

Beating The Start-Up Blues

Over the past 45 years, it has taken hard work, a dedication to food quality and a commitment to exceeding customers' expectations to transform Governor's Restaurant & Bakery from a seasonal ice cream stand to a seven-unit chain that has become a casual dining "institution" in the state of Maine. However, according to Governor's COO Randy Wadleigh, the installation of a single blast chiller in the chain's Old Town, ME, unit approximately nine months ago has done more to improve his business' efficiency, productivity and food safety controls than any piece of equipment he's ever owned.

"I didn't know much about blast chillers a year ago," Wadleigh admitted. "We were actually shopping for a new oven for our in-store baking program when a dealer introduced me to the equipment and explained how it could be applied to centralize baked goods production and extend storage life."

What Wadleigh quickly recognized

was that a blast chiller would allow him to end baking operations at each of Governor's seven stores and supply multiple units from a mini central bakery. To start, he selected a blast chiller capable of rapidly chilling and shock freezing enough product to supply the headquarters unit in Old Town and three other restaurants. (The three remaining Governor's outlets continue to bake and cold store products on site, for the time being.)

Today, thanks to their blast chiller, staff at Governor's HQ restaurant and bakery can make popular cookies once rather than three times a week and shock-freeze them for up to three-week storage before sale here and at the three other units,

saving both time and labor. Also being produced now in large production batches and shock-frozen for inventory are baked goods such as pies, cakes and muffins. "One of the best things about our blast chiller's shock-freezing capability is that it chills hot products so rapidly that the fresh-baked quality is preserved. We can

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Baked goods of all kinds, even delicate cream-filled pastries, can be quickly shock-frozen to safe temperatures for extended storage, then distributed to remote points of sale and re-thermed with no loss of quality.

Optimizing Daily Performance

There are several daily functions for which blast chillers are best suited, in the opinion of consultant Lenny Condenzio, principal, Ricca Newmark Design. These include enhancing the safe handling of foods, allowing operators to manage food inventories more effectively and preserving food quality by bringing cooked products through temperature danger zones quickly enough to prevent the formation of cell-bursting ice crystals.

While Condenzio noted that blast chillers perform least efficiently when used mainly as holding refrigerators rather than rapid-cooling systems, he stressed that they are primari-

ly designed to support central kitchen production facilities, cook-chill programs or high-volume kitchens whose pre-prepared foods are served at remote locations. He added that undercounter blast chillers are growing in popularity as key support equipment at such satellite operations (to keep cooked foods at safe temperatures right up to the moment of service), though he also noted that these models' relatively high prices are still limiting their adoption by operators.

Condenzio also commented that blast chillers can help to optimize operators' productivity and labor usage by allowing staff to prepare protein items such as

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Optimizing Daily Performance

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roasts in a combi oven before simply rolling the racks of cooked products into a blast chiller, setting the controls and going on to other tasks. "Staff don't have to check on foods being blast chilled because, once the equipment is programmed correctly, it cools products safely and automatically creates a record of time-temperature relationships," he remarked. "This process creates the best controls and minimizes risks caused by food handling."

Condenzio further stated that although NAFEM Data Protocol-compliant blast chillers offer the advantage of being able to capture more types (including custom-specified) of operating data, even free-standing models can capture important information, and most can be counted on to operate and record functions reliably over time.

One way that operators can be sure that they are obtaining all potential performance from their blast chillers is to "perform quality control tests," suggested Ron Ehrhardt, director of food-services, Prudential Financial Services. "For instance, since we use our blast chillers mainly to help prepare grab 'n go meal choices, we regularly check blast-chilled protein items to see if they've remained moist and consistent

in appearance, as well as to ensure they've reached safe temperatures quickly enough. What you do," he stressed, "is inspect your final products. If they look, taste and feel like fresh-prepared items, your blast chiller is working properly."

