



555Ten Residences New York, NY

Case Study



Whalen Company Water-Source Heat Pumps Deliver on Stringent Parameters for “Luxurious Silence” In Manhattan’s Lavish New 555TEN Residences

Towering 56 stories over the Lincoln Tunnel’s gateway into Manhattan’s Midtown West, 555TEN offers a unique combination of opulence, comfort and convenience for renters looking to call its burgeoning Hudson Yards neighborhood home. Built by the acclaimed EXTELL Development Company, 555TEN delivers on a level of sophistication that, while standard in EXTELL offerings, is unparalleled in the rental market and is typically reserved for owners of New York City’s most prominent properties.

An approximately 710,000 square-foot project, which broke ground in 2014 and was completed on its highest residential floors in 2018, 555TEN incorporates the host of contemporary stylings and luxury amenities for which EXTELL Development is known. The 650-foot tall building’s unmistakable rectangular tower design, now a signature part of the New York skyline at 10th Ave. and 41st St., is clad in floor-to-ceiling azure glass and houses a total of 598 studio and one-, two- and three-bedroom residential units.

555TEN has already been recognized for the unique multi-level living experience it creates for residents, having made exclusive Top 10 lists for New York luxury rentals including “Best Roof Decks,” “Best Indoor Pools” and the “Top 10 Rentals of 2017.” Amenities

can be found from the ground floor to the rooftop, and include everything from a two-story, McGinley Design-appointed lobby featuring 24-hour doorman and concierge services, to a roof deck indoor lounge with indoor/outdoor fireplace, and expansive open-air swim club with private cabanas, chaise lounges, and southwest-facing pool.

The approximately 30,000 square feet of dedicated amenity space throughout the building also includes a health and wellness floor, with a staffed fitness center that features an indoor saltwater lap pool, weight room, and cardio area with the latest Peloton and Nexersys Boxing equipment. An indoor studio offers a variety of exclusive group and private fitness training for residents, and a strategically heated outdoor terrace provides extended-season enjoyment for classes and events.

A joint effort of EXTELL’s internal design team and the renowned staff of SLCE Architects and McGinley Design, 555TEN’s residential units exude the epitome in urban luxe living, with: floor-to-ceiling window walls; rich wood flooring; built-out closets; quartz stone countertops, Porcelanosa tiled baths; chef-grade Miele and Fisher Paykel kitchen appliances; an in-unit Bosch washer/dryer; and an Urmet MAX intercom system with seven-inch touchscreen video interface. Custom-curved lighting and a choice of color palettes from designer Paris Forino, along with premium finishes and fixtures, round out the exquisite appointment of all 555TEN studio and one-, two- and three-bedroom units.

Beyond their visually desirable features, all 555TEN units were carefully designed to provide an elevated level of energy performance and acoustical appeal. “Sound attenuation was a major focus across all aspects of architectural design,” explained Thomas Furman, Associate Partner at SLCE Architects. “Not only was it key for us to ensure that residents would enjoy their exceptional panoramic views without infiltration of the city’s associated sounds, it was also crucial to maintain an ambiance of serenity from all systems operating quietly inside the units.”

With an acoustically advanced, dual-pane window wall system confidently in place as a solution for the building exterior, EXTELL turned effort toward



specifying a mechanical solution that would follow suit. Mechanical engineering firm, I.M. Robbins & Associates, consulted with EXTELL's internal engineering team to examine a variety of heating and cooling system options, eventually deciding on a combination of back-of-house dedicated outside air (DOAS) units and in-unit water-source heat pump systems.

"The team at EXTELL Development was exceptionally well-educated on the type of mechanical system required to meet its collaborative acoustical goals," said Adam Bachert, sales engineer at N.Y. Thermal Systems in Manhattan. "Water-source heat pumps not only provide an elevated level of comfort in their consistent, gentle and even delivery of conditioned air, they also operate with an appealingly low level of sound, particularly when compared to traditional forced air systems."

"New York is a highly competitive market overall when it comes to the specification of commercial construction products, and those solutions that are able to best address the 'noise factor' will almost certainly always win out in the end. The quieter the more luxurious, according to the discerning New York city resident, so product manufacturers are always competing here to offer the industry's latest and greatest when it comes to sound attenuation and near-silent operation."

Bachert viewed this as a prime opportunity to present the particular benefits of water-source heat pump systems from Easton, Md.-headquartered HVAC equipment manufacturer, The Whalen Company. "Facing a challenge of acoustical performance that, if not met or - ideally - exceeded, equated to our loss versus win of this notable project, we viewed Whalen as the premier contender," he said.

According to Bachert, N.Y. Thermal Systems' historical experience with The Whalen Company as both a custom solutions provider and attentive, reliable manufacturer further fueled this confidence.

"After we secured the opportunity to present our proposal, The Whalen Company immediately kicked it into high gear," he said. "They understood the stakes in educating a player like EXTELL, who had no previous experience with Whalen, about the benefits of using their products and systems over that of the competition."

