

case study

LAKOS Filtration System Keeps Room Temperatures Comfortable at Hilton Garden Inn Near Airport

Des Plains, Illinois

System:	Full-Stream HTH-0810 with Solids Recovery Vessel to Prevent Solids Buildup in Multistack Chiller System.
Solids:	Sand, salt, rocks, dust, and dirt
Liquid:	Water at 1375 gpm
Problem/Challenge:	Solids Clogging Prefilters in Modular Chillers
Solution:	LAKOS HTH-0810 was installed with a Solids Recovery Vessel (SRV)

Problem: The Hilton Garden Inn in Des Plains, Illinois uses a Multistack modular chiller system consisting of six modules to provide comfort cooling in their facility. The hotel began having problems maintaining individual room and overall property temperatures, leading to guest complaints and extra maintenance. Temperature control was compromised by airborne particulate which originated in the cooling tower and accumulated within the chiller system. This caused high head pressure and a drop in efficiency in the chillers due to clogged prefilters.

There are several nearby sources of dirt and other solids which were causing the problems, including an adjacent Department of Transportation Roads Maintenance facility with uncovered piles of sand, salt, rock and dirt in their yard. An interstate highway also runs within 200 yards from the chillers, and Chicago O'Hare International Airport is close by as well, which contributes dirt, dust, and rubber dust from aircraft tires.

A side-stream separator filtering less than 10 percent of the system flow was initially installed along with the Multistack chillers, but three years later it was retrofitted incorrectly. The result was a decrease in performance. This accumulation of solids led to a drop in chiller efficiency and made it harder to cool the rooms in the summer.

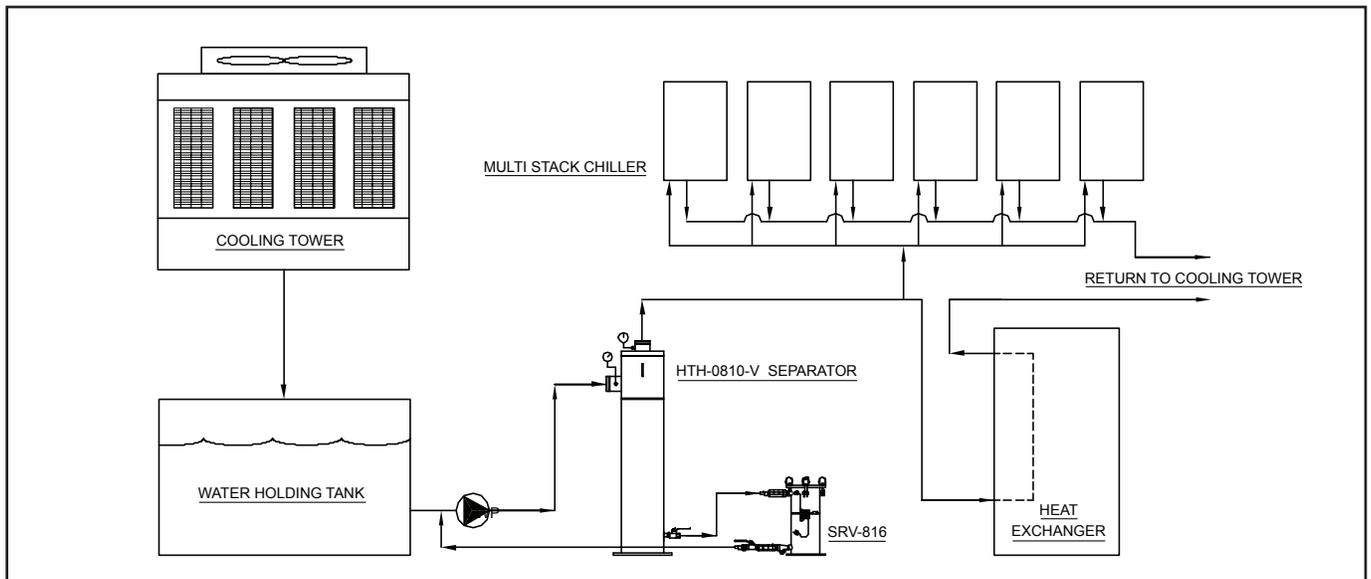


LAKOS HTH-0810 Separator installed full-stream with a Solids Recovery Vessel.

Solution: The improperly installed side-stream system was removed and a full-stream LAKOS HTH-0810 was installed with a Solids Recovery Vessel (SRV). The SRV contains a 25 micron filter bag, which needs to be emptied weekly due to the amount of solids collected. The Hilton Garden Inn management and facilities engineer reported the high head pressure problems have been eliminated, thus enabling the HVAC system to maintain design temperatures and properly cool and warm the facility. Hotel management says they are pleased to finally have resolved the problems that were affecting the HVAC system and the new LAKOS Separator has assisted greatly in resolving guest complaints regarding comfort cooling issues.



*Above: dirt, roadway and building materials from the Dept. of Transportation maintenance yard get into the chillers next door at the Hilton Garden Inn Chicago O'Hare.
At Right: Fine mesh screens were affixed to air inlet faces of the Hilton Garden Inn cooling tower in an early, unsuccessful effort to prevent airborne particulate contaminant from entering the tower. Below: System layout.*



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