Assotermica
Italian heating system, component and equipment manufacturers' association

AVR
VALVOLE E RUBINETTI
ITALIAN VALVE AND FITTING MANUFACTURERS' ASSOCIATION

Thermostatic valves and balancing of heating systems

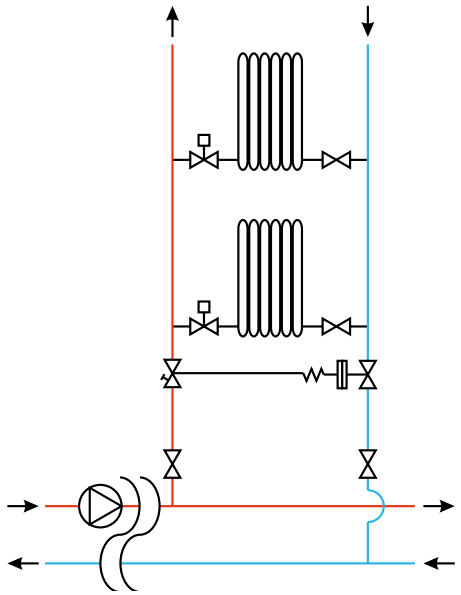
Effective equipment to help protect the environment and reduce energy consumption by increasing system efficiency

Assotermica and AVR are the two associations, federated within ANIMA, that represent the main companies in the thermostatic and balancing valves sector.

Buildings in Europe account for around 40% of energy consumption. By making sure your heating systems adopt the best available technologies, you can save both energy and costs. These savings are continued over time, while energy consumption and consequently CO2 output are reduced – important goals to protect our environment.
These technologies are highly advanced but simple to use. They have a short payback period, yet will continue to deliver benefits for the entire lifetime of the system.

Home comfort, well-being and savings

LThe ability to manage your own heating system independently, according to your individual needs, allows you to achieve the ideal levels of comfort in your house.
The use of thermostatic valves in heating systems enables a more effective thermal balance not only within a single living unit, but within the whole building, leading to energy savings as high as 15-20%.
In the case of centralized systems, the use of balancing valves coupled with the presence of thermostatic valves makes it possible to further increase the efficiency of the heating system, leading to significant savings in the order of 15% [1].
These benefits will continue for the entire lifespan of the system. A building equipped with regulating and balancing devices will have a higher real estate value and lower management costs, as component wear is reduced as a result of the correct distribution of flow rates.



[1] The value may vary according to the characteristics of the building and the system

Legal obligations

The Italian Legislative Decree n. 102/2014, which implemented Directive 2012/27/EU on energy efficiency, makes it mandatory to:

- install energy accounting systems,
- install thermoregulation systems, and
- adopt specific criteria for cost allocation

in condominiums and buildings equipped with a centralized heating system or supplied by a district heating network.
In case of non-compliance, a fine can be issued, for example from euro 500 to 2500 in the Italian transposition, to the condominium for non-installation and cost allocation and to final customers. In addition, a warning is foreseen to ensure the condominium system complies with all relevant regulations within 45 days from the date of the dispute.

How to intervene

All interventions on the system must be performed by qualified personnel.
For thermostatic valves, in most cases the intervention is carried out by installing the actuator directly on compatible valves.
In the case of non-compatible valves, it is necessary to replace the whole-body valve.
It is advisable to use thermostatic valves with performance certified according to EN 215 in order to guarantee products of quality that will maintain the same characteristics over time.
To introduce the balance, you need to contact a specialist who can suggest the most suitable technical solution by performing a diagnosis of the general performance of the system.

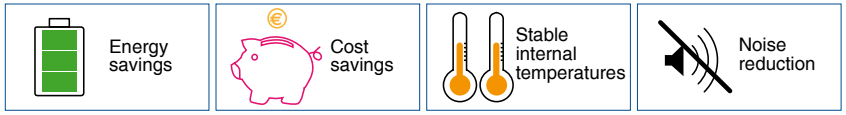
Incentives

Tax incentives are currently foreseen for the expenses incurred for the interventions of installation of thermoregulation and balancing: 50% deductible expenses for interventions carried out following one building renovation or 65% with Ecobonus for interventions of energy efficiency and replacement of an old boiler with Hybrid or Class A models.
For more information, visit the website www.agenziaefficienzaenergetica.it

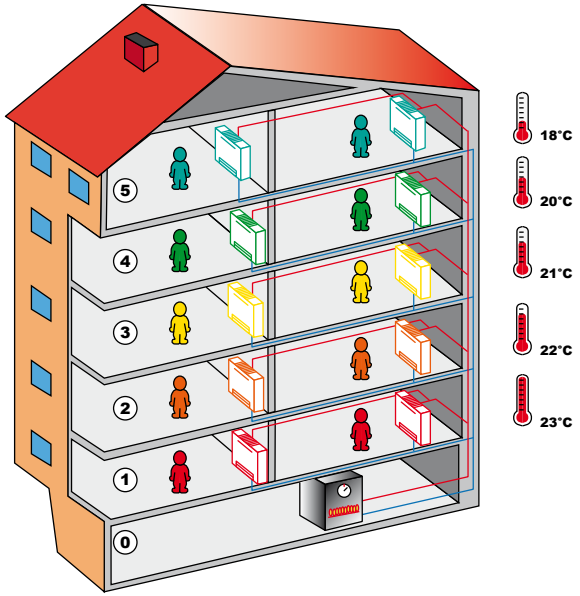
Why is it important to regulate/balance a thermal system?

The purpose of balancing is to guarantee the correct flow of water (flow rate) to the different terminals (radiators, fan coils and radiant panels), in order to obtain the optimal thermal yield in any situation.

Consequently, a well-balanced system makes it possible to save on electricity (circulation pump can work more slowly), fuel (you burn only what you need) and management costs (less wear).



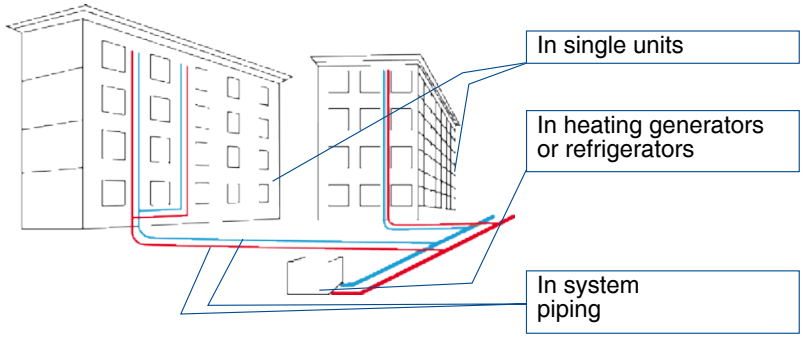
The consequences of an unbalanced system are unfortunately very evident.
Some areas of the building can become either too hot or not warm enough; the system can make noise, which is particularly disruptive at night; consumption can become too high; and there can be excessive wear of system devices, the result of a waste of energy.



Balancing also plays an important role in distributing water supply, allowing all housing units to obtain the same amount of water, even when multiple people are using water simultaneously.

Balancing means everything related to site procedures necessary for ensuring that each user circuit of a system to receive the exact design flow and is therefore able to adequately meet the required thermal requirement

When is a system balanced?
When the flow calculated during the project is correct.



Experience at your service

By relying on industry professionals, it is possible to obtain one convenient system that guarantees greater comfort.

For more information, please contact your installer or the manufacturing companies that can direct you to the nearest installer who will find the right solution for your needs.

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