Following Bachert's preliminary discussions with EXTELL and I.M. Robbins & Associates in late 2013, Whalen assisted in the supply of technical data



and drawings for units addressing all performance parameters, including those related to sound attenuation, per the finalized mechanical system specifications. This was proceeded by build-up and supply of a full-scale unit for authentic performance evaluation by a third-party acoustical testing firm. “The Whalen Company was able to accommodate a tight three-week turn-around on the manufacture and delivery of a test unit to us in N.Y., which was particularly exceptional as it had to incorporate a new type of acoustical treatment,” explained Bachert. “Specifically, the unit incorporated vibration isolation chassis rails, as well as electronically commutated motor (ECM) technology allowing for exceptionally tight control of air flow. The latter is capable of pinpointing the parameters at which both conditioned air and acoustical output are optimized, which was particularly crucial in meeting Noise Criterion of less than NC 40 across heating, cooling and fan-only modes of operation.”

“The sound requirements at 555TEN were especially stringent,” said Tony Landers, VP of Sales and Marketing at The Whalen Company. “When the first on-site test did not meet the requirement, I was very surprised knowing the modifications we made for this project and the fact that Whisperline® water-source heat pumps are without a doubt extremely quiet units. However, the ambient level of the city is one element we could not control. With additional on-site testing and a follow-up test in our factory mock-up room, we were able to prove we were in compliance.”

As a notably hands-on developer, EXTELL was also keen on touring The Whalen Company’s manufacturing facilities in Easton, Md., as well as meeting with the company’s leadership team there.

“Since this was EXTELL’s first experience with The Whalen Company, it was important that their engineering team become well-versed in operations of both the company’s facilities and executive leadership,” Bachert shared.

Following successful meetings in Maryland, favorable test results with the mock-up unit, and subsequent bidding and negotiations with N.Y. Thermal Systems, EXTELL Development provided an official purchase order for 833 Whalen Whisperline® vertical stack water-source heat pump units in March of 2014. To address acoustical performance requirements, the units specifically featured The Whalen Company’s “silver rail package,” incorporating spring isolators under







the compressor chassis rails to enhance dual-level vibration isolation, as well as a larger cabinet box and upgraded one-inch insulation in the upper plenum. A total of 42 1-ton, 84 1.25-ton, 102 1.5-ton, 522 2-ton, and 83 2.5-ton Whisperline® units from The Whalen Company were installed within each of the building's 598 apartment units over the course of 2015 through 2017, with the first wave of units delivered to the jobsite in June of 2015.

In addition to managing product delivery in alignment with the construction timeline and working closely with Staten Island-based installing contractor Command HVAC II, N.Y. Thermal Systems was able to provide custom variations on its standard riser systems and thermostat controls to meet particular requirements of the EXTELL engineering team's installation and climate control strategies.

"Making changes to the riser systems streamlined installation of the heat pump units, and enabled their placement in a more space-saving and visually integrative manner, while our custom thermostat solution aided in the initial engagement of electric baseboard heat in the apartment configurations where installing the heat pump units near the exterior wall would have compromised the amazing panoramic views," Bachert said.

The building's overall mechanical system was split into two large (upper and lower) sub-systems, with installation commencing on the lowest (14th) residential floor and advancing upward. A single Whalen heat pump unit was subsequently installed in each studio and one-bedroom apartment, and two units were installed in all of the two- and three-bedroom residences.

The final stage of heat pump unit delivery was completed by The Whalen Company in November of 2016, and the mechanical system installation at-large wrapped in alignment with construction of the highest residential units in 2017. Since then, 555TEN has successfully booked its residency in record time, with only a few remaining units available to date.

"In all, we'd consider our experience with The Whalen Company on this project as a smashing success," said Bachert. "Their competence in delivering on EXTELL's stringent acoustical requirements, and within a notably tight timeframe, is undoubtedly why we're having this conversation about such a big win today."

Bachert additionally shared that, following this project,

N.Y. Thermal has succeeded in selling and supplying additional mechanical systems to EXTELL Development Company multi-family projects throughout the City, including at 500-524 E 14th St. and for City Point in Brooklyn.

About The Whalen Company

Founded in 1962, The Whalen Company supplies HVAC equipment and systems that are found in thousands of installations including offices, hotels, condominiums, apartments, nursing care and senior living facilities, as well as classrooms and dormitories. The Whalen Company products are distinctive in concept, performance, reliability and energy efficiency, thereby delivering a "perfect fit" solution for customers. In addition to their popularity in new construction projects, they are highly suited for renovation or equipment replacement projects completed in less time and at a lower cost.

For more information about The Whalen Company and its product line, including resources such as technical data, engineering drawings and digital equipment selection software, visit www.whalenccompany.com.



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Mechanical Contractor:
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