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# Hast Akku: How heating and hot water cost less

MSR-SERVICE GMBH (MANAGING DIRECTORS: DIPL.-ING. BRUNO SCHRAMM AND DIPL.-ING. GABRIELA SCHRAMM) WAS FOUNDED IN 1992 AND EMPLOYS 14 MEMBERS OF STAFF. SINCE THE COMPANY WAS FOUNDED, THE TEAM OF ENGINEERS, TECHNICIANS, MASTER CRAFTSMEN AND SKILLED WORKERS HAS BEEN WORKING ON THE IMPLEMENTATION OF COST SAVING AND ENERGY SAVING HEATING, AIR CONDITIONING AND SANITATION SYSTEMS. THE HAST-AKKU CONCEPT WAS DEVELOPED FROM THIS – THE SYSTEM MAKES IT POSSIBLE TO MAKE CONSIDERABLE COST AND ENERGY SAVINGS AS FAR AS HEATING AND HOT WATER SUPPLY SYSTEMS ARE CONCERNED. AT PRESENT, MSR-SERVICE GMBH IS RESPONSIBLE FOR 62 HAST-AKKU SYSTEMS. 32 SYSTEMS ARE INSTALLED IN PREMISES CONSTRUCTED BY ONE MAJOR BUILDING COMPANY IN BERLIN ALONE, WHICH (IN THE CASE OF APPROX. 1.8 MILLION EUROS OF INVESTMENT) GUARANTEE ANNUAL SAVINGS OF 405,000 EUROS. BY FURTHER OPTIMISING THE CONNECTION VALUE, IT IS POSSIBLE TO INCREASE SAVINGS TO 470,000 EUROS.

## THE SITUATION

The energy efficiency of buildings is right at the top of the real estate industry's list of priorities. Anyone working in the industry knows that he/she must concern himself/herself a great deal with measures to reduce energy consumption. Not only as a result of the German Energy Saving Regulation, but also in order to remain attractive to tenants.

One good way of approaching energy saving is to make better use of the energy available. What is more, in this case, one figure

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### TOPIC:

The HAST-AKKU® system tops performance highs and smoothes the load profile/ connection values decrease and the level of annual usage increases.

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### LOCATION:

Germany

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### COMPANY:

MSR-Service GmbH

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speaks volumes: in relatively large residential units and building complexes such as hospitals or hotels, the level of annual usage of the boiler system is on average 70%.

However, what happens to the remaining 30%? This is made up in particular of heat losses incurred when the burner is fired up and during the down time of the burner (cooling losses). Accordingly, it is the level of annual usage rather than the efficiency of the boiler that is the operator's primary concern. Contractors are particularly interested in achieving as high a level of annual usage as possible as they charge according to heat energy consumed. It is to their financial advantage if they are able to sell more heat energy whilst using less gas or oil.

This is precisely what the HAST-AKKU technology developed by MSR Service GmbH and distributed by BBT -Bosch Buderus Thermotechnik GmbH offers: by means of a combined energy and tank management system, it makes significantly better use of the economic potential of heating and drinking water warming systems and significantly increases the level of annual usage.

The advantages of the energy and tank management system can also be seen in the district heating supply and lead to a significant cost reduction as far as the connection value is concerned.

#### THE GRUNDFOS SOLUTION

HAST-AKKU stations for use in district heating networks or boiler systems each have four Magna pumps. The pumps are required to be speed-adjustable and high demands are made of the quality of control of the integrated microprocessor: where valves serve to regulate the volume flow rate in conventional systems, the pumps take over this task in the HAST-AKKU concept. For example, the Magna automatically adjusts the circulation temperature of 55°C.

One important criterion in selecting the pumps was also that the Magna is designed to operate 'as part of a network' and can therefore be connected to the central building control systems (BCS). It supports BUS communications via LONTalk and GENIbus protocols and can be easily upgraded using extension modules: a cartridge is simply inserted directly into the terminal boxes.

In the HAST-AKKU system, the pumps are connected to the control system via GENIbus -with the possibility of forwarding data via the internet and visualising the system status, as well as the ability to perform remote parameterisation. In addition, it is possible to log all of the system's parameters.

#### THE OUTCOME

The HAST-AKKU control concept, together with the Magna pumps, offers a high level of energy efficiency. It combines an innovative energy and tank management system

for boiler systems or district heating private connection stations featuring state-of-the-art production technology: a specially developed system solution, which operates all actuating elements and control elements within a system in an optimum manner.

The system distributes the load profiles within a building over 24 hours, all components will therefore be considerably smaller in terms of their output and dimensions: the connection values decrease in the district heating supply and there is a reduction in energy consumption in boiler systems.