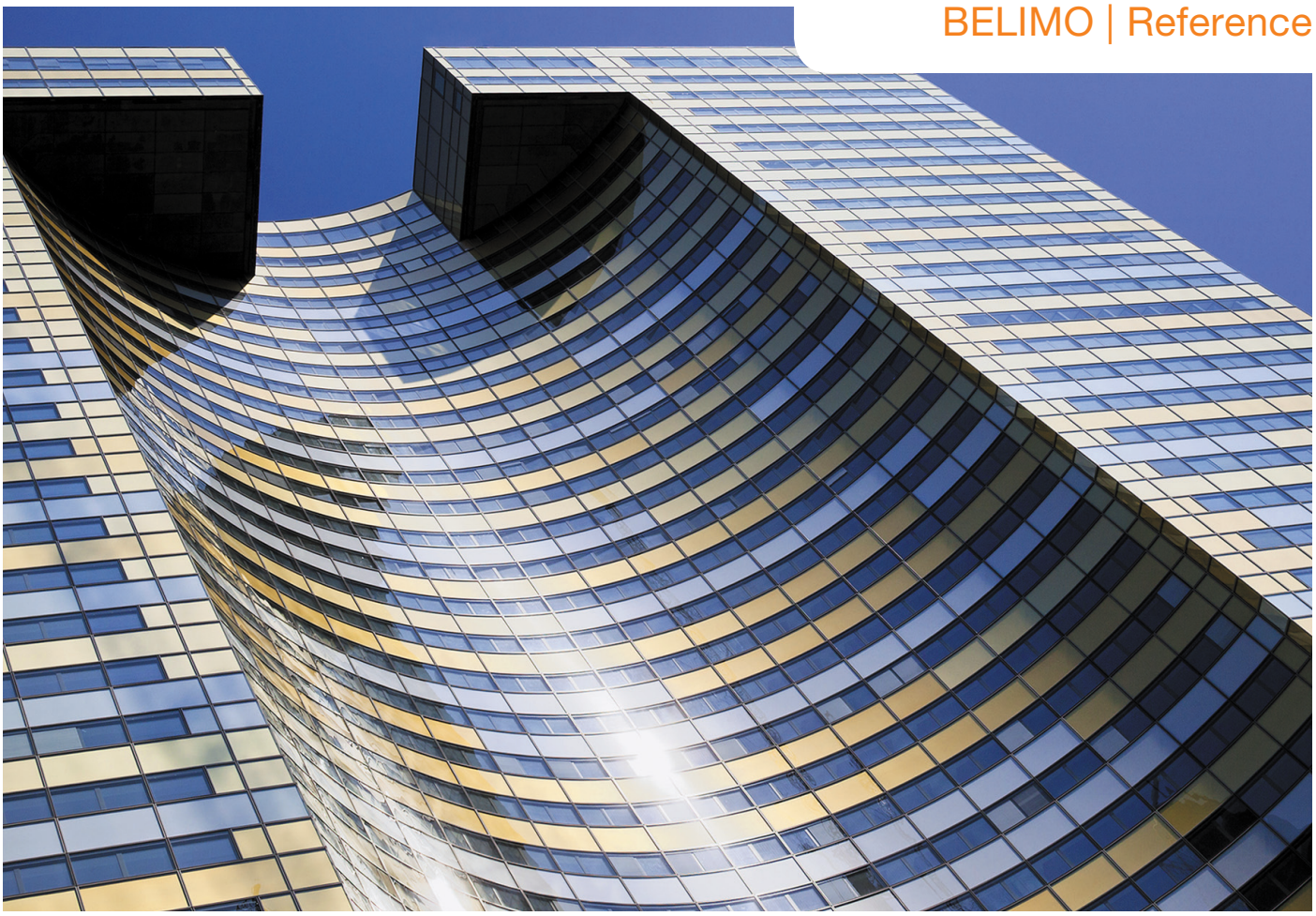


The Eqho tower in Paris was equipped with 6-way valves

Modernisation and renovation of heating/ cooling ceilings with Belimo 6-way valves.

The Eqho tower, located in the La Défense district of Paris, has undergone a major renovation over a number of years. Originally called “Descartes Tower”, it is a 130 m high office skyscraper (40 floors) opened in 1988. The objective of this renovation was to modernise all the technical installations for the air conditioning and electrical systems. For heating and cooling an area of 27,000 m² has been equipped with combined heating/cooling ceilings. The Eqho tower now has 80,000 m² of office space, providing jobs for around 5,300 people.

