



Tecochill Natural Gas Engine Driven Cooling

University of Connecticut is one of the top public schools in the country with over 18,500 undergraduate students spread out over their five campuses. UCONN provides outstanding education at its main campus in Storrs and their four regional campuses at Avery Point, Hartford, Stamford, and Waterbury.

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

For over 25 years UCONN has relied on efficient natural gas engine driven chillers to keep utility costs in check. On UCONN campuses, Tecogen currently has 2,450 tons of cooling at three locations and two campuses. This includes five total Tecochills (2,100 tons of capacity) on the main campus in Storrs, four Tecochills CH-400x (1,600 tons) at the main campus central plant, and one Tecochill CH-500 (500 tons) at South Campus, a residential area housing 700+ students. A Tecochill CH-350 is also supplying the Stamford campus with 350 tons of cooling.

Starting in 1998, the main campus central plant had two Tecochill CH-1000's which in 2018 were upgraded to the new and improved Tecochill DTx-

400's. As UCONN continues to grow and upgrade their facilities, they always consider Tecochills for their resiliency, efficiency, and the guaranteed savings of money and CO₂ emissions.

UCONN uses Tecochills in a unique application, Tecogen's natural gas driven chillers run alongside electric chillers in a hybrid chiller plant. Having a hybrid plant allows UCONN to have energy diversity and flexibility. The diverse production of cooling grants them energy cost arbitrage which gives them power to utilize either energy source based on the price of utility gas and electricity. Also, in the case of an outage, each 400-ton Tecochill only requires 3 kW of single-phase electric power, so the cooling doesn't stop while the electric chillers are down.



Tecochill plant located on the University of Connecticut's main campus central plant. Four DTx-400's provide 1600 tons of cooling.

Tecochill chillers are powered by robust and efficient TecoDrive engines, an industrialized V8 that Tecogen has spent decades perfecting for this application. With over 80 million run-hours, this is a proven engine design, and features variable speed operation and a low-pressure gas fuel system designed to have a high part-load efficiency and longer life. The engine powers a screw compressor that's suited for use of R-134a as well as many other refrigerants. Tecochill also features Tecogen's patented Ultra ultra low-emission package, which ensures the criteria emissions are kept at ultra-low levels enough to be permissible in all parts of the country. Installation is simple and the footprint and connections are comparable to an electric chiller system.

The process in a Tecochill, where the engine generates power for the compressor and the waste heat is recovered, is considered mechanical cogeneration. This qualifies the Tecochill for most energy efficiency and carbon reduction incentives offered by the utilities, and federal and state governments.



UCONN has taken advantage of these by receiving a gas energy efficiency incentive by CNG in 1998, and in 2018 benefiting from huge incentive from the State of Connecticut for using high efficiency, carbon saving Tecochills.



A Tecochill CH-500 unit installed on site at South Campus since 1998 and has been maintained by Tecogen's factory service center in East Windsor, CT for the past 25 years.

The money and energy savings for the University of Connecticut are made possible with Tecogen's Tecochill DTx series. The DTx series is a water cooled engine-driven chiller that provides up to 400 tons per unit of cooling capacity for commercial and industrial cooling applications. Powered by natural gas instead of electricity, Tecogen's units can provide cooling at a significantly lower cost than conventional electric chillers. Customers like UCONN can realize additional cost savings by using the waste heat generated by the units to produce free hot water for many uses throughout the campuses dormitories and dining halls. Using the waste heat also ensures that a Tecochill can reduce GHG emissions significantly. In an institute such as UCONN which has a deep focus on reducing their environmental impact, they have already been able to cut over 2000 tons of CO₂ emissions annually.

The University of Connecticut has been recommending the use of hybrid cooling plants since 1998 and continue to upgrade their gas powered chillers with Tecogen's clean cooling products.



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