Ehrhardt also pointed out that "while we now only have blast chillers in our central production facility, the more we use them the more we realize that there could be cook-serve applications in other operations, as well. In the future, we need to look at blast chillers more as core equipment that supports our continually changing food programs."

Romano-Gatland's Bill Vomvoris noted that proper use of temperature probes and recording devices is also essential to optimal blast chiller operations. "First, operators need to clean and sanitize probes as frequently as necessary, so they can use them safely to test the variety of foods that move through a blast chiller," he remarked. "Probes themselves should be plug-ins or otherwise easy to replace, because they get damaged or wear out fairly often. I also try to recommend against those blast chillers whose control boards or data recorders are too complicated to operate, because staff won't use them. The best set up I've found," he added, "is simple touch-screen programming with factory pre-sets for all the most commonly chilled items."

Overall, Vomvoris, stated, blast chillers are best able to optimize daily foodservice operations "in any facility in which a time element occurs between production and service. Ensuring that foods stay safe without



Blast-chilled foods are increasingly being found in many grab 'n go programs. Operators report using blast chillers for items such as sandwiches, salads and sushi (as shown here) to ensure that these meal choices leave the BOH at the lowest-possible temperatures to optimize safe holding until they are consumed.

losing quality during that time period is the operational task for which blast chillers are best suited." However, because even the most effective blast chillers can experience malfunctions during daily use if not maintained correctly, Vomvoris suggested that operators conduct several performance tests.

One check staff should perform is to turn on condenser blowers during cleaning to be sure that these blowers are turning properly. "Being certain that blower blades are rotating correctly is probably the most important low-tech test staff can conduct," he related. Another simple evaluative procedure Vomvoris endorsed is to "put a smoke stick in your blast chiller's cavity, turn the equipment on and observe how the smoke indicates the air is moving. You also want to inspect vents regularly to be sure they haven't been bent, because that's a fairly common event with some blast chillers."

Above all, each of our sources, affirmed, blast chillers will perform best when they are made of the most durable materials, are solidly constructed and can cool cooked foods rapidly enough through the temperature danger zones to forestall pathogen growth. —

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Beating The Start-Up Blues

(cont'd from cover)

shock-freeze a chocolate chip cookie, hold it for weeks, retherm it to the same temperature as a just-made cookie and you will be hard pressed to taste a difference between them," Wadleigh recounted. "And, because we can consolidate production into larger batches and hold products safely for extended periods, our blast chiller allows us to do mass manufacturing at an individual restaurant."

However, before he could achieve such results, Wadleigh, like other operators, had to prepare his location and staff for the installation of the new blast chiller. His selection was also influenced by specific blast chillers' price points, comparative foot prints (since his space for new equipment was very limited) and output. Once he had selected the best blast chiller for Governor's operations, Wadleigh had his dealer arrange for the necessary electrical connections and handle the equipment's installation and start up.

Wadleigh added that while his blast chiller's manufacturer had provided both printed and CD-based training materials, the equipment's ease of use had done much to ensure staff operated it correctly from day one. "One thing we quickly learned is that when you use your blast chiller in shock-freezing mode a lot, up to 12 hours a day in our case, you need to defrost the unit every few hours. If you don't, ice builds up in the coils and you won't get the very low cavity temperatures you need to shock-freeze effectively. That can compromise food quality, energy usage and production scheduling," he explained. To keep their new blast chiller as pathogen-free as possible, Governor's staff wash it down with a mild cleaning solution and sanitize it with its internal UV light.

Consultant Bill Vomvoris of Romano-Gatland has had more than 20 years of experience developing cook-chill and cook-to-inventory systems. His advice to help operators beat the start-up blues with blast chillers starts with a single word: Location. "The location of the equipment in a facility will determine whether an operator needs one or more blast chillers and which type," he commented. "If an operator is doing central production

and satellite distribution, a blast chiller has to go in the back of the house. However, if food is being prepared or finished and held in volume near service points, an operator will need to select a rapid-chilling unit that fits in that space."

