

# HOT SIDE

HOW COOKING EQUIPMENT  
IS BEING CALLED ON TO  
DO MORE IN LESS SPACE  
WITH A REDUCED, SOCIALLY  
DISTANCED WORKFORCE

# COLD SIDE

FROM HELPING TO REDUCE  
FOOD WASTE TO STORING  
COVID VACCINES: HOW  
REFRIGERATION IS WORKING  
IN THE PANDEMIC

*K-12 flexible serving*  
**just got cooler**

**NEW AIR CURTAIN MILK COOLER**



**FLEXIBLE CAPACITY**

8, 12 & 16 Crate Capacity Beverage/Milk Cooler – take your beverages straight from the walk-in to milk cooler



**CONSISTENT TEMPERATURE**

Air curtain design to maintain 36°F–40°F, even with the lids open



**ENERGY EFFICIENT**

The most energy efficient design on the market, meeting all Department of Energy requirements



**INDUSTRY LEADING WARRANTY**

backed by a 2 year Parts & Labor and 7 year compressor warranty

**SHELLEYSSTEEL® SERVING LINES**



**NEW FLEXIWELL™**

Allow you to serve hot, cold or both food products with the touch of a button. Any configuration, up to 6 wells



**ESP**

Energy Savings Power Hot Food Wells save up to 77% in energy



**FLEXISHIELD®**

Counter protectors are designed to protect without getting in the way



**CUSTOMIZABLE**

Endless decor options to fit into any existing or new location

# WELCOME

## Has the pandemic put innovation on ice or the back burner – or is now the time to bring R&D to the fore?

The old adage is that businesses should “fix the roof when the sun is shining”. Conversely, we are told, during the tough times they should hunker down and ride out the storms. As a consequence, many companies in all sectors are, unsurprisingly, increasingly careful with their money during periods of uncertainty. In foodservice, equipment manufacturers tend to apply the brakes with regards to investing in innovation and R&D when economies take a dip. But that isn’t always the case.

These are certainly not normal times. Unpredictability reigns. The pandemic therefore has seen the brakes applied to a significant amount of hot-side and cold-side equipment innovation, as operators seek to lower labor costs, improve equipment flexibility to respond to changing restrictions on socializing and dining. Less income from patrons frequently means making do and mending with the cooking and refrigeration equipment already in situ.

Yet, behind the scenes, innovation has not frozen, but continued apace. It is refreshing to see manufacturers continuing to invest heavily in more efficient, smaller, more modular, and more flexible equipment, ready for when the industry is able to fully re-open and go again. These pages feature some extraordinary ideas, new thinking and new products. Enjoy the read.



### CONTENTS

#### 4 COOKING TECH FOR A POST-COVID WORLD

Jim Banks considers how cooking technology is evolving, both because of the pandemic and despite it

#### 10 COOLING IN THE TIME OF COVID

Efficiency and versatility have dominated cold-side technology for years, but these are not normal times. Jim Banks looks at how refrigeration will change after the pandemic

Words Jim Banks, Michael Jones,  
Tina Nielsen



Produced by  
Progressive Content  
progressivecontent.com

Contact: [editorial@foodserviceconsultant.org](mailto:editorial@foodserviceconsultant.org) or [sales@foodserviceconsultant.org](mailto:sales@foodserviceconsultant.org)

# HOT-SIDE TECHNOLOGY



## Cooking tech for a post-Covid world

Sustainability, energy efficiency and smart cooking technologies are nice to have on the hot side, but the operators' single goal now is to survive until business returns. Jim Banks considers how cooking technology is evolving, because of the pandemic – and despite it

**T**he Covid-19 pandemic has focused the attention of the foodservice industry on short-term priorities, pushing long-term investment onto the back burner. Survival is now the priority for many businesses.

The pandemic has, to some extent, put the brakes on innovation, with operators looking to cut labor costs, improve flexibility to respond to changing restrictions on socializing and dining, and to gain a competitive edge by producing the best food in the shortest amount of time. With less revenue coming in, many are trying to do so with the cooking equipment they already have.

“The past year has been devastating for manufacturers and the entire equipment and supplies market, so there hasn’t been a ton of new innovation, but there has been a continual arc of innovation over the last few years towards smaller, more modular, and more flexible equipment,” says Denis Livchak, senior designer at Frontier Energy. “This will probably continue to expand as operators move towards more flexible menus, strategic allocation of labor over longer hours, and off-premises dining.”

Fortunately, the cooking equipment already in place can, in many instances, deliver more than its owners had realized.

“Chefs have been learning how to use the combi oven creatively to their advantage,” says Kip Serfozo FCSI, design director at Cini•Little International Inc. in Atlanta, Georgia. “In the past, they didn’t know how to use the combi technology correctly. It is like someone using a computer just for word processing without understanding its other features.”

