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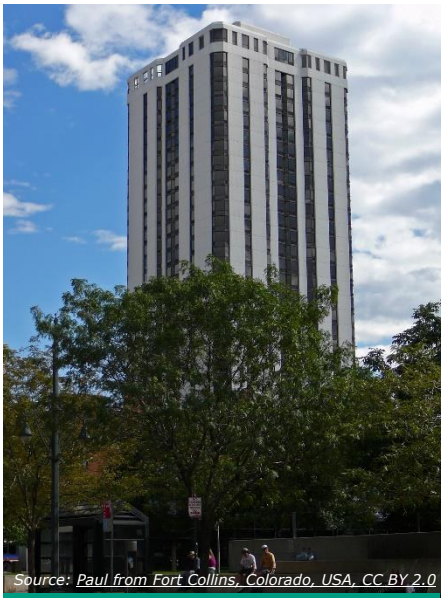
Boosting Efficiency with Wilo Boosters: Wilo-CO-Helix Improves Efficiency at Downtown Icon

Client Issue

Bulit in 1981, Barclay Towers is an established high-rise condominium in the historic LoDo (Lower Downtown) neighborhood of Denver, Colorado. Originally built as an office tower, Barclay Towers was completely taken down to concrete and steel frame in the early 2000's and rebuilt as luxury condominiums.



Source: Paul from Fort Collins, Colorado, USA, CC BY 2.0

Barclay Towers
LoDo Neighborhood, Denver

The Barclay stands 32 stories (314 feet) tall and currently houses 224 luxury one and two-bedroom condominiums as well as retail stores on the ground floor. Common areas on the 32nd floor and a rooftop pool are available for the residents. Residences range from 731 square foot one-bedroom units to expansive 6,977 square foot three-bedroom homes, catering to a variety of lifestyles and needs.

Since the early 1990's, a constant end suction pressure booster system has been used to supply domestic water to the high-rise. Due to the changes in the city pressure and occupancy, this system was aged, inefficient, and costly to run. At 10-horsepower with constant speed, the former pressure booster system was inefficient in power utilization. The older end suction booster system operated constantly at 60 Hz, pumps in the system were exhausted, one pump was completely out of commission, and the system was regulated with pressure relief valves. Due to the failing system as well as the need to improve efficiency, reduce electrical costs, and provide reliable pressure to the occupants, the building owner was looking for a solution to provide the needed pressure with life cycle costs taken into consideration.

The Solution

To address these issues, Polarized Water Solutions installed a Wilo-CO-2 Helix (duplex) pressure boosting system from Wilo's quick shipment program. The Wilo-Helix V, a high pressure vertical multi-stage centrifugal pump, was chosen for its efficiency and performance. Polarized Water Solutions CEO Greg Rogers shared "Wilo products to us are superior. Also, the Helix was chosen as it was the most efficient curve for the application along with the fact that the Helix is the best multi-stage pump on the market, in my opinion, from smooth running to longevity to serviceability".

Key Benefits

The Wilo-Helix V is a high-pressure vertical multi-stage centrifugal pump, which can be incorporated into a duplex, triplex, or quadplex booster system for the Wilo-CO-Helix booster system. With smaller diameter impellers stacked in stages to maximize pressure, the system operates more efficiently and uses less energy compared to the previous single-stage end suction pumps. The smaller diameter impellers in the

multi-stage pump provide the necessary head with less energy as compared to a single-stage, larger impeller pump to achieve the same pressure output.


Source: Polarized Water Solutions

Newly installed Wilo-CO 2 Helix at Barclay Towers

The new Wilo-CO-2 Helix system utilizes a 7.5-horsepower motor, reducing energy consumption as compared to the previous 10-horsepower system. Based on the distributor's calculations, the return on investment (ROI) on the newly installed Wilo-CO-2 Helix booster system is less than 3 years. Additionally, the compact design of the Wilo-CO-2 Helix allowed for easy installation in the existing space at Barclay Towers.

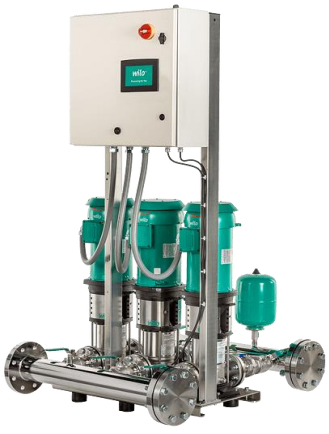
The customer was very appreciative that Wilo was able to ship the system in a short time before any catastrophic failure of the old system occurred. The customer shared with Polarized Water Solutions they noticed the noise reduction of the new system and it was well above what they expected as the Wilo-CO-2 Helix was not running constantly at 60 Hz. Also, the customer felt the system's ease of use and overall functionality was of high quality. They felt the Wilo-CO-2 Helix pressure booster system and Polarized Water Solutions' installation exceeded their expectations immensely.

Wilo is Your Solution Provider

Wilo's "can do" attitude and agile manufacturing enables us to meet your project timeline and provide solutions. As your Solution Provider, Wilo offers a range of pressure booster systems such as the Wilo-CO-Helix. These systems are known for their energy efficiency, cost effectiveness, and long service life. By partnering with Wilo, you can benefit from our comprehensive support throughout the entire project, from design and dimensioning to commissioning and maintenance. Together, we can ensure a sustainable water supply for the long term, while also achieving significant savings in energy and operating costs. Our pump systems are designed to handle multiple duty points at different speeds, allowing for flexibility and efficiency. We also encourage proactive replacement of old pumps with energy-efficient and cost-effective systems.

To learn more about our flexible and customizable systems, please contact your Wilo Distributor or visit us on the web Water distribution and boosting | Wilo.

Wilo-CO-Helix



Design: 2-4 pump pressure-boosting systems

Application: water supply applications requiring constant pressure

Max. Flow: 1,600 gpm

Max. Head: 580 feet

Equipment/function:

- Real-time diagnostics and remote monitoring
- Full system kWh energy reporting
- Easy to use 7" touchscreen interface
- Onboard Modbus and optional BACnet™, LonWorks® interface
- Variable speed control per pump
- Adjustable low-pressure cut-out ƒ balanced run time for all pumps

The pressure booster system's structure, function, and requirements comply with the NSF-61 Drinking Water Ordinance and DOE regulations.