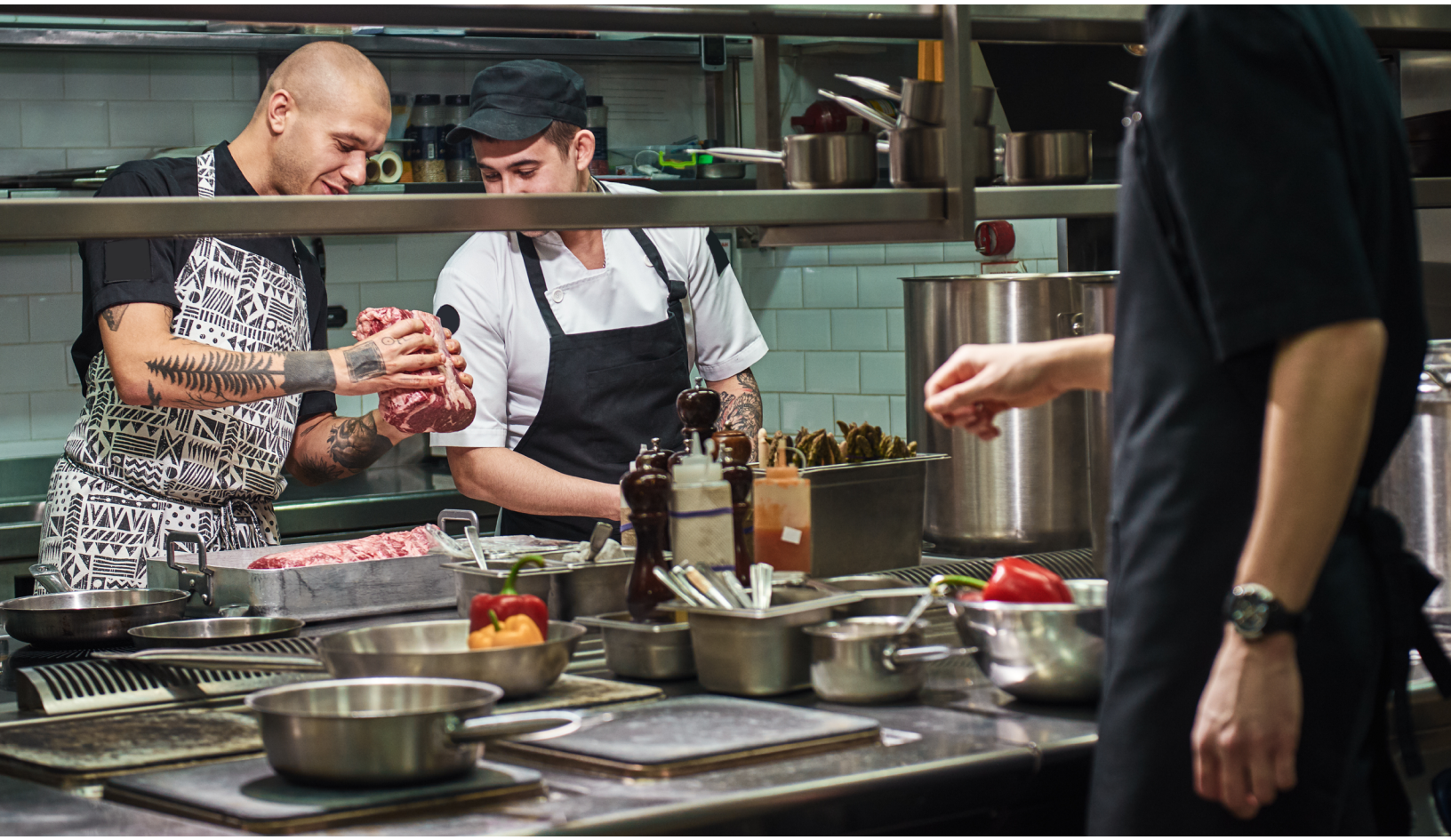
ANSUL®

Safety Demands Heat Up as Ghost Kitchen Opportunities Expand



ANSUL® RED
Ghost Kitchen White Paper

Johnson Controls

INTRODUCTION

As with many aspects of modern life, the once-routine restaurant experience was uprooted and radically transformed as a byproduct of the COVID-19 pandemic. Global restrictions that banned on-premises dining shuttered restaurants in rapid succession. As pandemic precautions evolved, the restaurant experience was likewise reimagined, amplifying a shift to delivery-focused operations that bolstered the nascent ghost kitchen industry. But with this positive change comes familiar challenges to restaurateurs, including how to best optimize efficiency, maintain safety and minimize downtime.

THE RISE OF THE GHOST KITCHEN

The term "ghost kitchen" (or cloud, virtual, dark, etc.) is derived from the fact that it's a kitchen not actually serving anyone on the premises. In this model, services range from off-premises support kitchens to stand-alone delivery or simply a takeout-only operation The customers are all "ghosts" that are served via delivery, pick-up, or other means where in-person dining isn't part of the restaurant experience. Since the customer base is entirely off-site, the costs and logistical challenges of operating an in-person dining space are eliminated while also providing a solution for consumers' growing demand for convenient, digitally connected dining options – the leading trends shaping the future of the restaurant industry.[i]

Although some restaurateurs began experiencing growth from off-site experiences around 2013 with the introduction of third-party delivery apps, the pandemic has clearly accelerated this trajectory – with a 42% increase in facility launches in 2020 alone.[ii] By 2027, the ghost kitchen industry is expected to become a $71 billion business[iii] and food delivery sales are projected to reach $350 billion by 2030.[iv] This compelling outlook makes ghost kitchen development and management a prime market for facility owners and operators, but understanding the unique demands and risks inherent to this rapidly expanding foodservice model is essential.

The tighter concentration of high-volume cooking stations combined with highly varied equipment in the typical ghost kitchen environment can create unique operational, safety and maintenance challenges that can be barriers to long-term success. Adapting equipment and procedures to meet fire safety standards while mitigating operational disruptions and maximizing productivity can increase both short-term profitability and long-term ROI.