To determine how much blast-chilling capacity is appropriate for operators' facilities, Vomvoris noted that standard-sized models can cool up to 250 meal equivalents per roll-in rack. Thus, cook-and-serve-operations needing to provide 1,000 meals per day would need a blast chiller able to complete four cycles within a daily service schedule. One key, in Vomvoris' view to getting new blast chillers to perform to



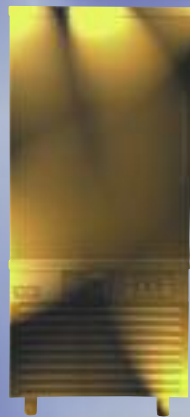
In high-volume central production centers, blast chillers can be effectively used to cool large volumes of bagged foods rapidly enough to low enough temperatures to prevent the formation of ice crystals inside of food cells.

capacity is "ease of cleaning. I especially look at how easy it is to clean fan enclosures, since all sorts of dirt gets trapped in there and can reduce performance."

This consultant is a firm believer that once a new blast chiller has been installed and tested, "staff members must be taught to use it by hands-on instruction. Someone from the supplier should come in and spend a day or two showing staffers what a blast chiller is capable of doing and which modifications they may have to make to their production processes. The best training after that," he added, "would be videos that demonstrate correct blast chiller operations and that could be shown as often as necessary to newly hired staff."

According to Ron Ehrhardt, director of foodservice, Prudential Financial Services, blast chillers have been brought into the central production kitchen supporting his national B&I operations for several reasons. The first is to ensure that foods leave the BOH at the lowest possible temperatures, which is particularly important to preserving the quality and safety of Prudential's many grab 'n go items. In addition, blast chilled items can be packaged and displayed without product-generated condensation, which improves eye-appeal. A further reason Prudential's foodservice has started blast chilling operations is labor savings. As Ehrhardt pointed out, blast chillers can eliminate the need to set up ice baths and stir their contents, freeing kitchen staff to perform more productive clean-up and prep tasks. —

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When & Why To Spec A Blast Chiller

The answer to the question of when operators need to add blast chillers to their equipment packages is “always,” according to Ricca Newmark Design Principal Lenny Condenzio. “There doesn’t seem to be a good reason not to use one,” he stated. “Operators should either have an undercounter blast chiller to cool leftovers quickly for safe future use in cook-serve programs or use a full-size model if they do meals to inventory. We almost never ask if a client needs a blast chiller in a new build or renovation program, just which type.” Condenzio added that although he tends to include blast chillers as early as possible during project planning, he reserves his views on the equipment’s ideal capacity “until we know enough about a client’s plans for catering, advance production, inventory management and quality control.”

For Bill Vomvoris of Romano-Gatland, the decision about whether operators should acquire blast chillers “comes down to the menu program they’re producing. The items we look at first are cold foods. Is the facility buying or making its salads, for example. If staff are producing salads, we have to address the issue of how they are going to be chilled.

“Another key determinant is whether a blast chiller will be used to support inventory management or service,” Vomvoris continued, “and if an operator is pre-plating meals, as part of a healthcare or senior care program, for instance. In those cases, the requirement for a blast chiller becomes more significant. For just about all programs, though I don’t believe the question is whether we need to specify a blast chiller, so much as where to put it and

how much capacity it should have. Regulations are also driving the increasing use of blast chillers. They are expensive pieces of equipment but, as I ask our clients, what price are you willing to put on food safety?”

When Condenzio plans to recommend blast chillers to clients, he’s clear about the features he values most. “The first thing I look for is a model that is easy to maintain and keep clean. I also recognize that blast chiller technology tends to be delicate, so I want controls that are well-protected against ‘guerilla’ handling,” he recounted.

