



Administration and Logistics Headquarters of LDR Médical in Troyes, France

## Control and balancing of heating and cooling flow in chilled beams

In 2016, the Franco-American company LDR, a specialist in spinal implants and thoracic/lumbar vertebrae disc prostheses, will move into their new company headquarters in the "Parc du Grand Troyes" industrial park (Département Aube). The construction project, with costs totaling 13 million EUR and a surface area of 7000 m<sup>2</sup>, is being headed by Linkcity, which, on a related note, is implementing its first planning and construction project in the Champagne region. The construction work carried out by Bouygues Bâtiment Nord-Est started at the beginning of 2015. One part of the building is intended for administration purposes and the other for logistics.

<b>Building type</b>	Office building
<b>Project type</b>	New building
<b>Trade</b>	HVAC
<b>Products</b>	163 Pressure-independent 6-way zone valves 26 6-way zone valves 17 Pressure-independent zone valves PIQCV
<b>Commissioning</b>	January 2016

## Initial situation

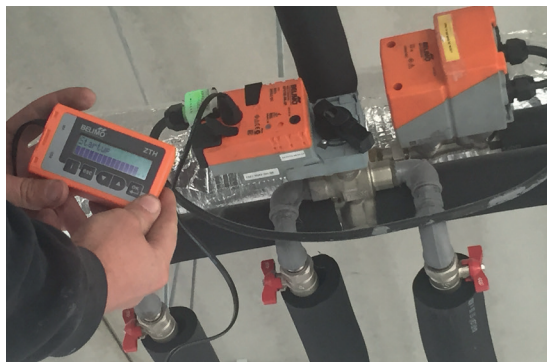
Bouygues Bâtiment Nord-Est wanted a single valve for precise temperature control that would enable control and balancing of the volumetric flows for heating and cooling in the chilled beams and fan coil units.

## Project requirements

- Only one valve per end device
- Automatic, permanent hydronic balancing via the valve
- Analysis and diagnostics with regard to actual volumetric flow
- Simple parameterisation of the actuators
- Small number of different products

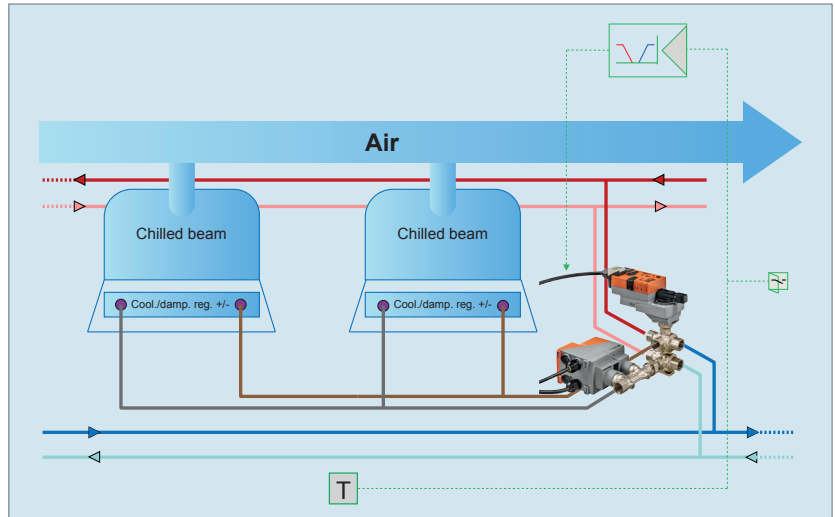
## Belimo solution

The pressure-independent 6-way zone valve was selected in order to meet the client's requirements. This solution comprises of one 6-way zone valve with permanent hydronic balancing. It thus means that the two functions are combined in a single valve housing. As such, the correct amount of water can also be ensured even with differential pressure changes in partial load operation. The SABIATHERM and SOLIDAIR end devices are regulated using a SAIA room controller. The location is equipped primarily with active chilled beams in change-over mode. Optimum hydronic balancing as well as precise and absolutely stable control ensure optimisation of energy use and a high degree of personal comfort.



## Customer benefits

- Simple and rapid selection with only two valve sizes for all possible volumetric flows between 5 % and 100 % of the V'max control range
- Safe onsite use with the right valve in the right position: No installation errors as it is impossible to mix up the valves
- Permanent hydronic balancing (no additional balancing apparatus required)
- Rapid commissioning as a result of flexible installation saves time and money
- Different max. flow rates can be set for cooling and heating
- Simple, rapid and exact reparameterisation of the volumetric flows when the areas to be regulated are changed
- Volumetric flow measurement in real time
- Monitoring, analysis and diagnostics regarding the actual volumetric flow values through the building management system



Schematics of the integrated 6-way zone valve in the chilled beam

## Customer satisfaction

The control of the pressure-independent 6-way zone valves (only one control signal for two control sequences) is a decisive advantage. Furthermore, it is possible to commission the product with the setting of the volumetric flows without any difficulty. For Bouygues Bâtiment Nord-Est, total costs played an important role, as did the possibility of guaranteeing the completion times.



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