



Press Release

Energy saving through intelligent heating control

adapterm from Techem, the new generation in radio metering: heating systems producing only as much heat as is actually consumed

Accurate measurement of consumption and readings taken from outside the residence – thanks to radio technology. In Germany, about 80 per cent of all radio-controlled metering devices come from Techem; meanwhile, more than 11 million heat cost allocators, heat meters and water meters equipped with Techem radio technology have been installed worldwide.

Further advances in technological innovation

With the adapterm energy-saving system, Techem has started a revolution in heat cost input: the adapterm intelligent heat cost allocator utilises consumption and temperature readings to control the heating system strictly according to demand. Regardless of whether you are heating with oil, gas or district heat – adapterm continuously adapts the heat output to the real demand of the residents. The heating system thus becomes adaptive, adjusting itself to its users.

adapterm starts reducing heat consumption as soon as it is installed – by an average of more than ten per cent. This has been proved in scientific studies carried out by Prof. Dr.-Ing. Markus Tritschler (Steinbeis Transfer Centre, Building Technology).

The development of adapterm started from a simple question: how can energy be saved with the help of data continuously collected by heat cost allocators? adapterm “learns” from the radio heat cost allocators how much heat is needed. It passes this information on to the heating control unit, so that no more than the exact quantity of heat actually desired by the residents is produced. Consequently, the residents feel just as warm as before.

Consumption measurement and heating combined into one system

Together with his team, Dr. Arne Kähler, Head of Technical Development at Techem, installed the first adapterm pilot project in Berlin. The starting signal was given in March 2006. Preliminary tests had promised savings between six and ten percent. Berlin was a precision landing: during the first practical test phase, the actual savings were even slightly above these figures. The long winter gave Techem an oppor-



tunity to gather valuable statistics in this building and in others as evidence of the substantial cut in consumption. The results in terms of energy savings were also confirmed by scientific research.

The principle of adapterm is to combine the heating system with the collection of consumption data into one adaptive, energy-efficient unit. This leads to a sufficient reduction in heat costs to completely compensate the cost of meter reading, including remote reading.

Radio heat cost allocator – the vital element

The vital element is the radio heat cost allocator which, under the adapterm system, not only measures the consumption but also supplies the necessary information to calculate the current heat requirements for every room. This information is collected via radio data collectors, and the building's total heat demand is calculated from it. With the help of an intelligent process, the adapterm module then adjusts the production of heat to the demand. The result is an adaptive heating system which continually readjusts the flow temperature to the requirements of the users. Another advantage is that many of the existing electronic heat cost allocators can be retrospectively incorporated in the Techem radio system at any time, which also provides the basis for adapterm.

Potential drop in emissions

Horst Enzelmüller, Chairman of the Management Board at Techem, sees the "adapterm project" in a macroeconomic context. Under the Kyoto Protocol, Germany has committed itself to a 30% reduction in CO₂ emissions by 2012 (compared to the base year 1990). In terms of absolute figures, this means that the CO₂ emissions must still be reduced by 33 million tonnes to reach the national climate protection target. The residential units billed by Techem alone cause an annual CO₂ emission of about 13 million tonnes. Enzelmüller sees considerable further potential especially in private households, since, apart from fluctuations caused by changes in the weather, their CO₂ emission still remains on roughly the same level as in 1990. If all centrally heated apartment buildings in Germany were equipped with adapterm, this could save **about** four million tonnes of CO₂.



A relatively small investment instead of expensive modernisation

Enzelmüller is also well aware of the reasons why relatively little has been done up to now. Modernisation measures such as heat insulation or installation of new windows are expensive, and, in spite of existing low-cost financing incentives, property owners must ultimately pay for these costs themselves or collect them from their tenants. As a service provider for 690,000 housing industry clients, Techem knows the market well enough to be certain that many property owners do not have sufficient funds for such major investments, and that the market does not allow them to recover these investments by charging higher rents. Therefore an attractive alternative for property owners is more reliance on low-investment measures, such as the installation of adapterm to increase the efficiency of the heating system.