Since blast chillers are still relatively new pieces of equipment to many operators, Condenzio often finds that end-user education is part of the initial selection process. “You might be surprised by how many operators still don’t fully understand the proper use of blast chillers,” he noted. “The most common problems we, as consultants, run into is that we spec the wrong size because operators have mis-estimated their volume projections. On our side, consultants can be too cautious with blast chillers, undersize the capacity and leave an operator wanting more.”

Condenzio added, however, that end-user awareness, and thus acceptance, of blast chillers is rising. “More operators are now realizing that it is a mistake to be using a roll-in oven for high-volume production without locating a blast chiller nearby,” he commented. “The labor savings and food safety improvements available are helping to break down operator resistance to the outlay blast chillers typically require.”

To encourage end-user willingness to include blast chillers in their equipment packages, Condenzio recommended

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that manufacturers more frequently send corporate chefs into new and potential customers’ operations. “The purpose should be to demonstrate all the possible uses of blast chilling equipment. This would help operators understand and benefit from functions such as shock-freezing and soft-chilling, and how they can best be applied to their own ingredients, and recipes.”

Vomvoris pointed out that potential blast chiller customers could also be better served if manufacturers updated their web sites more often to reflect current product line-ups and if they convened end-user meetings to receive experience-based feedback on chilling equipment’s performance in the field. “Another factor that affects my recommendations is clients’ working relationship with their service agencies,” he related. “We’re much more prone to spec a particular manufacturer’s blast chiller if we know the client is going to be comfortable with their service agency’s ability to maintain and repair it.”



Keeping take-away foods cold enough to prevent instances of food-borne illness should begin in the back of the house, many consultants agree, including blast chilling meal components to safe temperatures before they are transported to refrigerated make-up tables for display-holding and sale.

Advanced Blast Chiller Operations

Some operators have yet to derive program benefits from the blast-chilling functions of their rapid-cooling equipment. Up in Maine, however, the Governor's Restaurant & Bakery chain has found that blast-chilling key menu items has brought several advantages.

"At the same time last year when we began shock-freezing a variety of baked goods in our flagship restaurant for future sale at three outlying stores, we also started blast-chilling such high-volume protein items as roast pork loin and meat loaf," remarked Randy Wadleigh, COO of the Old Town, ME-based seven-unit chain. "The blast-chill process holds this sort of item without any loss of quality until they are served the next day at the headquarters outlet and three other units. And because I know that our protein items are being cooled through their danger zones quickly enough, I have greater peace of mind on food safety issues."

Although Wadleigh's primary regret about his multi-functional blast chiller "is that I didn't start using one sooner,"

Almost all blast chillers now come with pre-programmed controls and data recorders that capture food products' time-temperature relationships as they're being cooled. More advanced models can download such data directly to managers' computers, offer NAFEM Data Protocol compliance and be diagnosed or re-programmed online by factory personnel or service agents.

he encouraged manufacturers to upgrade their data recording devices.

"Truthfully, we don't even use the recorder on our blast chiller, it's too difficult to operate correctly," he admitted.

Consultant Bill Vomvoris of Romano-Gatland offered a similar critique of the data recorders found on most current blast chillers. "I wish factories would upgrade the little pieces of register paper that come out of their recorders – they're too small and I can't read the data printed in those tiny fonts. I'd like to see them increase the paper size and give us 12-point type."

More than improved printing output, Vomvoris would like to see blast chiller data recording include "automated transmission of all the equipment's operating information into managers' PCs. I'd really like to stop generating any more paper. I also think that blast chillers should have an internet capability

that lets factory personnel or service agents troubleshoot any problems online. After all, operators should keep their production data for as long as three years, so the more their equipment can create digital records, the better off they'll be," he asserted.

Vomvoris further advised that the simple decision of where a blast chiller is placed in relation to other equipment can make the difference between inefficient and highly productive operations. "Most of the time when blast chillers are used to support cook-serve programs, they're properly situated close by the main cooking battery," he observed. "But when we use the big pass-through models for high-volume cook-to-inventory or catering programs, the blast chillers are too often located 40' or 50' away from the ovens. This creates a double problem. Not only does that distance itself keep cooked products between heating and cooling

sources too long, staff who might have to move, say, 700 broiled chicken breasts will typically wait until they have quite a few on hand before transporting them. If the blast chillers were set up

closer to the cooking equipment, employees would more likely transfer them more quickly in smaller batches."

