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Large capacity and efficient performance for data center cooling

A large nationally owned telecommunications facility in the New York City area was expanding their capacity and required an upgraded cooling system. Güntner‘s GFD dry cooler provided reliable cooling while meeting the physical space limitations of the site with low fan power consumption.

Large capacity with reliable and efficient performance

The facility required cooling of their data center, switch gear and communications hub. As with many urban area facilities, space was limited for the cooling equipment. The Güntner GFD dry cooler design, which allows for the most amount of heat rejection in a given footprint, was employed to provide reliable cooling while meeting the physical space limitations of the site with low fan power consumption.

Overview

Business line:	HVAC
Application:	Data Center
Location:	New York City, USA
Refrigerant:	Propylene glycol solution
Product:	GFD V-Shape Vario

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Based on the varying loads of the facility, the dry coolers were suited to provide heat rejection for the condensing loop of their air conditioning system during the warmer months as well as provide free cooling during the cooler months offering greater system efficiency. The dry coolers incorporated electronically commutated (EC) motors paired with the Güntner Motor Management (GMM) to provide fan speed control to minimize fan power consumption further adding to the overall system efficiency. As a mission critical application, the facility required a high level of redundancy. The EC motors with GMM offers inherent redundancy with a bypass function that initiates fan motors to operate at 100% fan speed should a communication error with the controller occur.

Adding to the user's peace of mind to ensure reliable system functionality, the dry cooler was constructed with aluminum fins coated with epoxy for added corrosion protection. Further, a generously spaced fin density was utilize to facilitate cleaning. And to further assist with reliable function the GMM includes a cleaning function which allows fan motors to run in reverse to aid with dirt and debris removal adding to the efficient operation.

Technical Data

Cooler type:	Dry cooler
Quantity:	8
Total heat rejection capacity:	6,694,420 Btu/Hr (1962 kW)
Fluid:	40% Propylene Glycol
Design fluid temperatures:	120°F entering / 110°F leaving (48.9°C / 43.3°C)
Design ambient:	105°F (40.6°C) dry bulb

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