

ENGINEERING
TOMORROW

Danfoss

Case story | AB-QM – pressure independent control valves

Substantial savings for tenants with award winning, green office building

The award-winning office complex Floreasca Park in Bucharest, Romania, raises the bar for green office buildings. With 40% savings on the energy bill, Floreasca Park brings substantial savings to the tenants and reduces the carbon footprint of the building. The eco-friendliness of Floreasca Park has already earned the building several international awards for its innovative approach to sustainability, comfort and efficiency.

40%

energy savings
achieved with
innovative heating/
cooling system at
Floreasca Park.

floreasca
park

www.abqm.danfoss.com

“Floreasca Park is a showcase of sustainability. The modern office complex has been awarded BREEAM Very Good certification for the design and BREEAM Excellent Post Construction certification after completion.

Robert Neale, owner and managing director of Portland Trust

“Floreasca Park came in on time and on budget. Due to the extensive underground geothermal heat pump system, the building received a BREEAM Excellent rating. Such a system is the first to be adopted in any major office building in Bucharest and will produce significant financial savings to the tenants, as up to 40% less energy is used in heating and cooling”, says Robert Neale, owner and managing director of Portland Trust, the developers behind Floreasca Park.

In 2014, Floreasca Park was awarded the CEEQA Award (Central and Eastern European Real Estate Quality Award) and the SEEQA Award (South Eastern European Real Estate Quality Award).

Great leap in green innovation showcased at Floreasca Park

The main innovation enabling the outstanding energy efficiency of the building is the heating and cooling system, which is based on a ground-coupled, closed-loop heat pump system using the geothermal energy of the earth as a free energy source.

The hydronic balancing of the advanced heating and cooling solution is performed by almost 2000 AB-QM pressure independent balancing and control valves (PIBCV) from Danfoss. The valves yield accurate temperature

control even at low flow rates, and all changes in the available differential pressure are corrected automatically by the pressure controller. At the same time the exact flow limitation of the AB-QM valves at any load condition prevents excessive energy consumption, and the control valve with an authority of 100% allows lower pump head than traditional set-ups to minimize energy consumption.

“Our task was to deliver building installations that live up to the BREEAM recommendations. The pressure independent balancing and control valves from Danfoss made up an important part of the highly energy efficient solution at Floreasca Park. Other advantages of the Danfoss solution are superior reliability combined with easy installation and commissioning”, says Ovidiu Vrabie, Production Manager at IAMSAT Muntenia, the contractors chosen for the building installations.

The PIBCV valves have become a favorite among HVAC consulting engineers and contractors due to their easy installation and commissioning. The AB-QM valves are simply set to a precise design value during installation with no need for draining the system or manual balancing. The smart 2-in-1 valves allow step-by-step implementation of the heating/cooling system in large buildings where the floors are gradually put into use. The durable and highly reliable valves ensure the right flow at all times, providing great daily comfort to the users of Floreasca Park no matter the season or outside temperatures. The valves are fitted with Danfoss TWA-Z thermostatic actuators and AMV safety actuators for efficient, reliable and safe operation of the system.

Award-winning office building

2014: Best Office Building of the Year at the Central and Eastern European Quality Awards (CEEQA)

2014: Office Development of the Year at the South Eastern Europe Real Estate Awards (SEEQA)

2013: Green Building Award at the SEE Real Estate Awards Gala & Forum

Advantages of the PIBCV in heating/cooling systems

- Fast installation and easy commissioning
- High energy efficiency, substantial energy savings
- Comfort heating and cooling for individual customization
- Low maintenance and service costs, easy trouble shooting



Facts about Floreasca Park

- 40,000 sqm
- Environmental label: BREEAM Excellent
- Developer: Portland Trust
- Architect: Chapman Taylor
- Engineer: WSP
- Contractor, HVAC: IAMSAT Muntenia

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