

PRESENTATION OF ITALIAN PATENT

No. MI2006A-000552

TITLE: METHOD AND SYSTEM FOR CONTROLLING A HEATING SYSTEM

The patent protects an innovative *method and system* for the management of heating systems which exploits the physical principle of the differential in thermal hysteresis of materials. Through said principle, the *method and system* allows an immediate increase in the efficiency of the heating systems themselves, without requiring any further building or hydraulic works.

The application of the *method and system* has always translated, in the tests which have been carried out, into an immediate abatement of fuel consumption and into an increase in the measured temperature values.

By increasing the yield and efficiency of heating systems, the *method and system* enables:

- 1- reduction in fuel consumption
- 2- abatement in heating costs between 30 and 70 percent
- 3- abatement in polluting discharges
- 4- increase in the thermic comfort perceived within the heated spaces
- 5- extension to 24 hrs of the maintenance of high temperature values within the heated spaces, without violating the provisions of Presidential Decree 412/93 (as modified by Presidential Decree 551/99)
- 6- an immediately perceivable advantage both for large users and distributors: the possibility to calculate on a nonstatistical basis the consumption of fuel, so as to render the fuel supply requests almost certain and, within certain parameters, independent from weather variability.

The *method and system* has been created a few years ago and has since then undergone continuous tests, updates and improvements before being patented. Upon attainment of levels of usage simplicity, reliability, yield and efficiency considered to be optimal, patent protection has been sought on a national and European level.

The different tests have been carried out so as to preserve the patent's secrecy. Additionally, the results for the latest developed version (the patented one) have been carefully gathered in a presentation document. In order to keep this introduction to the

method and system of manageable size, only a significant example from the said document has been reported hereafter.

TRIAL EXAMPLE AND RELATED RESULTS

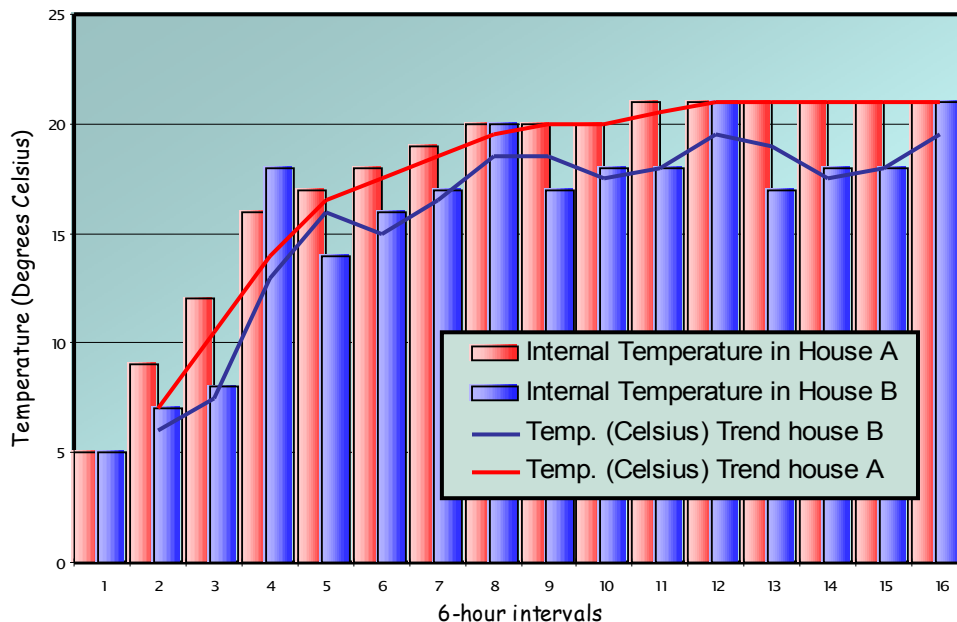
The following graphs illustrate the results obtained through comparison of two houses, identical in their structure, living volumes, location (in the mountains, at elevation 1,200 meters), with the same wind and sun exposure and type of termohydraulic plant.

In the observation period (30 days between the months of January and February) the following information has been registered: climatic data (temperature and relative humidity), initial temperature in both houses (+5 °C for both), outlook of fuel consumption and temperature values in both houses with the heating turned.

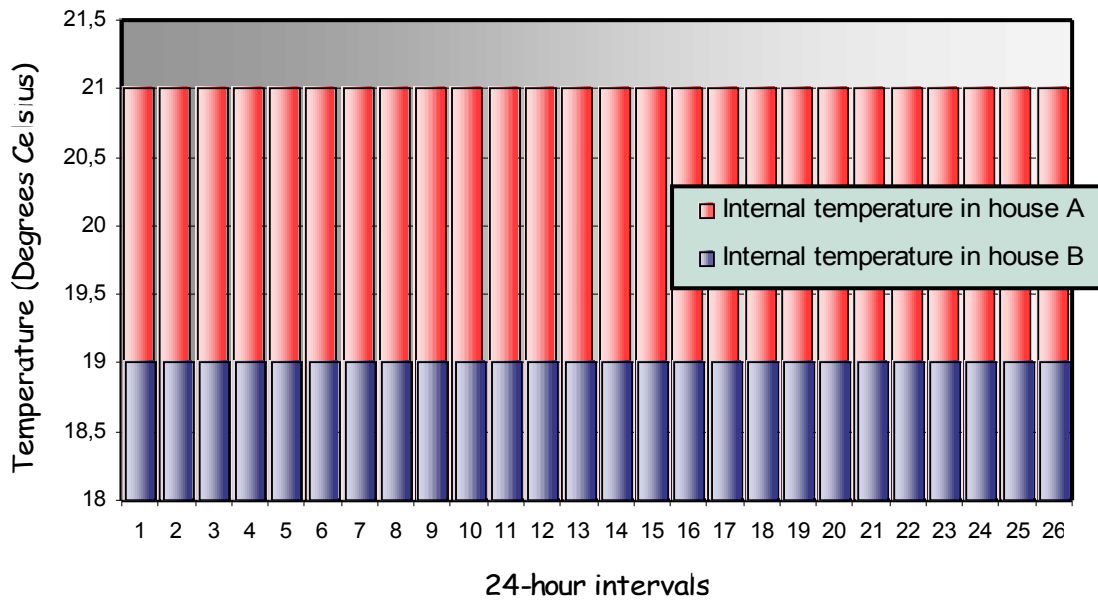
The period has been subdivided into two phases (start-up and operation) so as to verify the greater thermic stability brought about in the heated spaces by the patented device.

CONFRONTATION CHART	USAGE OF PATENT	INTERNAL TEMP.	DAILY DEMAND OF HEAT	METHANE CONSUMPTION
HOUSE A	YES	21°C	24 hrs/day	123,111 m³
HOUSE B	NO	19°C	12 hrs/day	377,595 m³

TEMPERATURE OUTLOOK IN START-UP PHASE



TEMPERATURE OUTLOOK IN OPERATION PHASE



METHANE CONSUMPTION IN START-UP PHASE

