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WAYS TO MAKE COOL-CHILL PROFITABLE AND SAFE.



HORIZON

The logo for Horizon, featuring the word "HORIZON" in a bold, sans-serif font. Below the text is a stylized graphic element consisting of two mirrored, elongated shapes that resemble wings or a horizon line, pointing outwards.

OVERVIEW



The idea of a blast-chiller is simple: It makes time stand still. It takes fully cooked food and stops the cooking process in its tracks, locking in flavor, nutrition, texture and quality for serving at another time. Later that day. A few days later. Or even, depending on how the food is chilled, packaged and stored, up to weeks later.

The big advantage for chefs—control.

For chefs, it means better control over their day, more powerful and efficient organization of their kitchen and the flexibility to build up a “bank” of food that can be rethermed, plated and presented in a fraction of the time it would take to serve it in a cook-to-order setting. The bottom line for busy operations is less stress during service with a greater opportunity to focus on presentation, guest interaction and increasing customer satisfaction by having a wider, more diverse menu that can be prepared and presented any time of day.

Owners maximize their operations.

For foodservice owners, the benefits are clear. In any operation where food prep time is the limiting factor in daily customer volume, a cook-chill process can make all the difference, allowing for more guests to be seated at once, including large parties making reservations at the last minute. It also allows managers greater control over staffing, less negative consequences when staff get sick or have an unscheduled absence, and the ability to precisely control food quality and safety as an operation expands to multiple locations from a single, central kitchen.

The net-net is most operators discover a cook-chill system properly optimized to their operation will pay for itself in 18 months or so, and will reduce costs in labor, ingredients and energy by tens of thousands of dollars a year. That’s why it’s well worth your time to investigate if cook-chill is right for you.

1.

GET SMART ON COOK-CHILL SAFETY.

Unlike traditional refrigeration systems that are designed to be general purpose, long-term storage of cold food, a blast chiller is a specific tool for moving hot food quickly through the danger zone—140°F to 40°F— where bacteria can grow, thrive, and reach a critical level to make customers sick. Sticking hot food in a refrigerator is simply not an acceptable practice. Not only will it not move the food through the danger zone quickly enough to adequately prevent bacteria growth, it can raise the ambient temperature of nearby stored items, pushing them into the danger zone as well.

This is no small matter. According to the Centers for Disease Control, far and away the greatest single contributing cause to foodborne illness from commercial foodservice establishments is food held at an improper temperature.

Moving food quickly through the danger zone.

To maximize food safety, hot foods are moved as quickly as possible through the danger zone, with all manufacturers required to meet stringent FDA requirements. Be aware when ordering a blast-chiller, you need to know how much food you will need to chill at once. As a rule of thumb, it will take a blast-chiller cooling a full load of food about 90 minutes to take it from say, 160° to a safe 38°, and another ninety minutes to two hours to take it down to 0°F if the food is to be frozen for longer-term storage (always check with your local health department for specific regulations in your area).

Understanding these numbers (see the manufacturer spec sheets for specifics) will help you avoid the inefficient and potentially unsafe practice of keeping cooked food cued up in a line for the blast chiller. Food should never be left out of refrigeration for more than 2 hours, or 1 hour if the ambient air temperature is above 90°F.

Busting cook-chill myths.

The perception of the cook-chill process among some operators is that it is just too complicated. They believe it introduces unnecessary health risks, is expensive to get into and is designed only for banquet and catering professionals and other large operations like hospitals or school food services. They believe it doesn't make sense in the kitchen of a traditional full-service restaurant or even a fast-food location.

That's simply not true. In fact, there is no known case of a foodborne illness created by a properly executed cook-chill process. And, since the "cook" part of the cook-chill process doesn't require any special equipment (although some is optimized for it, like certain combi ovens), the only thing a small operation needs to get going is a small blast-chilling unit.

Many blast chill units are quite affordable, and fit either on a counter top or beneath it, or come in slightly larger free-standing units. So, let's have a look at the cook-chill process and see how it can fit profitably—and safely—into your operation.

2.

KNOW THE BASICS OF COOK-CHILL BEFORE YOU BUY.

First, you may hear the term “blast chilling” and “blast freezing,” or “shock chilling” and “shock freezing” used interchangeably. Technically, blast chilling, also known as shock chilling, involves taking food from an internal temperature of around 165° to 38° in two hours or less. Manufacturers of blast-chilling equipment leave a margin of error, allowing some foods hotter than that to be chilled, and can generally take a full load down to 38° in about 90 minutes.

Blast freezing, also known as shock freezing, takes food all the way down to near 0° F or below in a period of four hours or less. Although all high-quality blast-chillers and blast-freezers will meet the minimum HACCP safety requirements, how they chill the food can vary.

The four types of blast-chilling modes.

