



# Low energy bills - and a great view of London at Indecon Court

Case Story - London, United Kingdom

## Energy efficiency is becoming a still more important parameter when new buildings are being constructed. This is also the case at Indescon Court in the London Docklands area of East London.

The 364 new apartments placed in 5 different blocks next to the shopping and business area Canary Wharf in East London are attractive for several reasons. The private residential units at Indescon Court have been designed to meet the most demanding standards and maximize the abundant light and space both within and around the development. At the same time the blocks are being supplied with heat and hot water in a most energy efficient way, so that the residents' energy bills will be kept on a minimum level - also at higher energy market prices in the future.

Indescon Court consists of two tower blocks of 14 and 16 stories, and 3 lower blocks of 6 and 7 stories. An extra quality to the apartments in the towers is the great view of the Financial District at Canary Wharf and of the London Docklands area, which used to be one of the busiest docks

in the world. The private apartments were all sold fully fitted long time in advance, according to the developer Galliard Homes. The apartments vary in size from small studios of around 33 square meters (350 square feet) to 4-bedroom flats of up to 120 square meters (over 1200 square feet).

### Energy efficient heating

A decentralized heating system with individual flat stations per apartment is designed and constructed specifically for Indescon Court in a co-operation between the company SAV Systems that specializes in the British energy market and Danfoss. This co-operation has taken place in new housing areas for several years all over the United Kingdom. The composition of detailed market knowledge and high quality energy efficient products has proven great results according to Ian Stripp, project manager from SAV Systems at the Indescon Court project.

"Each apartment is equipped with a prefabricated flat station from Dan-

foss and connected to a central gas fired boiler, which is providing the heat in the decentralized heating system. The energy system is modified to Indescon Court and configured to the specific requirements of the project by SAV Systems", Ian Stripp says.

### Huge development area

Indescon Court is situated only about 3 miles from the center of London and the London Tube and the light rail bring you to the center in only 10-15 minutes. Alternatively the commuter river Thames service takes you from Canary Wharf to London Bridge in around 9 minutes. The London Docklands has been under development for the last 15 years and contains big perspectives for people, who want to live close to the center of London in new constructed apartments - with all the comfort this offers you. The development is placed in a huge area with upper residential schemes. A phase 2 and 3 of Indescon Court is planned to follow. However,



.Danfoss Termix VVX flat station.

due to the current economic situation it will probably not happen until 2011. There seems to be no doubt, that the area is attractive for investments both in the short and long term. For those with not so deep pockets, alternative options are at hand. One of the lower blocks is run by a public housing association. Here you can rent pretty spacious apartments at an affordable price. Non-private flats like these are actually moving the market forward at a time when the economy is in recession, according to Ian Stripp.

### **Individual billing according to consumption**

SAV Systems made the specific design together with a consultancy engineering company and the main contractor O'shea. According to Ian Stripp there were no serious challenges to the project. The only topic was the question regarding direct or indirect district heating units. The original scheme design was all direct units (type Termix VMTD), but this was

later changed on the 2 tower blocks (Blocks B & E) due to the static pressure of the building. All units up to the 8th floor were changed to indirect units (type Termix VVX). The Termix VMTD flat station from Danfoss is constructed, so that the primary flow of cold water enters at the top of the unit, whereas the hot water and secondary heating (the apartment heating) exits at the bottom of the unit. The installed Danfoss flat stations are all equipped with a heat meter (type Sonometer1000®) enabling individual billing according to actual consumption. In times with increasing energy costs and high focus on energy savings this enables the flat owners to control consumption and secure fair billing.

### **Hot water on demand saves energy**

"A reason why the substations are more energy efficient than a traditional boiler, which would be the alternative, is that it is without a hot water cylinder. Here you only have

hot water on demand and don't store any water", Ian Stripp explains. Indirect versions (Termix VVX flat stations) feature a second heat exchange module, which works as an interface between the hot water main supply from the central boiler and the circuit within the dwelling. In this way heat energy can be taken efficiently from the central boiler, while maintaining a "sealed system" condition for the individual apartment. Finally, the substation takes up less space in the flat than an old boiler system. The installer Malden Plumbing & Heating Limited took care of all mechanical installations and all flat stations are now fully installed. The electrical installations are done as well. Total completion of the project is scheduled to be at the end of 2009.



Danfoss Termix VMTD-F flat station.





Danfoss is installing flat stations in decentralized heating systems in co-operation with SAV Systems all over the United Kingdom. It has proved to be one of the most energy efficient ways to supply buildings with heating and hot water.

#### Fact box

364 apartments are supplied with heating and hot water in an energy efficient way by installing one Danfoss flat station in each apartment, connected to a central gas fired boiler, which produces the heat for the entire decentralized energy system.

#### The installed Danfoss flat stations

- 2 sizes of substations/flat stations:
- Termix VMTD-F-1 (up to 5 kW heating / 40 & 58 DHW)
- Termix VVX-1-1 (up to 5 kW heating / 40 & 58 DHW)

#### Technical data:

- Pressure Level: PN 16
- Differential pressure: 0.7bar
- Design temperatures for heating: 80/50C-75/55C (radiator heating)
- Design temperatures for DHW: 70/28C-50/10C

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