18%

less energy used by installing complete Danfoss solution for residential buildings.*

ENGINEERING TOMORROW

Danfoss

Case story | ASV – automatic balancing valves

Jönköping, Sweden
A greener community in Västerkåkar

During the past few years a huge demand for sustainable living has emerged. The pressure on creating environmental friendly or green buildings is higher than ever. Also for existing buildings the need for not leaving a big blueprint on the globe is becoming increasingly important. In Jönköping, Sweden, the community living in the Västerkåkar neighborhood is going forward. In 2013 substantial changes to the communal heating system in the buildings in four streets showed that a green example can be set, in just a couple of steps.

The existing two-pipe heating systems in these buildings were build using conventional manual balancing valves. From March to August, in 2012 and 2013, an energy analysis has been conducted in the buildings.

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Working together with Jönköping Energi
The property owner of Västerkåkar, Bo Hallin, decided to join forces with the local Jönköping Energi and Danfoss. Jonkoping Energi is a Swedish municipally owned energy company that offers its customers sustainable solutions.

They performed the energy analysis for the targeted buildings and came up with a full renovation plan. This renovation included:

- Installation of new balancing valves (Danfoss automatic balancing valves ASV-PV)
- Installation of new thermostatic valves and radiator thermostats (Danfoss thermostatic radiator valves RA-N and radiator thermostats RA series)

The services offered by Jönköping Energi also included optimization and monitoring of the property for continuous improvements and energy efficiency (e.g. additional insulation and replacement of windows).

The two-pipe heating system was commissioned by Danfoss engineers. Proper commissioning delivers the best possible heat distribution, with the right distributed flow to the radiators and the right differential pressure over risers and radiators – also at partial load conditions.

"The renovation delivered the owner and, of course, the tenants a lot of beneficial results. There is better control of when and where energy is used. An even heat distribution is maintained and can be manually controlled by tenants via the radiator thermostats in their houses. All in all these improvements lead to reduced energy costs, improved indoor comfort and less environmental impact. It was great to be able to team up with Jönköping Energi for this project. Danfoss and Jönköping share the same mindset towards creating a greener world", says Anders Gustavsson, Danfoss technical support in Sweden.

One of the "Green buildings in Västerkåkar" renovated with ASV and Radiator valves and thermostats

*Compared period March-August 2012-2013 with weather correction in consumption

Our experience with Danfoss products tells us that they are very reliable over the course of time and Danfoss offers good technical support. In this case we used a local company (Perssons Rör), who were trained in "optimal methods". The project was completed fast and efficiently, in such a way that the tenants were not disturbed by the work.

Martin Brage
Energy Engineer
Jönköping Energi AB

The solution comprises:

Automatic balancing valves: ASV-P, ASV-PV and ASV-M
Radiator valves: RA-N
Radiator thermostats: RA 2970-2977-2978

Advantages of this Danfoss solution:

- Reduction of noise coming from pipelines
- Lower energy bills for property owner and for tenants
- More reliable and valuable building for property owner
- Less energy consumption by pumps
- High energy efficiency
- Fast installation and easy commissioning
- No more complaints about over and under heating

Facts about Västerkåkar

- Real estate: 773m^2; Gränsgatan 11, 9 apartments, 3 floors
- Real estate: 578 m^2, Bellmansgatan 4, 9 apartments, 3 floors
- Real estate: 1320m^2; Drottninggatan 6, 20 apartments, 3 floors
- Property owner: Bo Hallin, VÄSTERKÅKAR AB, Jönköping, Sweden
- Installer: Perssons Rör, Bangårdsgatan 3, Jönköping, Sweden

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