



Pump Users  
International Forum 2008

# Technical Paper

## Building applications; Innovative solution

### Session 15-1

## Adaptive Control of Domestic Circulators

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## Summary

Speed controlled circulators for domestic heating systems have been on the market since the early nineties. The majority of these circulators have built-in pump control curves, which adjust the speed and thereby the pressure to the actual flow and heat demand. Circulators normally have a variety of pump control curves to accommodate for variations in heating systems. This can further improve comfort and reduce energy consumption. To benefit from this option the right setting of the circulator control curve must be done after it is installed. In most cases this is not possible, because information about the particular heating system is not available. This paper describes a new control method, which automatically adapts the setting of the circulator to the heating system where it is installed. Circulators with this control method measure and analyse the heating system characteristics during operation and adjust the setting of the pump control curve accordingly. Field test results have shown, that in 75% of the test cases the new control method had chosen a setting such that the comfort level is the same and energy consumption is decreased.