

NEW PERSPECTIVES

WITH DANFOSS SAGINOMIYA



QUALITY AND SERVICE EXCELLENCE REMAIN STABLE

During the year we face fluctuations in demand, traditionally in spring and autumn. This year has been different!

Sales of our own produced cartridge controls has been great, and already early in the year we had to expand our capacity with 30% to follow the demand. Here at year-end we realize that we have never before sold and produced so many CC's as in 2008!

At the same time the global recession has also had its impact on our general business. We are adapting to this situation together with our customers, assuring that neither service or quality of our deliveries will be affected by the down-turn.

Our highest priority is the quality of the products produced, and we have spent quite some resources and time working on quality related initiatives. It was a nice reward for our team,

from these efforts, to earn "top score" after a 3-day quality audit from one of our significant customers. Despite being proud of such results, we know that there is always room for improvements. This mind-set of continued improvements or "Kaizen" in Japanese, has enabled us recently to obtain an award from another of our significant customers. We achieved a top ranking in their supplier evaluation system for the year 2007 focusing on Quality, Cost and Service.

For all our customers, we strive continuously to achieve such results of excellent quality and service, with the "Kaizen" mind-set, mirroring the results achieved from these more formalised rankings and audits.

Claus Tonnesen

CHILLVENTA 2008

Danfoss Saginomiya participated in the International Trade Fair for Refrigeration, Air Conditioning, Ventilation and Heat Pumps, Chillventa, that was held in Nürnberg, Germany from 15-17 October 2008.

Some 800 exhibitors from 43 countries presented their products on a net display area of over 32,000 square metres. Almost 30,000 trade visitors from all over the world gathered at Chillventa, this time.

As in previous years, the Danfoss Saginomiya focus products were displayed and integrated into the different product families on the Danfoss booth, complementing fully the wide portfolio of Danfoss products available for different applications.

The Danfoss Saginomiya products in focus were : ACB compact cartridge pressure switches, STF 4 way reversing valves, XGE fan speed controllers, NSK pressure sensors and the new generation UKV electronic expansion valves. In addition, a selection of products for CO₂ applications were also exhibited.

A high level of interest was apparent at Chillventa, in the electronic expansion valves available from Danfoss Saginomiya. Please, read more about the new range of UKV electronic expansion valves in this newsletter, in focus on pages 2 and 3.



Piotr Waclawek and Simon Armstrong

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ELECTRONIC EXPANSION VALVES

Electronic expansion valves allow substantial improvements in energy efficiency



With the increased need to reduce energy consumption, tightening regulations regarding CO₂ emissions, and in-

creased environmental awareness, more and more air conditioning, heat pump and refrigeration unit manufacturers are looking for ways to improve the energy efficiency of their systems.

More efficient systems can, and often require more precise control, which often results in electronic solutions being used. Electronic expansion valves are an important component in this respect, since they adapt to the exact capacity demands of the system, and ensure stable and adaptive control.

In fact, this trend to introduce more energy efficient systems started in the early '80s in the Japanese air conditioning market with the introduction of inverter systems, and when Saginomiya first introduced the KV range of electronic expansion valves. With over 30 years of experience and know-how, the new UKV range of Danfoss Saginomiya valves offer high reliability and precise solutions for expansion and flow control in a wide range of refrigeration and air conditioning systems.

General description

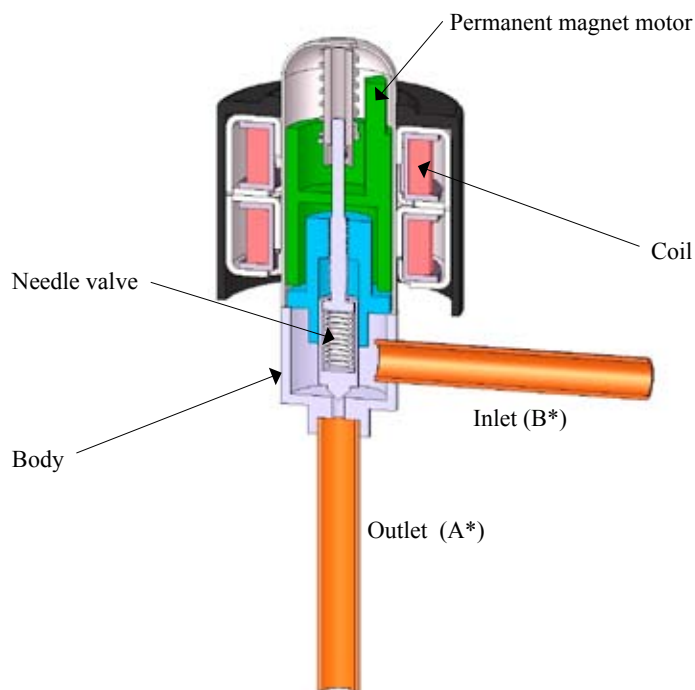
Compact and lightweight, the new range of valves are available with different capacities, and can be used with all common refrigerants (R410A, R407C, R404A, R134A), and bi-flow operation is possible for heat pump systems. A special high temperature range is also available, which is especially suited for hot gas by-pass applications amongst others.

In addition to this, a new range of valves is available for trans-critical CO₂ applications. The valve design uses uni-polar drives, and different control solutions exist that are compatible with uni-polar drives.

Please, contact Danfoss Saginomiya for more details.

Construction & principles of operation

The KV electronic expansion valves open and close to regulate refrigerant flow by means of a screw structure which has linear motion. This occurs by the rotation of a magnet-needle valve assembly which moves when electrical signals are applied to the surrounding coil. Within the coil structure, there are different winding configurations, and the polarities are changed by the electrical signals applied. By application of the appropriate combination of signals, in the form of pulses, the coil forces the rotor of the valve to move in a stepwise fashion. Application of multiple pulses will make the valve mechanism move through a series of steps in the direction of choice, in order for the valve to adopt the required position.