#### A FOCUS ON FLEXIBILITY

The arc of innovation seen in the last few years has served the industry well in terms of preparing it for restrictions on indoor dining and a growing drive to be resource efficient at a time when

revenues have fallen sharply. “It has been a continuum of induction and other kit that’s anything other than the old days of pots and pans,” says Chris Stern FCSI, managing director of UK-based Stern Consultancy. “Ventless cooking is massively important. As sites are downsized, having self-vented front cooking is a way of doing hot food with minimal back-of-house facilities. It brings savings on ventilation, though fire suppression is a whole new challenge especially when it’s front cooking.”

Ventless cooking is now widespread, and the flexibility it offers is an advantage when outdoor dining and cooking is more prevalent. Indoors, however, it does present challenges.

“If you are cooking you need some ventilation and fire suppression – regardless of whether you are using an exhaust hood or the room’s HVAC system,” adds Livchak. “Nothing is free – and that includes getting rid of all the heat in the kitchen. With ventless, that heat remains in the kitchen and has to be removed with your air conditioning, which is expensive. Research shows that it is always more cost-effective to put the larger equipment under a traditional exhaust hood where possible.”

Among manufacturers, the desire to innovate remains as strong as ever, and many recognise the need for versatility and the need to increase production capacity and menu options without taking up valuable space.

“We have seen interest in four areas of innovation: flexibility, reliability, simplicity and cost savings,” says Dan Montgomery, senior manager consultant services at equipment manufacturer Vulcan. “Operators are keenly interested in equipment that can be used for multiple tasks or that can be adaptable.”

“No one wants to invest in an entirely new range line-up each time a menu adjustment is needed,” he adds. “So, we

**“RESEARCH SHOWS THAT IT IS MORE COST-EFFECTIVE TO PUT THE LARGER EQUIPMENT UNDER A TRADITIONAL EXHAUST HOOD WHERE POSSIBLE”**



Above top: Kip Serfozo FCSI, design director at Cini•Little International; Above: Denis Livchak of Frontier Energy

use a modular design and manufacturing approach to heavy duty range line-ups. This allows individual top or base components to be changed if needed.”

Vulcan has also developed ways to make enhancements to existing equipment, especially griddles. It has, for example, developed a versatile heavy-duty clamshell that can be added to a griddle to reduce cooking times, while enabling greater productivity and flexibility without adding width to the cookline.

“One notable piece of equipment that was released this last year is the Rational iVario,” says Livchak. “This promises flexible production in a small space. We have also seen innovation in the induction range world and we now have one of the new Garland FlexiHob units in our facility. Combination ovens continue to evolve, and the new breed of small combis is really gaining traction.”

### JUGGLING PRIORITIES

Though short-term considerations occupy operators’ minds, manufacturers are keen to develop new concepts in preparation for the market’s recovery.

“As the foodservice industry bounces forward there is a greater sense of urgency around innovation,” says Rick Caron, chief innovation officer at Welbilt, the company behind brands such as Convotherm, Frymaster and Lincoln. “Our design centers are more focused, working faster and stepping up the game with open innovation where ideas not only come from inside our organization but outside as well.”

“Key technologies being transferred into foodservice range from advanced controls to new sanitation solutions to new platforms for heat generation and heat transfer,” he adds. “Combi ovens are raising the bar with hygienic disinfection programs, which are being deployed through software upgrades. There is also more demand for unvented hot-side equipment. These innovations will help the industry as it re-emerges in 2021.”

Sustainability is a key driver of



innovation and, though still pushed forward by regulatory change, it has given way to other priorities for now. Larger chains may still be focused on sustainability, but for small independents, survival comes first. There is an influx of low-cost, Chinese-made equipment, for which efficiency gains are less important than lower cost.

“The biggest impact from a regulatory standpoint is the mandate for all-electric kitchens that is now built into the building reach codes for many cities,” notes Livchak. “The all-electric kitchen requires advanced, integrated design in order to be cost-effective. There is also an amazing amount of immediate carbon reduction that can happen by simply using the high-efficiency gas equipment available on the market today, which could be a bridge to the zero-carbon kitchens of the future.”

Along with flexibility, reliability is now the concept at the top of many operators’ minds. “Cooking equipment must be durable and trouble-free,” says Montgomery. “A manufacturer’s ability to manage and deploy their service network has never been more critical. Operators need to minimize down-time.

“Simplicity is key,” he adds. “Controls need to be easy to understand and operate with little or no training. We have found there are frequent challenges with >

**“AS THE FOODSERVICE INDUSTRY BOUNCES FORWARD THERE IS A GREATER SENSE OF URGENCY AROUND INNOVATION”**



Above: Rick Caron, chief innovation officer at Welbilt



# CUSTOMIZE THEIR DREAM KITCHEN



V4B36S with 12" hot top

VCBB18B

V6B36S with finishing oven

V Series Heavy Duty Ranges are completely modular and give you the freedom to design a high-performance lineup to your client's exact needs—now and in the future. Tops and bases can be interchanged, allowing you the flexibility to mix and match for various menus, kitchen workflows and production needs.