Ron Ehrhardt, Prudential Financial

Services' director of foodservices, feels that the key to advanced blast chiller usage is, paradoxically enough, simplicity of operations. "The biggest misconception we and our staffs have about blast chilling is that it is too complicated. Some employees become intimidated if they have to program a machine themselves. That's why, to ensure staff can use the equipment properly and learn its various functions, blast chiller controls should come with prompts and aids for their settings."

This B&I leader also pointed out that highly effective blast chiller operations cannot be achieved unless the machines are teamed with appropriate hot-side equipment. "The best combination I know of for cook-serve programs includes a combi oven for its small footprint and production versatility, along with kettles, simple steamers and sauté stations, so items such as pan-roasted vegetables can go straight from the burners to a blast chiller."

Ehrhardt took additional pains to emphasize that an operation's production volume need not be sky-high for end-user's to gain advantages from blast chillers. "It's true that in U.S. corporate dining most of us think that blast chilling is only for our largest facilities. That's not accurate, though. We, for example, cool small batches of grab 'n go sandwiches, salads and even chocolate-dipped strawberries in our blast chillers," he explained. "The benefit is that when we put those items out for sale in air curtain refrigerators, they are as cold as possible. We know our customers don't always eat the foods they purchase right away, but by blast chilling those menu items, we've done all we can to keep our food selections safe." ■

Blast-chilling key menu items has brought several advantages





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CHEF'S PERSPECTIVE

By Chris Craig, Corporate Chef, Servolift Eastern



I'd like to point out in this space some of the features that make our soon-to-be introduced Servolift/FOODSAFE blast chillers the outstanding models available today on the market. To begin, Servolift/FOODSAFE blast chillers bring product temperatures down through the food "danger zone" as fast as any other blast chillers now available in the U.S. In addition, Servolift/FOODSAFE blast chillers typically provide operators with a higher capacity (as much as 20% higher) than competing models in a foot-print of equivalent size. What's more, only Servolift/FOODSAFE blast chillers offer an interior UV light that assures that clean chiller cabinets are also sanitized.

Other competitive advantages offered by Servolift/FOODSAFE blast chillers include the ability to download operating (time-temperature) data directly to managers' PCs, as well as compliance with NAFEM's Data Protocol that allows operators to capture vital production information via wireless transmission to department computer networks. When operators use Servolift/FOODSAFE blast chillers to bring the temperatures of cooked products quickly down to safe storage levels, they will also benefit from our models' indirect airflow that sucks hot air off foods' surfaces, instead of blowing cold air across them. Our gentler method of cooling eliminates the need for staff to cover hot food containers, reducing the chance of burns from oven-heated pans.

End-users and specifiers should also be aware that only Servolift/FOODSAFE blast chillers can shock-freeze foods to sufficiently low temperatures (0°F in a -40°F cabinet) quickly enough to prevent food cells from bursting or the formation of "macro" ice crystals, which helps to preserve cooked foods' quality. This form of rapid deep chilling not only prevents product degradation, it also allows Servolift/FOODSAFE blast chillers to extend foods' shelf-life by up to 60% and reduces shrinkage of protein items by as much as 10%, helping to increase yields and diminish food waste.

Finally, by most rapidly stopping the cooking process and putting foods into a state of "suspended animation," Servolift/FOODSAFE blast chillers form a safety and quality enhancing "middle link" between cooking and storage functions. Coupled with their ability to support labor-reducing bulk (cook-to-inventory) production, Servolift/FOODSAFE blast chillers offer a combination of food safety improvements, quality controls and labor savings that no competing models can match.

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