

ENGINEERING
TOMORROW



Case Story

Delivery of **1,500** **district heating** **substations** to Lalandia

Lalandia Resort in Billund, Denmark

Doubled

number of district
heating users

Delivery of 1,500 District Heating Substations to Lalandia in Billund, Denmark

The Danfoss company, Gemina Termix, in Denmark has received one of the biggest orders ever placed in Denmark; in connection with the building of the Lalandia resort in Billund, the largest tropical waterpark in Northern Europe. The order will run from 2008 through to completion of the project.

No one at Gemina Termix had any idea of the enormity of the project they were getting involved in, when, at the end of 2006, Benny Povlsen of Billund Varmeværk (district heating utility) invited them to tender for the supply of 100 district heating substations. By the time the tender process was complete, the order totalled 1,500 substations, which Flemming Østergaard, Chairman of Parken Sport & Entertainment A/S, has called one of

his best investment project in years. The first 500 holiday houses of the planned 1,500 will be handed over to the owners on the opening day 24 april 2009. The next 261 holiday houses are expected to be ready in spring 2010. The construction project also includes a 40,000 m² resort complete with tropical waterpark, ice rink, indoor minigolf, playland, bowling alleys and much, much more.

In addition to the 1,500 district heating substations, Gemina Termix has received an order for 100 Termix floor heating distribution units for the holiday houses.

The Lalandia resort has led to a doubling of the number of district heating users in the Billund area, and to meet the additional demand, Billund Varmeværk has built a biomass

woodchip-burning plant. The main plant will still use natural gas in the future, but the district heating supplier hopes that the new biomass woodchip-burning plant will lead to district heating prices in the Billund area levelling off, as woodchip is significantly cheaper than natural gas.

Billund Varmeværk is responsible for the installation and servicing of the 1,500 Termix VMTD substations. "Reliability was one of the most important factors that played a part in Billund Varmeværk's choice of district heating substations, but naturally price had a big part to play," says Benny Povlsen of Billund Varmeværk. There were two other companies bidding for the tender, but it was Gemina Termix who won the order.



Termix distribution units for floor heating are installed in each holiday house.

In addition to the installation of the substations in Lalandia, Billund Varmeværk is in the process of replacing old storage tanks and exchangers with Termix BVX and VVX units in the city of Billund itself.

Customers are offered the chance to purchase new district heating substations by their plumbers. Once installed, Billund Varmeværk visits the property to inspect the installation and gives the customer a refund of DKK 6,250 towards the cost of installation.

This means that over the long term most of the old district heating units installed in private homes in Billund town will be replaced with new substations from Gemina Termix.

Facts on installed district heating substation:

The Termix VMTD "Lalandia" substation is a complete unit for controlling the district heating installation of a holiday house.

Domestic hot water is delivered instantaneously via a plate heat exchanger and a direct circuit for the radiator. Once installation and commissioning is complete, there is no need for any further adjustment of the water temperature. The domestic hot water controller maintains the comfort temperature of the hot water, even when operating conditions change during the summertime, when the district heating plant lowers the flow temperature and differential pressure.

Gemina Termix - member of the Danfoss Group:

Gemina Termix produces water heaters, substations and heat exchangers for use in houses and apartments.

The company was founded in 1986 and has been member of the Danfoss Group since 2004. Today, Gemina Termix employs 76 people and produces around 28,000 units annually.

A high degree of innovation has assured Gemina Termix its position both as leader on the Danish market and as a significant exporter.



The Termix VMTD "Lalandia" substation is a complete unit for controlling the district heating installation in a house.



The Termix VMTD "Lalandia" model with a cover, designed by Jacob Jensen

Front page photo, Copyright: Billund Varmeværk



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