There are many good reasons why steamers remain viable equipment options for foodservice kitchens.

BY JOHN PENNINGTON, CSC, CFSP
One of the most versatile pieces of equipment in any kitchen, steam cookers are designed to cook and retherm virtually any food product that does not require browning. This includes rice, potatoes, vegetables, boil-in-a-bag items and tray-pack products, to name just a few. Steaming food is a great way to preserve moisture, nutrients and color. Depending on the model, some steamers also can act as holding units, keeping cooked products at safe food temperatures until service.

But while many foodservice professionals enjoy the versatility and efficiency that steam cooking offers, they typically don’t relish performing the maintenance often required for proper operation and/or to extend the lifespan of different steamer models. Typical tasks include deliming, descaling, changing water filters and unclogging drains. If this describes your attitude toward this type of cooking equipment, you can count yourself lucky, because in today’s market, there are many types of steamers available to suit your needs! This article is intended to provide an objective primer on steam cooking equipment to help you understand and identify the different features and options that are best-positioned to enhance your school meal operation.

Initial Assessments
Before comparing energy efficiencies, pan capacities or preprogrammed functions, there are a few fundamental factors to consider. The first is power supply. There are various research studies that compare the efficiency and performance of gas versus electric steamers, but in most school kitchens, the decision is made based on the type of power that is available. There are certain checks you should do before deciding which electric (or which gas) model is best. With electric steamers, it’s important to ensure you purchase a unit with voltage requirements that your kitchen can handle. Get details from your district’s facilities department, particularly about the available breaker size.

For natural gas (or propane), you must know the correct line size, gas supply and pressure restrictions before you write your procurement specifications. You also should consider the elevation of your location. If your community is more than 2,500 feet above sea level, make sure the dealer knows this detail, as the steamer will require certain adjustments made at the factory to perform at higher elevations.

Next, think about where you plan to position your steam cooker within the kitchen. Obviously, you need to account for basic dimensions—width, depth, height—
plus access to the power supply and potential access to water lines and drainage. All these factors will play a role in determining the type of equipment you can even begin to consider. For example, some electric steamers don’t require a hood, freeing up valuable space for another piece of equipment. Size also impacts capacity. Examine your recipes and production yields. How much food do you need to prepare in the steamer and with what kind of turnaround?

How much versatility do you expect from this piece of equipment? Will you use it exclusively for cooking menu items? Or do you also need it to do double-duty as a holding cabinet? Some steamers feature a hold mode, which can be invaluable in a kitchen with a small footprint and limited space for multiple pieces of equipment. The hold feature can also improve prep efficiency, particularly for a small staff. For example, if a team member is cooking vegetables and prepping salads, the steamer can be placed in hold mode automatically once the timer goes off on the cooking process. This allows the employee to continue prepping the salad without worrying about overcooking the vegetables or allowing them to fall below a safe temperature.

**Reviewing Steam Schemes**

Once you have established the basic parameters for your prospective steamer, there are still several options to consider. The next area for research and decision is to determine which category of steamer equipment is right for your kitchen.

All steamers naturally use steam heat to cook food—but there are significant differences in how that steam is generated. Some equipment takes steam from an external source, some produce their own steam from incoming water and some create steam from a manually filled reservoir.

Another key aspect of steamers is dealing with the water (condensation) that forms after the steam has transferred its heat to your food. How does this “exit” from the unit? What kind of drainage or water removal process is required?

It’s also important to realize that boiled water typically leaves behind hardened calcium, lime scale and mineral deposits, which can affect the performance of the machine. If your machine is pumping water and steam throughout the unit, then a water filtration system is important. It’s also key to ensuring that poor water quality doesn’t impact the flavors of the foods cooked in the steamer. The best type of filtration system will depend on the water quality in your area. Keep in mind, however, that a filtration system will reduce, but not eliminate, scaling and other issues.
Let’s drill down into how the steam is produced. For a large production kitchen with several steamers in operation, you might opt for an external steam generator that turns incoming water into steam and pipes it into the cooking equipment. But it’s more likely that you will choose a model that generates its own steam.