Cross section diagram of KV series
* Refers to refrigerant flow in cooling mode

ELECTRONIC EXPANSION VALVES

Delivery and order flexibility

In order to be in a position to service the increasing demand for electronic expansion valves at customers with different profiles with differing requirements, Danfoss Saginomiya is now

also introducing the range of UKV valves in small pack sizes in order to improve order flexibility. The range available for ordering in this way is as follows:

Valve Specifications

Model No.	Code No.	Qty per box	Nominal Capacity [kW]				
			R22	R134a	R404A	R407C	R410A
UKV-10D85	061L4176	100	2,6	2,0	1,8	2,7	3,1
	061L4188	4					
UKV-14D69	061L4177	100	5,8	4,5	4,1	5,9	6,8
	061L4189	4					
UKV-18D51	061L4165	100	10,3	8,1	7,3	10,6	12,1
	061L4190	4					
UKV-25D57	061L4140	100	19,6	15,3	13,8	20,1	23,0
	061L4191	4					

Nominal Capacity based on:

R410A: CT=38 degC, ET=5 degC, SC=0 degC, SH=0 degC,

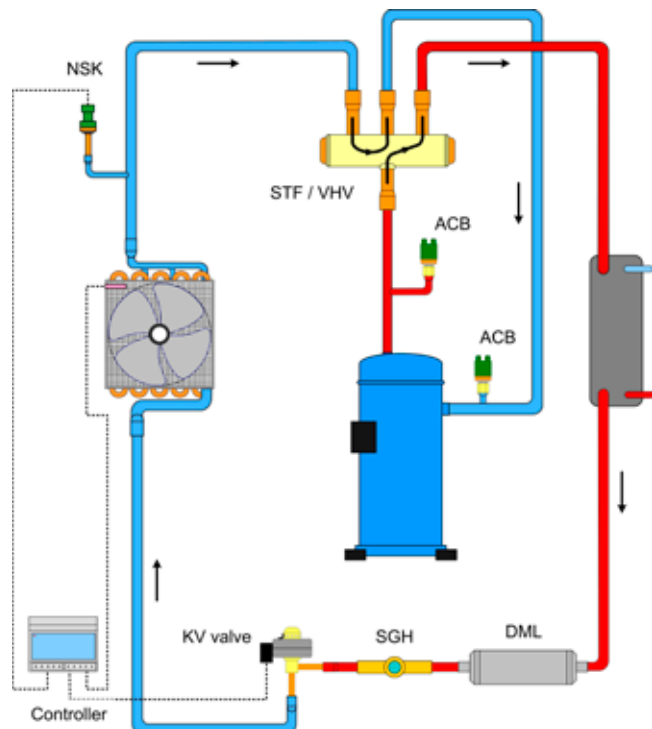
Coil Specifications

Model No.	Code No.	Qty per box	Voltage (current)	Cable length [m]
UKV-A102	061L4181	100	12 VDC (0,26A/phase)	0,7
	061L4192	4		

Application example



UKV valve with a coil



Heat pump unit

FIVE YEARS JUBILEE OF DANFOSS SAGINOMIYA



This year Danfoss Saginomiya is celebrating its 5 years of anniversary of operational activity in Poland.

On this occasion, a ceremony of the jubilee was organized on the 18th of June, 2008 at the production facilities in Grodzisk Mazowiecki. Many honoured guests from Saginomiya and Danfoss, as well as all Danfoss Saginomiya employees participated in the celebration.

This was a good occasion to look back on the achievements of the past 5 years and look forward to new challenges for the future.

Speeches were given by the president of Danfoss Saginomiya and Supervisory Board members, where all agreed that the cooperation between Saginomiya and Danfoss has developed significantly during the last years.

Danfoss Saginomiya is able to offer a wide range of products, that are valued on the market, and where the high quality of the products and service is also recognized by customers.

In the coming years, Danfoss Saginomiya plans to continue to grow, produce more and the key to this is continued customer focus.

The employees of Danfoss Saginomiya were given a special thanks for their activity and tremendous contribution in the company development.

The ceremony ended with a birthday cake.

NEW LOGISTICS MANAGER

Anna Wozniak who previously led the Danfoss Saginomiya logistics team, has taken up a new challenge as SOP manager for Danfoss Sp. z o.o.

Irmina Szufnik has now taken over the logistic manager responsibilities from Anna. Irmina has been working for Danfoss for around 12 years, during which time she has gained a comprehensive experience, working in different areas of logistics.

The main task for Irmina is to ensure continuous improvement in the logistics processes at Danfoss Saginomiya, in order to provide excellent delivery service to customers. Reduction in lead times and improvement in product availability are especially important in this respect.

Irmina finds working in a multi-national team interesting, giving many possibilities to learn more and better understand other cultures. She also appreciates the friendly working atmosphere in the Danfoss Saginomiya team, which helps in achieving top performance.



Irmina Szufnik

FURTHER INCREASE OF PRODUCTION CAPACITY



Cartridge controls pressure switches produced in Grodzisk Mazowiecki

It is a pleasure to see that several times during the year, the Danfoss Saginomiya production of compact cartridge pressure switches reached record scores in terms of output.

The highest ever production quantities in the short history of Danfoss Saginomiya coincides with the 5th anniversary of operation, but more

importantly has been achieved from team work.

The close collaboration between the Polish production team, sales, logistics, and the Danfoss and Saginomiya teams involved, position Danfoss Saginomiya well to break new records next year.

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