



CH-400x - DTx Series Water-Cooled Chiller

THE TWA HOTEL at the John F. Kennedy International Airport in Queens, NY is a retro style, first-class hotel that has been a Tecogen customer since 2019. This easily recognizable hotel is known for offering a wide variety of high quality amenities and services to welcome travelers along their trips.

At any temperature, natural gas is an efficient and economical choice for your cooling needs.

The TWA Hotel was originally known as Eero Saarinen's TWA Flight Center before it was reborn. During renovations in 2019, 1,200 tons of Tecochill Natural Gas Engine-Driven chillers were installed to cover 100% of the property's cooling needs. This satisfied their priority to pursue optimal efficiency of the hotel's functions while providing comfort for visitors.

The TWA Hotel is operating entirely off-grid with the three Tecochill CH-400x chillers, contributing less than 9 kW of single phase load to the electrical load compared to over 700 kW, which would be needed if the engineers had installed electric chillers. "Tecochill chillers are

normally purchased by customers for energy savings," said Robert Panora, President of Tecogen, manufacturer of the Tecochill chillers, "however, we're seeing more sites than ever before with environmental objectives as well. We are proud to be a part of this 'green' award-winning site that uses our energy efficient equipment, along with the many other environmental design features."

Panora added, "Electrically driven equipment is inherently inefficient because most of the fuel that gets burned at the electric power plant goes up the stack and cooling tower as heat emissions. On the other hand, using a direct drive from a natural gas engine allows the waste heat to be captured and



The TWA Hotel overlooks runways at the JFK International Airport and the TWA Flight Center.

used on-site. The hot water generated is truly a free waste byproduct, available for use without requiring any additional fuel consumption. Peak demand savings are becoming a major consideration for choosing natural gas engine-driven chillers, which reduce the need to build new electric power plants. As a result, the Tecochill chillers are not only proving cost effective but they doing something good for the environment as well.”

“Each 400-ton chiller requires only 3 kW of single-phase electric power,” Jeff Glick, Vice President of Eastern Sales notes. “During a power outage, these chillers can be set up to operate with the building’s emergency generator.” The hotel’s operating costs have dropped an additional \$10,000 to \$15,000 a year by recovering the waste heat from the engine jacket coolant and engine exhaust gases. By utilizing this hot water, the building’s boilers can now be turned off during the summer months.

The chillers provide cooling to the hotel’s 512 rooms, 50,000 square feet of meeting and event space and the world’s largest hotel gym of 10,000 square feet.

The roof top modular chiller plant was prefabricated and delivered to the site in sections ready for installation on one of the hotel’s two seven-story towers.

Allowing the natural gas legacy to continue is the Tecochill DTx series, a water-cooled engine-driven chiller compressor that provides 400 tons of cooling capacity for both space cooling and industrial cooling applications.



The Tecochill units fully installed on site at TWA Hotel in Queens, NY.

Powered by natural gas instead of electricity, Tecogen’s units can provide cooling at a significantly lower cost than conventional electric chillers. Customers like the TWA Hotel can realize additional cost savings by using the waste heat generated by the units to produce “free” hot water for use throughout the hotel rooms and gym. The Tecochill process where the engine waste heat is recovered is a form of distributed generation, and is considered “mechanical” cogeneration by utilities and the federal government with equal carbon benefit. As such, there are typically utility and government incentives available.

“These new units will allow the building owners to avoid the high demand surcharges that are typically charged by an electric utility during the summer months,” explains Jeff Glick. “By eliminating the demand charges and getting hot water virtually for free, we’re looking at reducing their annual energy costs by a significant amount.” This should produce millions of dollars worth of energy savings over the expected life of the systems.



For more information about Tecogen’s Tecochill product or our other Natural Gas Engine Driven Products please email us at sales@tecogen.com