

# Ceiling-Mounted Spot Cooler Keeps Server Room from Overheating

The University of Louisville Health Care Outpatient Center, in Louisville, Ky., had a problem with their server room overheating. The 8-by-12-foot room houses server and telecom equipment that is vital to the center's daily operations. The equipment runs 24 hours a day, and must be kept cool at all times to avoid malfunctioning, hardware damage or system downtime.

The problem surfaced when, in an energy-saving effort, the set points of the building's central HVAC system were adjusted to turn the system off at night. As a result, equipment in the server room became excessively hot and was shutting down at night, incapacitating the health-care center for hours at a time.

installation expense in penetrating the roof and running refrigerant lines to the outside unit, as well as running electric lines to two separate pieces of equipment. Also, the room was very cramped, and there was really no space to mount a wall unit."

Dotson decided on a MovinCool CM12 ceiling-mounted spot air conditioner that offers a cooling capacity of 10,500 Btu/h at 80 °F and 50% RH at the evaporator and 95 °F and 40% RH at the condenser; and 13,000 Btu/h at 95 °F and 60% RH. The self-contained unit, which was supplied by Trane HVAC Parts & Supplies, in Louisville, requires no external refrigerant lines, outside condensing unit or charging of refrigerant, and measures only 15.5 in. high,



mounting hardware. The unit plugs into a 115-V electrical outlet, further reducing installation costs.

"Installation was very straightforward," Dotson said. "We got in and out in a day, with no system downtime and minimal impact on the customer. If the room had been unoccupied and we didn't have to work above all the computer equipment, the installation would have probably taken only half a day.

"One convenient feature of the CM12 is that it has a built-in condensate pump, which eliminates an installation step or two. After attaching the unit to the ceiling and connecting the intake and exhaust ducts, we ran the

*"The self-contained unit requires no external refrigerant lines, outside condensing unit or charging of refrigerant, and fits easily into the space above a drop ceiling. Built-in flanges and mounting brackets allow quick installation with standard, off-the-shelf mounting hardware."*

The building's facility manager knew that continuing to run the central air conditioning system to cool only one room would be too costly, so he contacted Joe Dotson, service account manager of Scarborough Mechanical Services, Inc., the Louisville firm that had installed the original HVAC system, to propose a solution.

In evaluating the available choices, Dotson excluded a precision cooling system as having unneeded features and an unnecessarily high price tag. "In this situation, it would have been overkill," Dotson said. "A ductless split system was another alternative, but it would have meant additional

so it fits easily into the space above a drop ceiling. Built-in 10-in. flanges and mounting brackets allow quick installation with standard, off-the-shelf



*“A big advantage of a self-contained unit like the CM12 is that it’s in an interior space where the heat load is fairly consistent throughout the year, so we don’t have to worry about running an external condensing unit in low ambient conditions. We just set the thermostat to one temperature and hold it there all year round.”*

condensate drain to a sink in a nearby maintenance closet.

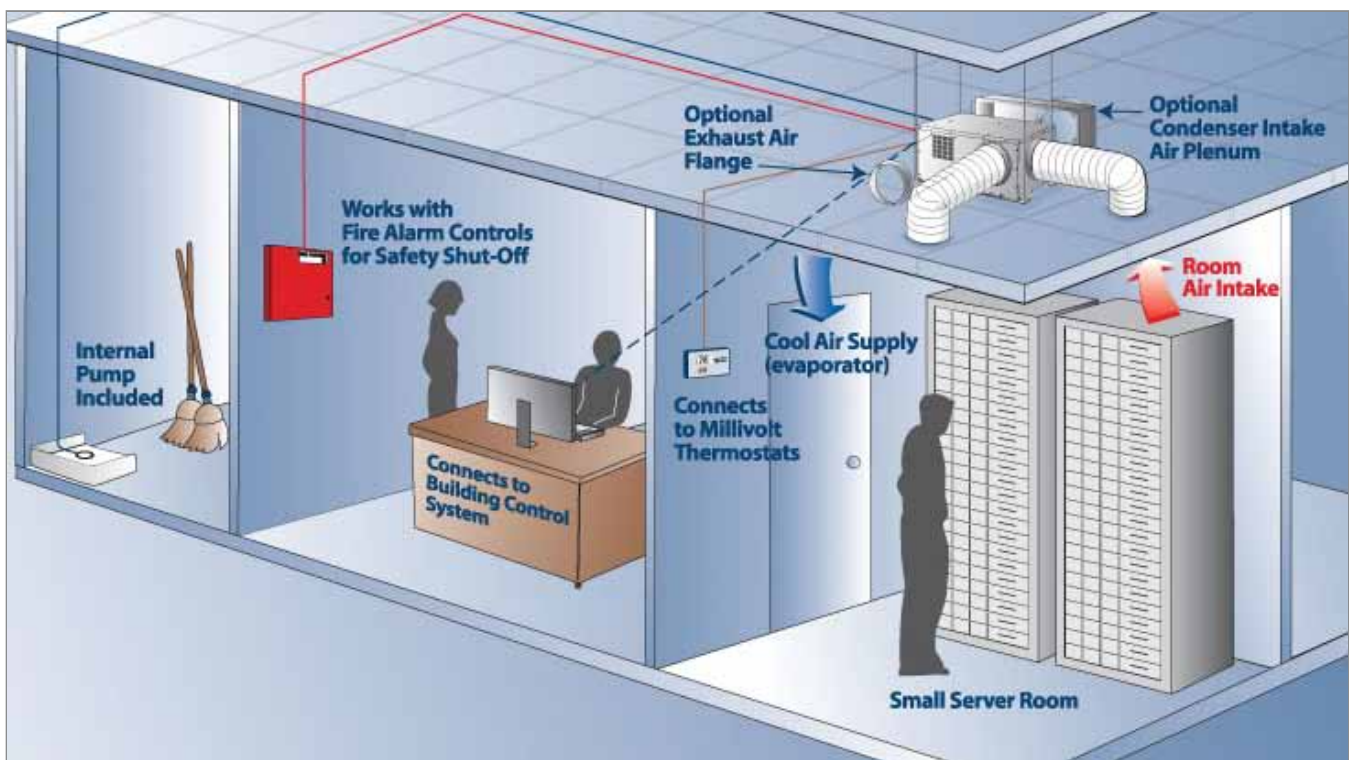
“Then we installed the unit’s wall-mount thermostat. The CM12 can also be connected to a central control system, but in this case there was no need. A big advantage of a self-

contained unit like the CM12 is that it’s in an interior space where the heat load is fairly consistent throughout the year, so we don’t have to worry about running an external condensing unit in low ambient conditions. We just set the thermostat to one temperature and

hold it there all year round.”

Dotson is very pleased with the results. “The health-care center has no more shutdowns due to overheating,” he said. “Also, the facility manager was happy that we were able to perform the installation so quickly and with no interruption of the center’s operations. He also likes the fact that without an outside condensing unit, the system has minimal maintenance costs.

“The CM12 is perfectly designed for this type of application. It has the usual MovinCool quality, it’s easy to install in tight spaces, and it has an affordable price tag.”



MovinCool’s CM12 ceiling-mount air conditioner features direct analog and digital I/O, which are conveniently integrated with an energy management system (EMS).