Most blast chillers have different chilling “modes” generally defined as a “soft chill” mode, ideal for smaller portions of meat, delicate pastries, leafy or cut vegetables and food with a high-water content, like fish, vegetables, rice and pasta. A “hard chill” setting is for denser foods, including soups, stocks, proteins, casseroles, lasagnas and the likes. A “hard chill max” setting generally is for extremely dense foods like meat

joins, certain sous vide meals and thick stews. And finally, the “shock freeze” setting can be used on nearly all kinds of foods intended for long-term storage and maximum shelf life—without a degradation in flavor, nutrition or quality. This includes raw-, half- or fully cooked food. This process helps prevent the large ice crystals formed by traditional freezers that degrade flavor, texture, color and moisture content.

A variety of models sized for your operation.

Blast chillers come in models designed to hold a certain number of half- or standard-size restaurant pans, from a few pans up to roll-in blast chillers that can hold multiple racks of 20 pans or more. One company, American Panel, has up to 50 models to fit whatever your application requires. Ask your equipment outfitter to help you determine the best size for your operation. Don’t assume you can push the limits of the equipment, as that can lead to food being improperly chilled and may even damage the unit.

Finally, if you do batch cooking of say, custom sauces or dressings, and you’d like to store them for a long time, bagging and sealing the food can expand the typical shelf-life of a blast-chilled item from several days to several weeks.



3.

KNOW HOW COOK-CHILL PAYBACK WILL WORK FOR YOU.

As we discussed, most operators who utilize an efficient cook-chill process generally report a payback on their equipment investment of 18 months or so. How? Let's take a look.

First is the massive cost advantage of preparing a single, large batch of food to be blast-chilled and served later, versus many small batches. The cost savings include ordering food in larger quantities, taking advantage of special sales and discounts and doing one process instead of the same process many times. Chefs can also take better advantage of local and seasonal offerings, cooking and chilling them for use later—even much later after the season has passed in the case of shock-frozen bagged items.

Second, having a large “bank” of pre-cooked food allows chefs to manage their operation more efficiently. This includes using equipment more effectively throughout the whole day, rather than only during peak service times. Staff shortages caused by sickness or other unplanned absences are far more easily managed. And, freed from some of the pressures of daily cook-to-order production, chefs find more time for menu experimentation.

Third, depending on the cooking method and how much moisture it preserves, operators using a cook-chill system report up to a 25% decrease in food shrinkage. Since around 38% of costs in most foodservice operations are ingredient costs, this translates to significant bottom-line savings. Cook-chill systems also reduce waste by keeping a set amount of food in

storage, so it is not necessary to overproduce to avoid running out of items during peak rushes. And, by preparing portions calmly during the cook-chill process, chefs and staff can be far more confident of portion sizes, rather than trying to manage them on the fly during crunch periods.

Fourth, having food ready and waiting for re-therming, plating and presentation instead of prepping and cooking it completely in a single process allows for a far greater expansion of available menu items. Operators report a substantial, immediate increase in their offerings, which drives customer traffic, sales and customer retention by creating more variety which leads to increased frequency of visits.

Fifth, payback comes for operators who can manage staffing more effectively, including doing the “heavy lifting” of prep and initial cooking during less expensive day parts that reduce overtime, to being able to more flexibly allocate talent to where it is better served, like freeing up a chef talented at presentation from doing the cook or prep work.

Finally, payback comes in the simple ability to push out more food more quickly during rush periods, allowing for greater overall seating and accommodating larger parties on a last-minute basis. Since blast-chilling preserves food integrity, quality, flavor, texture and appearance, chefs are finding the simple freedom of being able to focus on presentation has real, bottom-line results in guest satisfaction and retention.



4.

USE COOK-CHILL TO REDUCE KITCHEN STRESS .

Under the crush of a service, everything gets exaggerated. The tempo. The stress. And the dangers. Using a cook-chill process where cooking is done during calmer day parts, means fewer chefs moving quickly around hot stoves, griddles and boiling liquids. The cook-chill process is simply safer for chefs.

Stress is not needed to produce great food.

Under the “new kitchen” movement, in which chefs’ physical and mental health is undergoing a transformation for the better, one key element is getting over the notion that somehow stress is necessary to create great food.

An interesting experiment by Electrolux compared the same four-course plated dinner prepared for 200 guests by two different teams of chefs. The first team used traditional rapid-cook, made-to-order kitchen methods, and the other used cook-chill. Electrolux discovered guests couldn’t tell a difference. That is, they couldn’t “taste the stress.”

Chefs were outfitted with heart-rate monitors during the dinner service, and chefs using the cook-chill system averaged heart rates in the

high-90s, while those using traditional methods averaged in the mid-120s.

Improving pastry consistency using cook-chill.

Interestingly, chefs have found other advantages by moving cooking times to less stressful day parts or days of the week. A catering pastry chef observed it was difficult to get pastries baked over multiple days to have the same texture and flake consistency, since the weather varied by day, and the changing humidity affected the proofing process.

However, when he switched over to blast-chilling in which the temperature was tightly controlled during the proofing process, the pastries came out far more consistently, improving product quality and customer satisfaction.

