Building for Current and Future Needs

nVent HOFFMAN

ELECTRICAL CONTRACTOR DESIGNS IN NVENT HOFFMAN ANGLED TROUGH TO GAIN FLEXIBILITY AND EFFICIENCY FOR DATA CENTERS IN MAJOR MANUFACTURING PLANT

Location: Texas

Situation: Outfit eight industrial data centers with the latest integrated building systems, and data and security technology for a global automotive manufacturing plant measuring nearly nine million square feet

Solution: nVent HOFFMAN Angled Trough

Results: Angled design provides flexibility for wire distribution, simplifies mounting and assembly, saves time for both design/planning and installation, and offers future-ready expansion capabilities

SITUATION

As the electrical contractors hired to design and construct the electrical systems for eight data centers in a new automotive manufacturing plant, Telios Construction Management needed a reliable and flexible solution that could at-once fit tight spaces, navigate the wiring of other integrated building systems, and be easily reconfigured or expanded with rapid technology developments.

SOLUTION

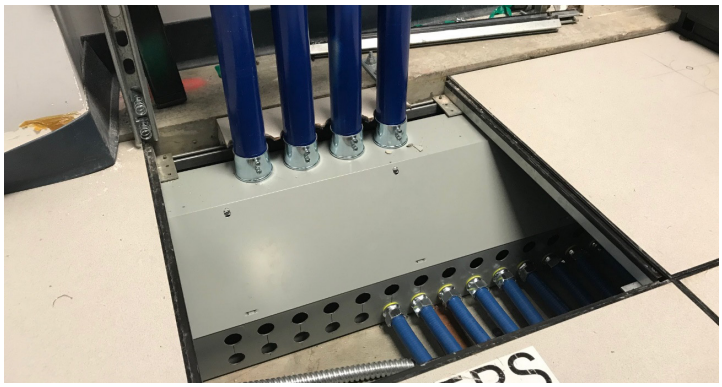
"We wanted to give our electricians planning the circuit runs a solution that offered a variety of options, and help save installation time," explained Alex Zummo, the project manager for Telios. "We also wanted to spec in a product that could quickly and easily help meet our client's future construction needs. Now more than ever, data centers require constant upgrades with the infrastructure changes of smart buildings."

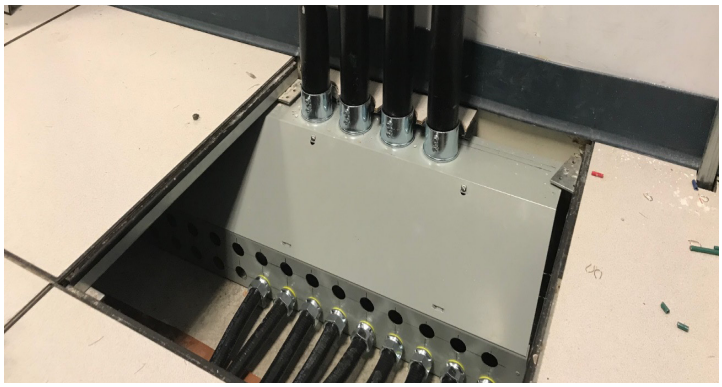
They chose the nVent HOFFMAN Angled Trough for wire distribution, junctions and terminations, including above and below the panel, and other tight spaces.

The Angled Trough's patented design provides flexibility for wire distribution, frees up valuable real estate, and simplifies mounting and assembly. It also eliminates the need for labor-intensive 90-degree conduit bends, making it a time and cost saving solution for the contractor and the global customer they were helping. Following are examples of how.

Flexibility for wire distribution

On top of a power distribution unit a trough was used as a pull point for future project phases in which circuits and feeders will need to be added. “Using the angled trough allows us to more easily make those changes,” Zummo said.





Saved labor and hassle

The patented design helped save time and hassle at an installation point on a raised data center floor. Rather than having to enlist experienced electricians to manually bend multiple 90-degree conduits into the side of a two-by-two box lying flat in the floor with the door pointed up, the Angled Trough fit right in.

“This application took up way less floor space than our typical install, and also helps with airflow as the floor serves as the air duct to the racks,” Zummo said.

Freed valuable real estate

As is typical in this type of installation, another challenge came in having to work around other electrical and mechanical runs and devices. For example, as shown in the above photo, the fire system piping took up ceiling space above the trough. The angled trough made it convenient to position the circuits to come out of the front of the enclosure and avoid the fire system.

“Configuring conduit runs to come out of the top of the trough would have required significant planning and bending at varied angles, all of which take significant time and is prone to errors,” Zummo said.

Similarly, in an extremely tight communications room in which cable trays and fiber optics occupied most of the ceiling space, angled troughs were installed above panels.

RESULTS

The nVent HOFFMAN Angled Trough helped Telios achieve the project’s goals – and save time in the process. Specifying the Angled Trough into the building plans gave the engineers, contractors and electricians more design options upfront, and made it easier for them to work in and around tight spaces. It also will facilitate future upgrades, as the plant’s needs change with technological advances.

“This is a much cleaner and easier install with room to add circuits for future data center equipment,” Zummo said.