The **boiler-based steamer** is the oldest variety of steam cooker, and it was once considered the fastest-cooking type. It employs a boiler that is typically a part of the base of the equipment and uses a pressure process to move the heat into the cooking unit. This type typically provides the capacity to steam large quantities of food in shorter time periods.

As foodservice equipment has evolved, new options for steam cooking have emerged that can maintain performance, but reduce—or lose altogether—some of the maintenance requirements and associated downtime. Case in point: A **boilerless steamer**, as the name implies, does not have a traditional boiler, but typically uses an open water reservoir or cavity, often at the bottom of the cooking unit, which produces steam as the internal cavity is heated. In a connectionless system, an employee manually pours water into the reservoir and drains it at the end of the day.

In general, boilerless models use significantly fewer gallons of water, and they are considered the most energy- and water-efficient choice available. They tend to be easier to clean and maintain than their boiler-based counterparts. But as with all types of cooking equipment, there can be huge performance differences between models and technologies. Consider, for example, how the water is heated in a boilerless steamer. Is it using fans or other techniques to create convection heat? How quickly can it produce and maintain the heat and steam levels to reduce cooking times?

While some foodservice operators have opted to purchase combi-ovens, which can cook with both moist (steam) and dry heat methods, steamers remain a viable choice. Foodservice consultants note that steamers tend to be more intuitive for employee training and use. Depending on the model, a steamer also may be less expensive and more energy-efficient, as well. Much depends on the other equipment available in your kitchen and what you intend to cook. For example, some operators may
Training Your Team

Once you’ve made your equipment purchase and your new steam cooker has been installed, maximizing its potential is all about operator education! Work with your vendor partner to provide initial and follow-up training. Be sure particular attention is paid to the safe use of the equipment, including use of personal protection gear, such as goggles and rubberized high-heat gloves.

After onsite training has concluded, make use of materials provided by the manufacturer for refreshers (and to train new hires). These include operator and cleaning videos, manuals and best-practice checklists. Ask colleagues from other districts to share their “No one told us” stories to learn from their experiences.

Your team should also make some time to experiment with cooking different menu items in the steamer. Rice, potatoes and vegetables may be the most obvious choices, but a steamer also works to retherm multiple items from French toast sticks to precooked burgers. If it doesn’t require browning, you can steam-cook it!

Choose to pair a boilerless steamer with a retherm oven or a moisture-injection convection oven and get the same cooking results as a combi, without taking on high maintenance and water filtration burdens.

Make a List; Check It Twice

Obviously, there are many factors that will influence your final purchase decision. Be sure to identify hidden and extra costs related to water filtration or deliming chemicals or even hard wiring requirements. Find out what kind of service support you can expect from the manufacturer for installation, training, technical assistance and troubleshooting. You want to have the most peace of mind possible that your equipment will be fully supported once it’s in the building.

You should also ask about warranties and rebates. Some manufacturers are now offering extended warranties to K-12 schools, but it’s important to check the fine print. For example, is the warranty voided if a water filtration system is not used? Some food-service steamers are ENERGY STAR-rated and thus eligible for utility rebates in certain states. Be sure to check into this option as part of your purchase research.

In addition to checking with multiple manufacturers, there are several independent sources to help you gather valuable intelligence. Ask other foodservice directors about their experiences; in addition to the networking channels offered by SNA, its state affiliates and social media, you can ask each manufacturer to give you a few K-12 customer recommendations to contact. Also check out information from the American Culinary Federation, multiple equipment blogs and your utility company. Fishnick (www.fishnick.com), from Frontier Energy’s Foodservice Division, is an independent resource whose mission is to help foodservice operators become more sustainable in their equipment purchasing decisions, focusing on energy-efficiency and conducting third-party testing on many products available on the market.

I may be biased about the category, but I do believe that the decision to implement or continue steam-cooking in your school kitchen is a sound investment, no matter which vendor becomes your partner. Your team will value the easy operation, and students will enjoy the delicious flavor profile that is a signature of steam cooking! SN+

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