

Turn-key Cooling Tower Replacement

Midtown Manhattan

24-Story Class-A Office Tower



THE OPPORTUNITY

Located in the heart of Midtown East, this 24-story office tower that also accommodates two boutiques on the ground level and a top floor event space, was in serious need of a cooling tower replacement. The building was experiencing many issues with both their existing cooling tower and rooftop unit which was resulting in increased service calls. Due to the age of the equipment, the existing cooling tower was underperforming and also showing signs of both external and internal corrosion which was causing the unit to leak.

THE PROJECT

Donnelly Mechanical performed a full Systems Analysis to assess the entire mechanical system and found that their existing rooftop unit and cooling tower needed to be replaced. Additionally, the water pumps and VFD's required upgrades as well. The leaking cooling tower was to blame for the majority of the problems the building was experiencing.

The job took place at an extremely busy intersection and required immense coordination among all trades as well as the DOB, DOT, and NYPD. In order to perform the job, several permits were required and the street needed to be shut down during the time of the rig. Several members of the NYPD were onsite to assist with the street closure and traffic direction.

Donnelly's project team worked closely with the crane operator to ensure a safe and seamless rig at one of the busiest intersections in midtown Manhattan. The crane allowed for up to 350,000 lbs. of counterweight, which is the largest size rental crane allowed in NYC. Aside from the busy location being a challenge, there was also a need to complete all rigging operations within the allotted time of the street closure. The Donnelly team was able to remove all existing equipment from the roof and replace it with the new equipment all within a single day.

Project Role

- Turn-Key Equipment Replacement

Technical Scope

- 24-Story Skyscraper
- Replacement of existing 60-ton rooftop unit with a high efficiency unit
- Existing Cooling Towers removed and replaced with 700-ton high efficiency Cooling Towers
- Replacement of Water Pumps and VFD's

Challenges

- Previous equipment was not running efficiently
- Coordination of logistics to allow traffic to pass through while rigging between 5th Avenue and Madison Avenue, while maintaining a completely safe operation

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THE OUTCOME

Donnelly Mechanical replaced the building's existing 60-ton rooftop unit with a new high efficiency 75 ton Mammoth rooftop unit. The cooling tower was replaced with a 700-ton high-efficiency Evapco tower. Additionally, Donnelly upgraded three 40 HP condenser water pumps and installed new Yaskawa VFD'S. The installation of the new high-efficiency equipment will provide the building not only better performance, but also allow them to save on operating costs.

