

One-Day Upgrade: Austin hotel powers up with energy-efficient Wilo-WiBooster system

Client Issue

Nestled in North Austin, Texas and 15 minutes from Austin's city center sits one of the largest hotels in the area. The 4-star luxury hotel sits on 95 acres providing close to 500 guest rooms across 9 floors.

Maintaining adequate water pressure is crucial for the 493 guest rooms, on-site restaurant, and support services in the hotel. The hotel recently needed to update the pressure booster system, which had been in service since 1989. The old cast iron, close-coupled end suction triplex booster system was aging and costly to maintain and operate, with each repair taking around eight hours. Additionally, only two of the three pumps were functioning.

The previous booster system, operating at a constant speed with three 7.5 horsepower (hp) pumps, lacked a variable frequency drive (VFD), leading to significant energy costs. Pressure-reducing valves (PRV) were used to manage the system's flow, which concerned the building engineer about energy savings at reduced speeds.



Outdated pressure booster system at Austin, TX, hotel

The Solution

The hotel had a need for a modern, efficient system that could be delivered and installed quickly with minimal downtime. To address the issue, a local mechanical and plumbing contractor, in collaboration with [Winsupply of Austin](#), a representative of [Wilo brand products](#), installed and commissioned a [Wilo-WiBooster](#) (triplex) 7.5 hp booster system from Wilo's quick shipment program.

The local plumbing contractor completed the installation and commissioning in just one day, thanks to the straightforward process. Winsupply of Austin shared the Wilo-WiBooster was selected due to the short lead time for manufacturing and delivery of the booster system, and ease of installation. The hotel's building manager was very happy with the new system, especially the increased efficiency.

The building manager was also interested in capturing rebates to help offset the initial cost of the Wilo-WiBooster. The system's smart control algorithm with the VFD and a pressure transducer provides the right pressure to the corresponding demand, enhancing energy efficiency and reduce life cycle costs, meeting the criteria for rebate programs. With the Wilo-WiBooster, the building manager can participate in local and federal rebate programs to help offset the initial cost of the system. Locally, [Austin Energy](#) provides rebates and incentives based on the kW savings achieved through the installation of VFDs.

Federal rebates are also available through the [US Department of Energy \(DOE\) Extended Product Systems Rebate](#), which supports the installation of systems that reduce input (kW) by at least 5% of identified base levels.

Key Benefits



Newly installed Wilo-WiBooster at Austin, Texas hotel

The NSF 61 and NSF 372 certified Wilo-WiBooster is a multi-pump boosting system utilizing the [Scot Pump](#) (A [Wilo Brand](#)) 320-series stainless steel, close-coupled [MotorPump™](#). This system ensures balanced run time for all pumps and is designed for medium flow and head, handling up to 1,600 gpm and 275 feet of head, with premium efficient motors and VFD-controlled system operation.

The WiBooster redefines efficiency, reliability, and performance in water pressure boosting. Designed to be low maintenance and high performance, the pumps are mounted on a JM frame and feature a back pull-out design for easy maintenance and service. The pumps offer better seal life, reducing vibration and radial movement at the seal face.

Water volume is distributed over several pumps in the booster system and regulated by individual pump VFDs to maintain constant pressure regardless of varying demand or fluctuating incoming pressure. The triplex system is designed to lead, lag, and alternate as needed every 24 hours of run time to ensure equal wear between each pump. In the event one pump cannot maintain pressure, the second pump will turn on to assist. The VFDs allow the booster system to adapt precisely to actual demand, operating the pumps in the most favorable power range, resulting in high efficiency and economical energy consumption.

Wilo-WiBooster system technology offers state-of-the-art functionality and factory-tested to ensure optimal performance at start up. It includes real-time diagnostics and remote monitoring with a 7" touchscreen and [onboard Modbus interface](#).

Wilo is Your Solution Provider

Wilo's "can do" attitude and agile manufacturing enables us to meet your project timeline and provide tailored solutions. As your Solution Provider, Wilo offers a range of [pressure booster systems](#), such as the Wilo-WiBooster, known for energy efficiency, cost-effectiveness, and long service life. Partnering with Wilo means benefiting from comprehensive support and maintenance. Together, we can ensure a sustainable water supply while also achieving significant savings in energy and operating costs. Our pump systems handle multiple duty points at different speeds, providing 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](#).

July 2023 | tlk

Wilo-WiBooster



Design: 2-4 pump pressure-boosting systems

Application: water supply applications requiring constant pressure

Max. Flow: 1,600 gpm

Max. Head: 275 feet

Equipment/function:

- [Scot 320-Series, Stainless Steel MotorPumps™](#)
- Real-time diagnostics and remote monitoring
- Full system kWh energy reporting
- Easy to use 7" touchscreen interface
- Onboard [Modbus](#) and optional [BACnet™](#), [LonWorks®](#) interface
- Adjustable low-pressure cut-out & balanced run time for all pumps
- UL listed [NSF 61](#), NSF 372, and [QCZJ](#) "packaged pumping systems"

The pressure booster system's structure, function, and requirements comply with the NSF-61 and NSF 372 Drinking Water Ordinance and DOE regulations.