Star Performers

By Liz Campbell

As more and more restaurants go "green" the foodservice consultant may be called upon to spec equipment that meets these standards. We asked a specialist what's new in energy efficient equipment.

We asked David Zabrowski, foodservice equipment specialist at the Food Service Technology Center (FSTC), for advice on what features to look for in cutting edge green foodservice equipment today. FSTC was established 20 years ago in San Ramon, Calif. as an unbiased scientific testing facility for benchmarking the energy performance of equipment used in commercial kitchens. Zabrowski keeps abreast of new technology in the foodservice equipment field and offered the following as innovations to look for when sourcing equipment. The waste disposal unit was our own find.

Steamers

Energy efficiency is expressed as a percentage – for example, a steamer which is considered 40% efficient indicates that this percentage of the energy consumed by the appliance is actually used by the product. According to Zabrowski, the standard for gas equipment, is 10-20% efficiency. One convection steamer has achieved 40% efficiency. "It's the most exciting innovation in foodservice we've seen for a while, and the first steamer to achieve ENERGY STAR rating." In addition, it saves water because the equipment modulates production based on need rather than simply generating steam constantly, using about 7 gallons of water per hour rather than the more usual 40 to 80 gallons – an extraordinary savings.

Ware washers

Commercial ware washers have traditionally used anywhere between 1.4 to 2 gallons of water per rack. Several companies have achieved ENERGY STAR ratings for using significantly less water and energy, one as low as .28 gal per rack. Design improvements to the nozzle now enable the delivery of high pressure cleaning at higher temperature with 50% of the water. In some models, gray water is re-used. Insulation of the machines has been improved significantly and one manufacturer even reclaims heated waste air exhausted by the machine, utilizing this free energy to preheat incoming water, reducing energy consumption and allowing hot-water sanitizing from a 50° F cold water supply.

Ice machines

To meet new ENERGY STAR requirements, ice machine manufacturers have substantially re-designed their equipment to optimize the refrigeration and harvest cycles. Most ice machines work by freezing water against a dimpled plate to form cubes. To harvest the cubes, the plate is warmed and they fall off. Reducing energy consumption in both parts of the cycle is critical, says Zabrowski, to meeting energy and water saving guidelines.

Fryers

Fryers are enormous energy users and many kitchens use them constantly. In one exceptional fryer, an effective heat exchanger system using an infra-red burner provides rapid oil temperature recovery while reducing gas consumption. The flame is sent through a honeycomb close to the surface creating radiant heat. It also lowers flue temperatures, putting less demand on the HVAC system, requiring a less powerful CMF hood system.

A big problem with fryers is the debris which breaks down the oil, reducing its life. New designs eliminate the cold zone – the area where particles are collected below. Using regular cycles of hands-free filtration, debris is removed and oil life is prolonged, reducing volumes.

Hoods

Most commercial kitchen hoods operate at 100% capacity all day long, even during idle, non-cooking periods, a significant waste of energy and dollars. Demand-based controls can be retrofitted to existing hoods. Using a microprocessor and infra-red sensors to discern smoke, steam or heat, the fan speed is cut when nothing is being prepared. It can reduce the load by 25 to 50% depending on the operation.

Cleaning the vent hoods is probably the least favorite job of any operator and the one that tends to get put off until grease and dirt build-up makes the job even worse – as well as a hazard, since grease fires can result. Originally developed in the Antipodes, an air filter made of wool from one manufacturer simply attaches to the vent and absorbs grease and oil naturally, keeping these out of the hood. Wool is naturally flame resistant so setting fire to the filter only scorches one area; the flame won't spread. Best of all, because these are biodegradable, they can be happily discarded in the knowledge that the environment won't be harmed.

Combi ovens

Models designed to turn off when not in use, but which are well insulated so as to retain heat, are the most desirable, says Zabrowski. Heat loss through poor insulation is one area which can easily be remedied. He's enthusiastic about a new gas-fired combi which has the flame inside the oven. "It's a very innovative design," he says, "and being direct fired, should prove to be highly efficient."

Also significant has been the development of an enzyme-based cleaner for combis which is completely biodegradable and safe so it requires no special handling. Originally developed by Hobart for its own ovens, it's now widely available.

And one we found – waste disposal

Waste is becoming a mounting issue for operators as more municipalities charge for removal by volume. The Action-Comax BioX uses a two-stage biological process to break down organic waste into liquid. The first is done through biological decomposition by microorganisms. What's left is dissolved in water and sent down the drain. The decomposition phase leaves the waste liquid low in organic material. Very high volumes of waste can be consumed in a very small machine (43" by 57") which can easily be installed in the area where waste is being cleared (saving trips to the bins outside).

Trash and recycling containers remain cleaner. Other benefits include odor and pest elimination. And here's the best part, the machine will return your cutlery to you at the end of the cycle. "If you can't eat it, neither do the microorganisms," says Michael Franco, CEO of Biohitech of America, based in Newark, N.J. For some operators, that alone could make the cost worthwhile. By the way, the little organisms apparently like a smorgasboard. "They don't like carbs alone (bakery goods) as much as carbs plus protein," laughs Franco. "So we recommend giving them a buffet."

If you want one of these, you'll have to wait. The company has been inundated since they won the Innovation award at NRA.