A LOOMING THREAT

The National Fire Protection Association (NFPA) reports cooking fires as the leading fire hazard within the hospitality industry.[v] It's a scenario that has even challenged some ghost kitchen industry leaders, with reports of health and safety risks that have led to fires and business closures.[vi]

NFPA statistics show the majority of commercial kitchen fires originate within cooking equipment ignited by cooking materials such as grease.[vii] With a high volume of hot cooking surfaces in close proximity and the potential to produce increased levels of vaporized grease, ghost kitchens should be equipped with fire detection and suppression systems that can rapidly detect an incident and respond accordingly without shutting down the entire operation.

FLEXIBLE SOLUTIONS

The evolving restaurant industry requires a new generation of modern fire protection that provides scalable, easy-to-manage, multizone protection that can accommodate facilities both now and as they grow.

Systems such as ANSUL® Restaurant Electric Detection (RED) Technology provide a scalable solution engineered to adapt based on business needs. With the capability to establish individually assigned hazard zones, the ANSUL® RED Technology can accommodate changing kitchen layouts, including the addition of cook stations and various appliances. This unique versatility, combined with simplified configuration, helps reduce the total cost of ownership as businesses expand and maintenance requirements increase. Overlapping-protection, in-hood discharge nozzles that are aimed at the complete hazard zone (instead of individual appliances) can also be specified to help future-proof the system for various equipment requirements, cuisines and cooking methods.

But one of the greatest advantages to newer, multizone suppression systems is their ability to operate where and when they are needed while reducing the potential for false actuations. Fuel shutoff and suppression agents are contained within the impacted zone, allowing surrounding areas to remain operational while also reducing overall downtime and cleanup. ANSUL® RED Technology takes the concept further with the integration of a linear detection wire. Within each zone, multiple temperature ratings can be managed to effectively protect a variety of appliances.