Building type	Office building
Project type	Renovation
Trade	HVAC
Products	6000 6-way valves
Commissioning	January 2013

Initial situation

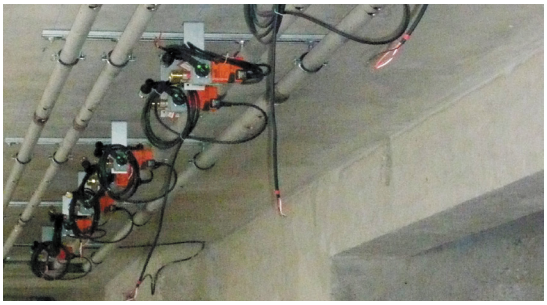
Traditionally a grid of heating/cooling ceilings is controlled by regulating valves with thermal actuators. The temperature is controlled by 4 thermostatic valves. For the connection of the heating and cooling circuits 2 T-pieces are required. This results in 6 components per grid. In the present case, with 6,000 ceiling grids, this would have translated into 36,000 elements, with all the concerns associated with this type of installation: Power supply problems, possible leakages during commissioning, poor control of the hot/cold grids leading to discomfort and excess energy consumption. The customer therefore had a different solution in mind.

Project requirements

- Minimise the number of control elements for the renovation of the ceilings
- Install completely zero-leaking elements in order to save energy
- Demand for innovative solutions with the objective of also being a pioneer in the installation of these solutions

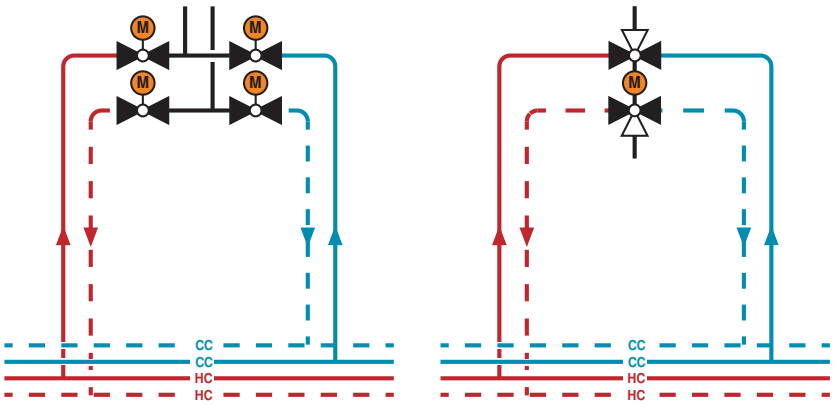
Belimo solution

With the Belimo 6-way valves, if the upstream circuits has four pipes the grid downstream of the valve has only two pipes feeding the radiators. The T-pieces have therefore been eliminated (see diagram). As a further benefit, the heating and cooling water circuits are completely separated in the valve and the risk of mixing during feeding disappears. Since the valves are installed in the false ceiling, the accesses necessary for maintenance are reduced in number and in size in the case of a 6-way valve compared to a classic solution.



Customer benefit

- Significant reduction in the number of components leads to higher installation efficiency.
- Compact valve and actuator assembly, allowing the structural modifications to the building to be limited.
- Air-bubble tight and durable solution by comparison with other more traditional solutions.
- A single control command for two functional sequences.
- Maintenance-free and less risk of errors during the installation phase.
- Permanent support from the Belimo.
- One 6-way characterised control valve replaces four 2-way valves with thermical actuator.



Solution with 2-way valves

Solution with one 6-way valve

The Belimo 6-way valves allow the two control sequences to be performed by one single valve. This also enables the assembly to be controlled by a single actuator to be wired. This means fewer cables, less data points and reduced installation effort.

Customer satisfaction

With two projects already completed (Eqho tower and Crédit Coopératif building), the Vinci Group is now planning to repeat the success of the 6-way valves with its new construction sites. The Group has indeed noticed that commissioning was much easier and they expect a considerable decrease in issues during operation. From the point of view of energy, starting from an initial consumption of 140 kWhPE/(m²/year) before the work, the renovation (with the same room temperature as to date) has enabled a Cref of 120 kWhPE/(m²/year) and a C of 67 kWhPE/(m²/year) to be achieved, equating to energy savings of more than 50%.

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