

AKV electronic expansion valve

# Easy installation and high reliability

 Simple

 Proven

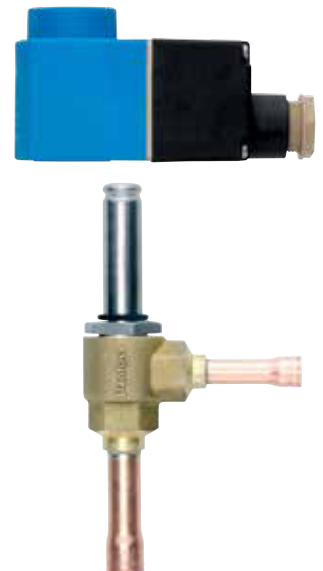
 Evolving

Danfoss AKV electronic expansion valve is easy and fast to install. The simplicity and robustness of the design reduces possible failures in the field and will save you both time and money.

### Installation and service is the real time-saver

Danfoss offers a wide range of capacity sizes and connections suitable for different applications, making the AKV expansion valve fit any modern retail cooling system, both new and retrofits.

The Danfoss AKV valve is fully serviceable and has a removable and cleanable filter, which decreases dirt-sensitivity. It is designed for optimum tightness to ensure minimum leakage while still being serviceable, allowing you to replace functional parts without dismounting the valve. The electrical connectors are foolproof and consist of only two leads, which can be connected in any way. Altogether, this makes installation and servicing as easy and time saving as possible.



## Offer your customers the benefits of superior reliability and robustness

Compared to TXV (thermostatic expansion valve) and stepper motor technology, the AKV combines an expansion device and solenoid valve in one simple unit. This is why a cooling system with the AKV valve has fewer

connections and reduced brazing process, as only one valve is needed.

Once the AKV valve has been installed, it runs flawlessly for years with no or little maintenance, due to the simplicity of its construction. This means you can offer your customers the most reliable solution on the market as well as maximum security for their business – and yours.



### Our maintenance philosophy: **Fit and forget**

Piping and installation dirt has less effect on operation, as the AKV has a removable and cleanable built-in filter that enables continuous operation even with dirt in the system.

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# The world's most trusted expansion valve

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

### We have minimised failure rates so you can maximise business

During production, each 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 highest possible quality standards and has a minimum risk of callbacks – leaving you with satisfied customers from day one.

### Long lifetime means long lasting customer relationships

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. The AKV continues its dominance as the most reliable solution for modern retail cooling.



**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**

AKV electronic expansion valve

# Powered by intelligence Ever evolving

Simple

Proven

Evolving

**Increased energy efficiency and savings for your customers**

Today more than 50,000 supermarkets are equipped with ADAP-KOOL® control and monitoring systems. This allows their cooling system 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**

The self-learning control functions and



**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.

patented minimum stable superheat (MSS) algorithm ensure your customers' low energy consumption and sustainable savings. Our intelligent defrost control enables the highest possible level of food quality with a minimum of 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 your customers with the safety of having a fully monitored refrigeration system 24/7.

**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 CO<sub>2</sub> and high standstill pressures and is now the most widely used expansion valve for CO<sub>2</sub> in food retail.

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