## COMPLETE CUSTOMIZATION FOR A COMPLETE KITCHEN



Oven Base



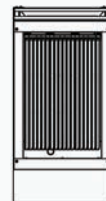
Refrigerated Base



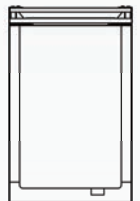
Hot Top



4-Burner



Charbroiler



Plancha

Find everything you need to spec your next project at [vulcanequipment.com/consultants](http://vulcanequipment.com/consultants).  
For assistance, contact our Consultant Hotline at 888-492-3895.



*the* POWER *to* PERFORM

**Wood Stone**

WOOD  STONE

1.360.650.1111 [woodstone-corp.com](http://woodstone-corp.com)





labor and turnover. Operators prefer controls that offer simple command of the functionality desired – from basic control to digital readouts and timers.”

#### COOK SMARTER

The need for simplicity, consistency and quality will stimulate more interest in smart kitchens in the post-Covid world.

“We will see more investment in intelligent ovens,” says FCSI Associate Heraldo Blasco, a foodservice consultant based in Argentina. “They can be operated by anyone, they can be programmed from a cellphone, and the programs allow for standardization, which means a consistent menu can be rolled out across a small chain very easily.”

“There is a growing demand for programmable cooking technology, which is simple to use and delivers consistent quality,” says Laura Lentz FCSI, design principal at US consultancy Culinary Advisors. “Restaurants are looking to increase sales without hiring more people, and intelligent ovens are among the technologies that can help with that.”

For Welbilt, multi-purpose cooking technology with smart capability is central to its pursuit of innovation. “Ovens that are flexible, that can connect to the cloud and upload the digital information necessary to enable a wide range of cooking functions continue to

get smaller and more flexible with more widespread adoption of accelerated cooking,” says Caron. “Cognitive automation is emerging fast, enabling the operator to make better decisions about what and when to cook to fulfil the omni-channel demands that Covid has created.”

This technology is fundamental to the rise of ghost kitchens, which are set up for the preparation of delivery-only meals. Furthermore, the growing use of data and connectivity in the kitchen plays a key role in food safety and energy efficiency, as it enables the precise tracking of temperatures and cooktimes.

“In the near term, it is obvious that off-premises will be the dominant model for a while,” says Livchak. “The pandemic’s biggest influence on the marketplace has been the emergence of off-premises dining as the dominant business model. We anticipate that as the industry starts to rebound, this trend will continue. We will see more small, flexible and ventless table-top equipment such as high-speed ovens, induction, and high-speed panini presses. There may also be more small, high-speed pizza ovens.”

As always, the market will respond to the needs of the people designing the kitchens and buying the equipment. For consultants in these testing times, it is vital to know all the hot-side options and to continue helping kitchens to evolve. ■

**“THERE IS A GROWING DEMAND FOR PROGRAMMABLE COOKING TECHNOLOGY, WHICH IS SIMPLE TO USE AND DELIVERS CONSISTENT QUALITY”**



Above: FCSI Associate Heraldo Blasco is based in Argentina

# COLD-SIDE TECHNOLOGY

## Cooling in the time of Covid

Efficiency and versatility have dominated the development of cold-side technology for years, but Covid-19 is changing the way the industry operates and forcing operators and manufacturers to reassess their priorities. Jim Banks looks at how refrigeration technology will evolve through the pandemic.

The Covid-19 pandemic has changed the foodservice sector. Social distancing, lockdowns, restrictions on indoor seating and a huge swing towards takeaway and delivery have left some operators struggling to adapt. The rules of the business are changing, sometimes from one day to the next, so planning for the future is a big challenge.

As always, technology will play a part in how the industry reinvents itself, as it is essential to work in both smarter and safer ways to survive.

“Restaurants have had to close then open then close again, and the rules can change overnight,” says Laura Lentz FCSI, design principal at US consultancy Culinary Advisors. “Covid makes people more thoughtful about technology and makes them appreciate it more. Restaurants managing inventory in an inconsistent situation are grateful that they can blast chill food rather than throwing it away.”

“We all saw our entire lives flipped upside down in the last year,” notes Brett Daniel FCSI of consultancy Camacho in Georgia, US. “Before the pandemic we were all trying to reduce the footprint of kitchens as well as increasing efficiency. Now, with social distancing the norm, we’re still increasing efficiency and looking to do more with less, while, at the same time, also trying to minimize contact between employees.”

Many kitchens are being retrofitted for takeout and delivery, often with areas that operate almost independently of the regular kitchen. Ordering systems, menus, storage and food ordering are all adapting to a different business model.