SIMPLIFIED CLEANING

Routine appliance cleaning is essential for fire prevention. Left unmanaged, it's a hazard that can result in facility closures if issues are found during health and safety inspections. Modern systems provide individualized cleaning options that are ideal for the ghost kitchen environment. Cook station operators can engage the built-in cleaning mode of the ANSUL® RED system as part of their routine to minimize potential hazards and grease buildup. And single hoods can be shut down while others remain in operation to reduce downtime. The system automatically resets itself in the event that the system is not reengaged and offers confirmation when active.

SMARTER MONITORING

Fire safety system upkeep and monitoring can often be an obstacle, particularly in ghost kitchen environments, which are known to operate with a lean staff. Time spent on system maintenance and documentation disrupts operations and reduces profitability.

Intelligent facility management requires modern monitoring with 24-7, smart device-enabled access. Emerging systems incorporate password-protected, real-time monitoring while tracking event records and service requirements. These comprehensive insights help ensure systems perform as intended while also streamlining maintenance schedules.

FULL COMPLIANCE

Ghost kitchens require a facility built for delivery and designed to appeal to franchisees, chain brands and startups alike. The elimination of on-premises dining waives some compliances required by traditional restaurants, such as occupancy load management and regional health restrictions. Even so, ghost kitchens are still commercial kitchens that must adhere to all regional and local guidelines – including OSHA and FDA regulations.

Among these compliances, understanding fire codes and maintaining fire safety systems is critical in high-volume cooking environments. Fire safety systems must be listed to UL 300 or equivalent standards using wet-chemical suppression.[viii] In addition, Class-K fire extinguishers and an audio-visual fire alarm system are required.

System specification is often dependent on the configuration and performance standards of the installed extraction ductwork and appliances used within the kitchen space. These factors can pose a unique set of challenges when working within building refurbishments and mixed-use environments.

THE FUTURE IS TODAY

Ghost kitchens have been called "the restaurant of the future," offering patrons a convenient option for fast and flexible dining. And whether you refer to them as ghost, virtual, dark or cloud kitchens, restaurants without traditional dining areas are clearly growing in popularity. That's why it's more important than ever for restaurateurs, facility owners and operators to prioritize operational efficiency, stability, safety and business continuity.

Fire safety is a critical concern that can disrupt business operations and threaten the safety of people and assets. Failure to install and maintain the proper fire detection and suppression systems can result in catastrophic outcomes and liabilities and can even impact day-to-day productivity.

Specifying NFPA-compliant systems with a scalable, multizone design can provide superior facility protection, reduce downtime and simplify maintenance requirements to help ghost kitchen owners and operators realize greater profitability and long-term success.

[i] Deloitte: https://www2.deloitte.com/us/en/pages/consumer-business/articles/restaurant-future-survey-technology-customer-experience.html?nc=42

[ii] Restaurant.org: https://restaurant.org/education-and-resources/resource-library/finding-the-ghost-kitchen-model-that%E2%80%99s-right-for-your-business

[iii] Hospitality Tech: https://hospitalitytech.com/ghost-kitchen-forecast-steaming-hot

[iv] QS Magazine: https://www.qsrmagazine.com/outside-insights/why-are-virtual-kitchens-increasing-popularity

[v] NFPA.org: https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2020/10/02/8-tips-for-restaurant-facility-managers-during-serve-up-fire-safety-in-the-kitchen-fpw-campaign

[vi] Restaurant Business Online: https://www.restaurantbusinessonline.com/amp/technology/after-wave-violations-reef-makes-some-changes

[vii] NFPA.org: https://www.nfpa.org/News-and-Research/Data-research-and-tools/Building-and-Life-Safety/Eating-and-drinking-establishments

[viii] NFPA.org: https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2021/04/27/Restaurant-Fire-Protection-Basics#:~:text=Extinguishers%20in%20kitchens%20need%20to,to%20using%20the%20fire%20extinguisher

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