

CHOOSING ELECTRICAL DISTRIBUTION FOR POINT-OF-USE UTILITY DISTRIBUTION SYSTEMS

THIS WHITE PAPER WILL ADDRESS:

- Understanding Power Distribution Methods
- Wire Buss Versus Copper Buss Bar
- Cost Savings and Ease of Installation
- More Flexibility for Changing Needs

WHAT IS A UTILITY DISTRIBUTION SYSTEM?

Utility distribution systems (UDS) are pre-engineered pieces of equipment that provide a single point of connection for electrical, gas and water utilities for commercial kitchen equipment. Factory-built utility distribution systems safely conceal all wiring while offering an alternative to contractor-built utilities in walls and enabling flexibility for any future expansion or relocation of appliances within the kitchen. UDS are available in wall and island styles and can be manufactured in incremental lengths to fit the needs of any commercial cooking lineup.

UDS are typically comprised of two or more vertical utility riser components – one on each end – that house the major utilities, control center, fire fuel shut-off and field connections. A horizontal chase component, connected between the utility risers, brings the utilities to the cooking equipment through gas and water drops spaced evenly along it.



ELECTRICAL DISTRIBUTION METHODS FOR UDS

For point-of-use configurations where individual branch breakers for each piece of equipment are located in the horizontal chase directly in line with the equipment, there are two methods of power distribution: wires within a raceway or copper buss bars.

- **Wires in a Raceway:** Electrical wires in a raceway enable distribution blocks of power to tap off of and connect to branch breakers that feed the appliance outlets.
- **Copper Buss Bars:** Copper bars of power tap off of and connect to branch breakers that feed the appliance outlets.

While copper buss bars have long been the standard electrical distribution method for UDS, wire raceways provide significant flexibility, cost and installation advantages over buss bars.

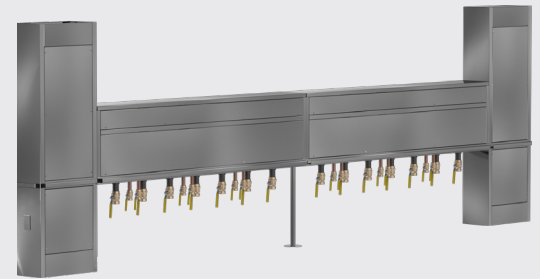


COST

Distributing power via wire raceways is more cost efficient than using copper buss bars. Using copper buss bars in a utility distribution system requires numerous specialty parts like connection clamps or bar covers. These parts are costly and require precise sizing to fit the specific UDS.

Wire raceways are more cost efficient because they are configured with standard wire and outlets which can be quickly sourced from any electrical distributor. The distribution blocks used with wire buss can easily tap into the power network without the specialty buss bar parts.

A point-of-use system, where the breaker is located next to the appliance rather than in the riser, also allows for a shorter run of wire when adding in an electrical connection to feed an appliance.



EASE OF INSTALLATION

Outfitting UDS with wire raceways also helps simplify the installation process. As mentioned above, the ability to source parts from any electrical parts distributor ensures much shorter lead times compared to sourcing the specialty parts needed for buss bars. UDS with field joints also offer the benefit of being shipped in convenient sections that can be attached at installation. These joints are easily joined by bolting together internal flanges and applying an NSF approved silicone caulk over the seams. Whereas buss bars present challenges during the installation process because the bars must be lined up very precisely without any room for error. Wire raceways can better adapt to incremental changes because they have extra length that provides some flexibility to connect from one chase to the distribution block on the next chase.

FLEXIBILITY

One of the most significant ongoing benefits of using wire raceways instead of a buss bar is increased flexibility and adaptability. When cooking appliances are changed, replaced or relocated in the commercial kitchen, power distribution via raceways can more easily accommodate these changes compared to copper buss bars. Copper buss bar covers are cut to fit and fixed in place, which means when a new piece of equipment is added, another module would need to be added with new custom elements cut to fit which adds to lead times.

When appliances are replaced or moved, they may have different power requirements than the equipment placed there previously. A UDS with wire raceways can be configured easily and quickly with new breakers and outlets that fit any new power requirements. Point-of-use breakers located by each appliance also allow for shorter runs of wire when new equipment is added.



At Accurex, we believe there is a better way to help simplify the most challenging kitchen ventilation system environments, from engineering to aftermarket support. As a Greenheck Group Company, we have more than 70 years of manufacturing and engineering experience in air movement and control products and offer a breadth of configurable products and services tailored to meet your needs.

Engineering Simplicity into
Kitchen Ventilation Systems



For additional information or
questions, please reach out to us at
SALES@ACCUREX.COM.

DISCOVER HOW SIMPLE THE ACCUREX WAY CAN BE AT ACCUREX.COM