

Case story

Sky Tower in Romania – A landmark of **energy efficiency**

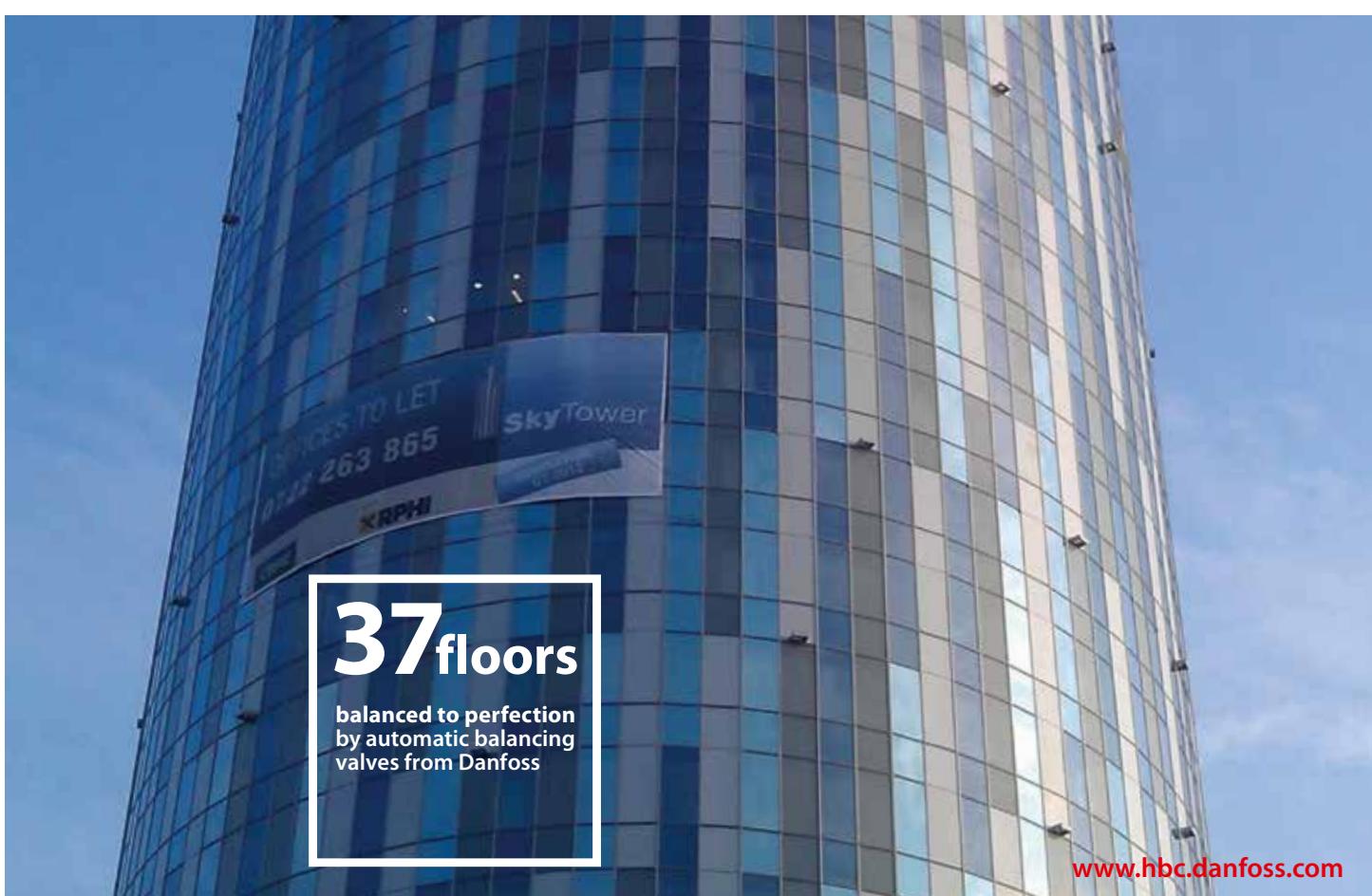
The skyline of Bucharest has changed forever with the new Sky Tower rising to 137 meters making it the tallest building in Romania. The powerful landmark offers 37 floors of modern offices, conference facilities and a first class restaurant. With its impressive architecture and advanced technological solutions, the Sky Tower meets both the highest aesthetic and technical standards to create the perfect contemporary office building.

Fine architecture and pleasant indoor climate are not the only advantages of the Bucharest beauty. Hidden in the structures and installations is a highly energy efficient heating and cooling system fulfilling and even surpassing the requirements of the EU Building Performance Energy Directive.

Two sister buildings are also part of the high-rise complex, comprising the Sky Tower, the Floreasca City Centre and the Promenada Mall. All three buildings feature the same heating and cooling systems that are all equipped with balancing valves from Danfoss.

New standards for indoor climate and energy efficiency

The vision of the building owner Raiffeisen was to create a unique building with the most advanced technical solutions to provide a pleasant and healthy indoor climate for the people working in the building while at the same time to save energy and protect the environment.



37 floors

balanced to perfection
by automatic balancing
valves from Danfoss

www.hbc.danfoss.com

Advantages of the heating/cooling solution

- High energy efficiency, substantial energy savings
- Pleasant indoor climate, high productivity, less sick days
- Low maintenance and service costs, easy trouble shooting
- Fast installation and easy commissioning
- Reduction of noise from pipelines



"The use of automatic balancing valves (ASV) in the heating system offers several advantages. First of all the differential pressure controller (dp controller) of the valves reduces the overflow in the system resulting in less energy consumption by the pumps. At the same time the heat loss on the pipelines is minimized by the automatic control, and we can achieve a much more accurate room temperature with this kind of solution. In fact, the variation in room temperature is 0.7°C lower than in manually balanced systems, which results in 5-7% energy savings", says Tamas Szekely, Global Business Development Manager for Danfoss Hydronic Balancing and Control.

The automatic control of the flow also reduces the noise level from the pipelines in the building.

Complete solution from Danfoss

Danfoss delivered the complete balancing solution for the heating and cooling system. To meet the ambitious visions of the building owners, Danfoss recommended optimizing the convector heating system by installing dp controllers. To verify the benefits of the innovative solution regarding energy savings and pay-back time, a feasibility study was carried out before full-scale design and installation. Danfoss also supervised the installation, trained the installers and prepared the final commissioning report.

"One of the great advantages of the solution is that the ASV-PV valves are commissioned once and for all. Thanks to the dp controllers no re-commissioning is needed on the system, which reduces costs and inconvenience during operation", says Tamas Szekely.

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Sky Tower in Romania represents not only an impressive piece of architecture, but also an advanced technical solution with outstanding energy efficiency. The perfectly balanced heating and cooling installation provides a pleasant indoor climate for the thousands of people working in the building every day.

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About the Sky Tower

- 50,400 sqm
- 37 floors, 137 meter high, making it the tallest building in Romania
- Environmental labels: Austrian Society for Sustainable Buildings, Gold and LEED® Green Building Pre-certification, Gold
- Investor/owner: Raiffeisen Evolutions
- Architect: Hoffmann-Janz Architecten

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