

# Closing the Gap<sup>8</sup>

## New Products that Enhance Safety

June 99

In my last article we examined (3) new products; Melink's Intellihood<sup>™</sup> Operator, a ventilation automation system; Avtec Industries "InVent<sup>™</sup>" integrally clad UL 710 hood system; and Safe-T-Net<sup>™</sup>, a temperature data collection system with third party data warehousing and data verification. Lets keep looking toward the future and get a glimpse of new products and methods that will enhance safety and reduce risk.

**Wells Manufacturing** has re-introduced a complete new line of gas fired and electric high volume fryers with or without a duct less vent system. This line of fryers was originally marketed to distributors through the Crispy-Lite brand name. Now Wells is bringing the line to market both through their representatives and dealers, and through Alto-Sham Inc on an OEM basis. They have (2) different series units, the series 30F has a 30# shortening capacity, and the 55F which is 50 pound units (the gas version is actually 60 pound shortening capacity). Both series feature the foot-print filter system and a remarkable auto-lift mechanism. Jim Wallace from Wells Manufacturing commented that with around a thousand units in the field, the warranty to sales ratio is 7/10's of 1%. Pretty remarkable statistic for any piece of food service equipment, let alone one with a cord and plug and a gas connection. There are many fryers in the industry, and most do a admirable job of frying food. Most frying operations are small batches,

usually for anywhere from (1) order of fry's to a batch capacity of (8) orders of fry's. Fry's do not hold well so small and more frequent batches assure optimal product quality. But there are some very high application, such as School food service. It is not uncommon for a modern high school to have 2200+ students. The lunch period is typically 1-1.5hours. Large operations like this can only be optimized with very large capacities, well engineered heaters and heat exchangers, and reliable automations, such as the auto-lift. Originally designed as chicken fryers, the larger units are (8)head fryers. These units are work horses designed for full batch loads and substantial sustained throughput.



**Metal-Fab, Inc.** is a manufacturer of chimney products and duct systems. The primary hazard associated with cooking foods is the deposition of grease, as grease is a fuel with a very low flash point. Given that, how much sense does it make to convey a saturated stream of air (exhaust from a fryer, broiler, etc) through a duct whose side walls are intentionally cooled (i.e., shaftwall enclosures with ventilated roof curbs)? Is it a surprise that a large volume of grease is condensed from the air and deposited on the side walls of the duct? Imagine what happens when you convey a saturated steam of air through a duct system that features 4" of high density ceramic insulation and tested to 2000°F temperatures for 0" to combustibles

clearance and no chase requirement. If the temperature at the outlet is identical to the temperature at the inlet, then there will not be condensation and precipitation in between. I am very excited about this line of products as they address the deposition of grease problems previously discussed in this column. Metal-Fab comes to market in division 15 of the construction contract, where mechanical contractors install their products on boilers, water heaters, fume hoods and other equipment with venting needs. With the introduction of the grease duct system, they are looking to food service (div 11400) as a growth market. Metal-Fab manufacturers UL listed pressure type chimney (NFPA 211) and duct products, including a very unique no-chase grease duct, the series 4G. The product is tested for 0" to combustible safety which means it does not require a rated shaft enclosure. This test requires continuous temperatures of 1500°F with intermittent temperatures of 2000°F!



# Closing the Gap<sup>8</sup>

This product is many times safer than any all welded grease duct that is fabricated, as it prevents the loss of heat from the conveyed stream of fluid (air). Typical prescriptive duct assemblies are designed (by folly) to remove heat from conveyed air, thus grease deposition. Each section consists of a 304 series stainless steel inner tube (optional 316) which is surrounded by 4" of high density ceramic insulation. The outer casing is either aluminized steel or (optionally) 304 series stainless steel. Sections are up to 42" in length and are drawn together by friction bands and sealed with a listed, high temperature sealant. Their ID sizes are in even inches, beginning at 4" and going up to 36" inside diameter. Included are listed component sections for drains, expansion joints, clean-outs (compliant to NFPA-96 1994,8, chapt. 4), Y's, T's, angled offsets, sprinkler nozzle sections and transitions (to rectangle and back again) and all of the installation hardware necessary for a safe installation. Circular ducts have greater structural integrity than rectangular ducts, and are far less likely to sag along long horizontal runs. They are also not likely to twist and distort and with their listed expansion joints (from 6-22"), they can handle both thermal expansion, and small planning mistakes. In addition, static (friction) loss is also reduced compared to rectangular job-site fabricated ducts which cuts duct noise attenuation and reduces the load on the fan. Unlike traditional 16ga MSG black iron welded duct that is almost always design/build, this is a pre-fabricated modular approach, and as such is a specified product that requires about 3-4 weeks lead time once approved shop drawings are received. The additional safety afforded by this product makes it well worth the wait. And the cost of the product is very comparable to more traditional, less safe methods.



**Facilitech** is the manufacturer of Greaseguard<sup>™</sup>, an assembly that protects a roof from grease deposits. The product conforms to the 1998 NFPA 96 (sect. 4-8.2.1), which describes a system that contains grease and prevents it from washing away with rain or high wind conditions. Many restaurants have had to repair or replace their roofs prematurely due to the way grease eats through waterproof membrane roofing materials. The Greaseguard<sup>™</sup> product is available in a variety of sizes and configuration's to accommodate any of the many different exhaust fans on the market. Whether new or retro-fit, this system is incredibly simple to install. Their filter material is the magic of the system as it repels all water, while it retains all grease. In addition to offering this product, Facilitech has other services for food service operators. They presently have (8) offices across the country and plan to open another (15) offices within the next year. Ultimately, they intend to have (40) offices nationwide so that they can provide nationwide duct cleaning services along with PM replacement programs for their filters. They can be found at <http://www.facilitech.com>

That completes the our new safety product review. Future articles will delve into a number of different areas, including updates on the ASHRAE (American Society of Heating Ventilating and air Conditioning Engineers) TC1.5 commercial kitchen ventilation technical committee, along with a look at the development of the new national energy policy. Please send comments to:

[tomj@jdpinc.com](mailto:tomj@jdpinc.com).