

MARQUETTE UNIVERSITY'S SCHROEDER HALL

MAGNETEK QUATTRO® AC CUBE ELEVATOR DRIVES



PROJECT Marquette University's
Schroeder Hall

CONTRACTOR MEI Total Elevator Solutions

CONSULTANT Performance Elevator
Consulting, LLC.

CONTROLLER GALaxy IV by G.A.L.
Manufacturing Corp.

PRODUCT Quattro AC Cube Elevator Drives

Challenge

- Install long-lasting, easy-to-use controls for elevator refurbishment
- Handle periods of heavy usage
- Minimize necessary service company repair calls
- Deliver adjustable speed drive capabilities
- Improve efficiency of the elevator's energy consumption
- Provide residents with an upgraded ride quality

Solution

- Modernize two geared induction elevators
- Provide space-saving Quattro AC Cube Elevator Drives
- Enhanced floor-to-floor travel times and elevator reliability

Results

College life can be hectic. Between mountains of homework, impossible class schedules, and part-time jobs, many students are lucky if they can find even a few spare minutes each day. The 650 college students living in Marquette University's Schroeder Hall were no exception. When frequent elevator service issues began to have a negative impact on the students' busy schedules, the university sought out a more energy efficient and reliable solution to keep student traffic flowing smoothly.

The 10-story Schroeder Hall residence hall building located in the heart of downtown Milwaukee was built in 1956. The brick building is one of only three structures on the university's campus constructed specifically by the university to house students. The facility was initially opened as a men's residence hall. However, it became co-ed by floor in 1973. It was named for Walter Schroeder, a Marquette benefactor who served seven years on the Board of Governors.

Despite the building having been well maintained, and even remodeled more than a decade ago, the facility's aging elevator systems had remained relatively untouched over the years. Two DC geared motors served as the backbone of the system and were powered by antiquated motor-generator set controls.

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WHY "CLEAN HARMONICS" MATTER

The primary advantages of high power factor and clean drive harmonics are reduced heating, better utilization of existing distribution-line equipment, and prevention of interference with other devices, including computers, fed from the building's electrical supply system. The Quattro Elevator Drive's clean utility side drive harmonics (<8% THDI) are built right into the drive—no need for an add-on filter. Quattro's clean harmonics and high power factor further reduce installation costs by eliminating the need to upgrade the building's existing utility feeder supply.



Maintaining the highest levels of functionality, reliability, and safety were all essential requirements when the university reached out to Performance Elevator Consulting, LLC. seeking a modernization solution.

In order to help the university achieve their goal of attaining higher efficiency while delivering a reliable and smoother ride Magnetek provided two Quattro AC Cube Elevator Drives with integrated regeneration. This space-saving, all-in-one system is designed to deliver the clean power, reliability, and performance required for today's green building solutions.

By utilizing Quattro AC Elevator Drives, the building's elevator system was able to achieve the highest levels of functionality, safety, and comfort, as well as:

- Improved operating efficiency of the Quattro AC drive reduces the peak power demand and overall energy consumption
- Near unity power factor and clean harmonics (IEEE 519 Standards)
- Improved ride quality

The innovative Magnetek Quattro drives used in the modernization project are designed to consume the lowest energy possible and their precise, accurate controls provide smooth acceleration and deceleration, resulting in both superior ride quality and reliability. The Quattro drive also includes an optional emergency power feature allowing the facility to operate the elevators at full speed even when operating on emergency power.

Today, students living in Schroeder Hall can no longer use the excuse that they were late to class due to their hall's sluggish elevators.

HOW TO KNOW WHEN TO MODERNIZE

Most modernization projects are not triggered by a single system error or maintenance issue. Building owners have the convenience to decide when, and how to modernize their elevator systems. This allows savvy owners time to perform a thorough inspection of their existing system and weigh their options before deciding which option—replace or modernize—will deliver the best return on their investment.

Simply waiting for an aging elevator system to fail before weighing all of the options could be an expensive recipe for disaster—and lead to increased costs on down the road.

If any of the following are true of your elevator system, then you are likely a good candidate for an elevator modernization:

- Your elevator system is more than 20 years old
- Your building use has changed
- You experience an increased number of service calls
- You experience ride quality issues
- Your tenants are frustrated over long wait times
- You are interested in reducing your total energy costs



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