



Hirtshals School

Payback time - only 5 years

The 20 year-old heating system in Hirtshals Skole was energy optimized in the autumn of 2011. The renovated system is built up with modern mixing circuits including Frese OPTIMA valves, Grundfos pumps and Alfa Laval heating exchangers. This will result in energy savings of more than 20 percent of the school energy consumption, thus a payback time of the new system of only approx 5 years.

Hirtshals Skole is from the 1950s and consists of buildings located on a 2.000 m² area. The school had an old heating system which needed to be energy optimized.

Bjergby VVS, Hjørring, achieved the enterprise. After three months of work the company could hand over the energy optimized system to Hjørring Kommune.

- It has been a good and large project for our company. We have changed 300 heating thermostats in total and have installed 15 mixing circuits with Frese OPTIMA (3-in-1 valves). Furthermore we have installed a domestic water system from Frese/Alfa Laval, says VVS- electrician René S. Thomsen, Bjergby VVS

Before the renovation the school had a 2,000 litre container and a very poor cooling (ΔT approx 10°C). Today a domestic water unit has been installed: AquaFlow, and a considerably better cooling has been obtained / (ΔT 35°C).

During the project René Thomsen had a continuous dialogue with experts from Frese about adjustment of valves and pumps, so that everything was dimensioned correctly in order to ensure that water flow, cooling and distribution in the system were correct – resulting in minimum energy consumption.

- We have had a perfect co-operation with Frese. I contacted them when I needed inputs and instructions for how to put the right components together in order to achieve the optimal energy solution, says René Thomsen.

In addition to the dialogue with Frese, René Thomsen has coordinated the building work together with the energy advisors in Hjørring Kommune, chief engineers Ole Magnussen and Jesper Hansson, regarding the heat loss and the specific data about the buildings etc.

The new heating system will give annual savings of more than 20 percent of the present energy consumption of the school. This results in a payback time of the new system of only approx 5 years.

Photo: The new heating system of Hirtshals Skole gives an annual saving of more than 20 percent of the previous energy consumption. From the left plumber René Thomsen, Bjergby VVS, and sales engineer Ralf Lønstrup, Frese A/S.



Frese OPTIMA

- Max diff. pressure: 400 kPa
- Temperature: 0 to 120°C
- Dimensions: DN15-DN50
- Material: DZR brass
- Static pressure: PN25
- For cooling and heating