The bottom line for most chef teams is that stress, once considered essential to the art, is now recognized as a detriment to the food and to chef’s health and career longevity. Using a controlled blast-chill process allows everyone to slow down and focus on the details of quality that impress guests and improve team morale and retention.

5.

EXPAND YOUR CONCEPT EFFICIENTLY WITH COOK-CHILL.



There comes a time in the life of every successful chef where additional sites could be opened for a hot concept. The question becomes is it possible to replicate the concept given the available talent pool, or would it make more sense to centralize production in a larger location or commissary and ship a certain percentage of menu items to individual locations? Centralizing your cooking production then shipping items for retherming at individual locations immediately generates costs savings for many reasons.

First, when you centralize cooking production, you have fewer expensive pieces of equipment at individual locations. This immediately lowers not just your equipment costs, but your energy bills as well. This also reduces ancillary costs like pan-washing and even HVAC costs, due to less heat being generated at individual sites.

Second, centralized production allows you to concentrate cooking talent in a single location, which may be valuable for the expansion of certain concepts in a tight labor market where finding skilled help is difficult. This also is critical when certain sauces and other items can benefit from mechanical batch mixing, which frees up

chef talent on local sites to focus on customer-facing plating and other benefits.

Third, a centralized cook-chill process will improve brand consistency from location to location, helping to balance out the inevitable taste and quality differences between cooking staff. If your concept relies on the talents of one culinary star, centralizing production where that individual can continuously monitor quality may be the only way to expand the concept successfully.

Fourth, even if you just want to expand your current concept at a single site, a cook-chill process will allow you to serve more guests more quickly without expanding the physical size of your kitchen or adding more staff. So, a cook-chill system will maximize the value of your concept, helping you determine if expanding it to other locations makes sense.

Finally, if your restaurant concept is moving into event cooking and catering, a centralized cook-chill operation at one of your larger sites or a central kitchen will allow you to concentrate product for delivery, reducing delivery times and costs and simplifying your operation.

6.

GET OUTFITTED WITH THE MOST PROFITABLE INNOVATIONS.

Cook-chill is an important market for manufacturers, who continue to introduce innovations in automation, efficiency and capability.

Irinox leads the way in quality and versatility.

The Irinox corporation is known for making blast-chillers of exceptional quality and flexibility. Some of their advanced systems, including the MultiFresh product line, actually handle blast-chilling, holding, pasteurization, shock freezing, confectionary processing, proofing, thawing, regeneration and low-temperature cooking—all with one unit. Simple, intuitive icons, product-specific cycles and outstanding setting customization make it a chef favorite.

American Panel delivers the most solutions.

American panel is also noted for superior quality and for having the widest range of blast chillers and shock freezers in the industry—over 50 models. HACCP data are easily accessed, either via USB or a Wi-Fi interface, and models feature digital touch controls with simple, four-touch-and-done ease of use. They're also built to last, with heavy duty 304 stainless steel inside and out, top and bottom.

Electrolux pairs combi's and blast-chillers.

The Electrolux company offers a fully integrated cook-chill solution, called the air-o-system, featuring the air-o-steam combi oven paired with the air-o-chill blast chiller. The air-o-steam line of combi ovens features HACCP-calibrated food probes that ensure food is cooked to a safe temperature, while maintaining moisture, texture and taste. Managers can ensure safety

by receiving HACCP data to their PC or tablet. The heavy-duty air-o-chill blast chillers can take food from 300°F to 37°F in 90 minutes—safely exceeding HACCP standards. They include a wide variety of pre-programmed cycles including a Cruise Control option for simple, one-touch chilling.

When paired together, the air-o-stream and air-o-chill blast chillers and freezers can save a small restaurant doing 100 meals a day with three staff around \$31,000 a year in ingredient, labor and energy costs, Electrolux estimates. For a mid-sized restaurant doing around 250 meals a day, the savings jump up to around \$73,000 a year. The benefits multiply from there for larger operations.

Turn to your trusted outfitter—Horizon.

Your best bet in any case is to consult your trusted equipment outfitter, like Horizon, who can help you determine the size, features and model that will best serve your operation. The general rule of thumb is to get a system at least one size bigger in capacity than you think to allow for unplanned rushes and later expansion. The key in successful blast chilling is always air flow, so a slightly bigger unit will ensure adequate spacing around food even during heavy usage.

With proper equipment, techniques and best practices, a cook-chill system can help grow your business, reduce staff stress, improve retention and drive down costs, an effective—and safe—way to improve your bottom line. ■

About Us

Horizon outfits food pros with the gear they need to create the world's most incredible food. Our experts provide personal consultation on every aspect of the food and beverage equipment in your operation. From the purchase of a single fry pan, to the creation of an entire cooking suite, we will design, equip, install, service and provide the parts to make your operation a success. In the Minnesota area, our fleet of factory-trained service professionals are on call for you 24/7/365, and will custom-design a planned maintenance program to optimize your equipment investment.



HORIZON EQUIPMENT, LLC
1960 SENECA ROAD
EAGAN, MN 55122

(800) 394-4674 (651) 452-9118
www.horizonequipment.com