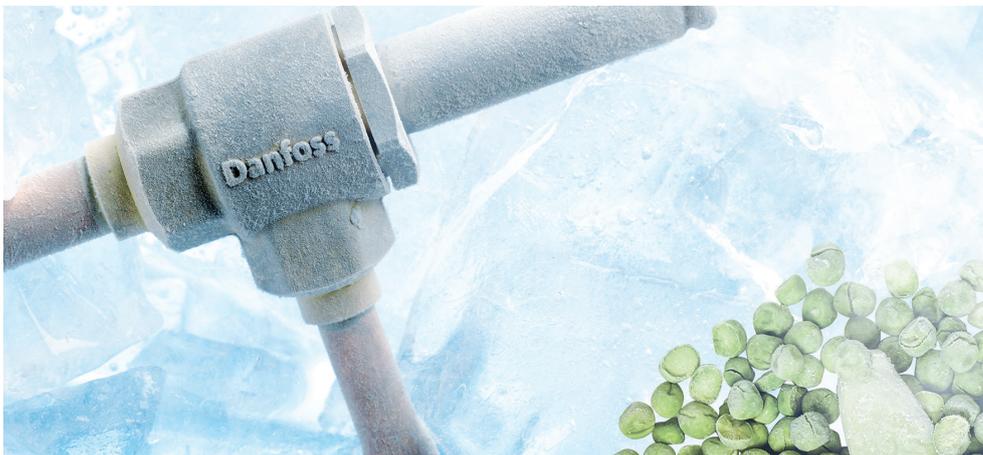
Danfoss AKV valve is simple and fast to install. Moreover, it is fully serviceable and has a removable and cleanable filter, making cleaning easy as well as decreasing dirt-sensitivity. This means less maintenance for you allowing you to focus 100% on your business – truly a fit and forget solution.

The valve has been designed for optimum tightness to ensure minimum leakage while still being serviceable, allowing you to replace functional parts without dismantling the valve. Not only will the Danfoss AKV give you the market's most reliable solution, it will also save you both time and costs on what little maintenance might occur.

Expect superior reliability and robustness

Compared to TXV (thermostatic expansion valve) technology, the expansion device and solenoid (on/off) valve function of the AKV valve is in one simple unit. The AKV valve's normally closed function eliminates the need for a liquid line solenoid, while the built-in, serviceable screen minimizes maintenance costs.

Once the AKV valve has been installed, it runs flawlessly for years with no to little maintenance, due to the simplicity of its construction. It has an impressively low leak rate, and the solenoid design ensures that the valve always closes during power failure. The AKV valve not only offers you the longest valve lifetime and maximum reliability – it also ensures higher food quality in your supermarket.



Durability beyond measure

During the years, Danfoss AKV has proven to be an optimum electrically operated expansion device that outlives the rest of the equipment in which it is installed.

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The world's most trusted expansion valve

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The AKV electronic expansion valve was the first electronic valve for retail refrigeration and today accounts for more than 2 million active valves worldwide. Its track record is second to none – and so is its quality and reliability.

We have minimised failure rates so you can eliminate food loss

During production, each AKV valve is subject to various pressure tests combined with internal and external leakage tests to minimise the risk of possible failures in the field. This is your guarantee that every single valve lives up to the same high quality standards that Danfoss has been delivering since 1933 – ensuring your supermarket industry leading food safety.

Its long lifetime reflects on your bottom line – year after year

With a minimum lifetime of 10 years or the equivalent of more than 50 million cycles, the AKV electronic expansion valve has the best total cost of ownership of any expansion valve on the market. This in combination with its high level of flexibility and extensive support programme has made it the most used electronic expansion valve within food retail and among leading case manufacturers globally.

2+ million active AKV valves

27+ years of proven track record

Minimum 10 years lifetime
(longest lasting valves have a lifetime of 20+ years)

50+ million cycles

0.00001% leakage rate

Largest install-base and longest track record

Thoroughly tested through numerous different tests



Food safety
made it **no. 1**

See all your options for optimum food safety at:

akv.danfoss.com

AKV electronic expansion valve

Evolved to perfectly fit modern supermarkets



Simple



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Increased energy efficiency

Today more than 50,000 supermarkets are equipped with ADAP-KOOL® control and monitoring systems. This allows their cooling systems to work optimally with the AKV expansion valves, providing up to 10% lower energy consumption compared to best in class TXV (thermostatic expansion valve) solutions also delivered by Danfoss. Energy consumption can be lowered by up to 33% if taking advantage of the full ADAP-KOOL® system using suction (PO) and condensing (PC) pressure optimisation.

Intelligent ADAP-KOOL® control and monitoring system

Danfoss AKV controllers have been designed to perfectly match any modern supermarket

needs. They reduce energy costs with suction pressure, condensing pressure, and our self learning control functions and patented minimum stable superheat (MSS) algorithm. Our intelligent defrost and temperature control enables the highest possible level of food quality with minimum energy consumption, and due to advanced energy balance calculation, defrost is initiated only when energy consumption starts rising.

The controller communication network including FDD technology (Fault Detection and Diagnosis) furthermore provides you with the comfort of having a fully monitored refrigeration system 24/7 ensuring optimum food safety in your supermarket.

Key Danfoss technologies

- Industry leading ADAP-KOOL® control software
- Patented MSS algorithm ensures 10% energy savings over TXV technology and 33% savings with full ADAP-KOOL® system
- Intelligent defrost control
- FDD technology (Fault Detection and Diagnosis)

Full refrigerant compatibility

Together with the ADAP-KOOL® system, the AKV valve is extremely flexible and available for both low global warming potential refrigerants as well as all other common refrigerants.

Since 2009, the AKV line-up has been optimised for CO₂ and high standstill pressures and is now the most widely used expansion valve for CO₂ in food retail.



AK-CC 750 controls up to 4 evaporators in a case line-up or a room. The fully flexible in- and output definition makes it adaptable to almost any application.



AK-CC 550 features energy optimisation of the complete case and predefined application types for quick adaptation to different cases or cold room setups.

Danfoss brought the first AKV electronic expansion valve to market almost three decades ago together with our revolutionary ADAP-KOOL® controllers. During the years, the system has been refined and perfected.