“One thing is for certain, necessity is the mother of invention,” says Daniel.

#### THE INNOVATION EXPRESS

In some sectors, notably healthcare, normal service has continued. In some regions, the corporate sector is looking

at a return to work and is ramping up catering services. In these, and other parts of the industry, technology is essential in adapting to change.

“Operators are asking how they can leverage technology to improve customer service and quality,” adds Lentz. “Designers of new projects now realize that they need to look at technology upfront, whether it is for ordering, payment, cooking or chilling. Technology must be a foundation of the planning process.”

“Large commercial foodservice chains can demand equipment manufacturers design more customized refrigeration equipment that fits their needs and smaller specialized spaces,” says Denis Livchak, senior designer at Frontier Energy Inc. “The rise and rapid growth of off-premises dining is really dictating how space is used, the notion being more food from operations that have smaller production spaces but larger hot and cold holding areas.”

Manufacturers have worked closely with their customers to understand the changes that the pandemic has brought. In some ways, priorities have not changed, but the ability of some operators to invest in new technologies has been severely limited.

“The choice that people face is to close because of Covid or to close because of bankruptcy,” says FCSI Associate Heraldo Blasco, based in Argentina.

The number of cases of Covid is growing rapidly in Latin America, in a trajectory indicative of the global pattern. There, as in Europe and the US, restrictions on operation have hit the profitability of foodservice businesses, so operators are looking at ways to innovate, in terms of both technology and business practices, to maximise efficiency and remain sufficiently profitable to survive.

“Only the biggest companies are thinking about investing in new >

**“RESTAURANTS  
MANAGING INVENTORY  
IN AN INCONSISTENT  
SITUATION ARE  
GRATEFUL THAT THEY  
CAN BLAST CHILL  
FOOD RATHER THAN  
THROWING IT AWAY”**



Above top: Laura Lentz FCSI, Culinary Advisors, US. Below: Brett Daniel FCSI, Camacho, US

INTRODUCING EXPRESSLINE BY LTI

# A FAST AND SAFE WAY TO SERVE DURING THE BUSIEST MEAL RUSH.

LTI's ExpressLine serving counters are built for safety and speed. Instead of hot wells and cold pans, the new dual-temp ExpressLine Compact series has heated and refrigerated bays side by side - great for serving individually wrapped or pre-packaged meals and sides. Portable models are available (as shown), so delivering meals to where customers are is a breeze.

LTI builds a variety of ExpressLine models to meet the needs of all industry segments from staging meals for take-away service to serving employees and customers in non-commercial segments.

Contact LTI today to find a serving solution for you at (888) 584-2722 or learn more at [lowtempind.com/expresslines](http://lowtempind.com/expresslines)



LOWTEMPIND.COM  
(888) 584-2722

 **ExpressLine**



technologies,” says Blasco. “Their goal is to work with fewer people because labor is one of their biggest costs. The focus of investment in new technology is to require fewer people to do the same job in less space. The problem, however, is that many businesses lack the cash flow to invest.”

“Since chains have done better in the pandemic, they will be replacing any existing refrigeration equipment that goes down, but it will be a few years before the industry shows any significant rebound or expansion,” says Livchak of the global situation. “Meanwhile, kitchens that are open at partial capacity are recommended to consolidate their refrigeration space. Ghost kitchens are becoming more prevalent and they may have more centralized refrigeration, such as walk-in coolers, than smaller reach-in coolers.”

Only large QSR chains may be in a position to invest in new equipment, but manufacturers are still focused on delivering next-generation technology, in readiness for an uptick in business.

“On the cold side, a lot of the trends that we expect to prevail in 2021 will be continuations of changes that began in 2020,” says Chance Hunt, product manager at stainless steel equipment manufacturer LTI Inc. “We and many other industry experts expect several

of the short-term adaptations to stick around. Some dining habit changes, such as relying more on pick-up and delivery, are expected to be permanent even when foodservice returns to something resembling the pre-pandemic normal.”

“As with almost any kind of crisis, Covid-19 has accelerated innovation in cold side equipment,” he adds. “In addition to the growth and advancement of cold food lockers, the industry has also seen a lot of creative thinking around cold merchandising. Manufacturers have had to consider how to showcase the pre-packaged foods that dominate a lot of today’s foodscape, allowing consumers to still ‘eat with their eyes’ while also feeling their food is safe and secure.”

#### STAYING SUSTAINABLE

Overall, the pandemic has slowed the pace of foodservice R&D, with manufacturers focused more on providing equipment parts and improving reliability.

“Sadly, Covid has dominated everything, but eventually environmental considerations will return,” says Chris Stern FCSI, managing director of Stern Consultancy, UK. “However, using equipment flexibly is an ongoing trend, as it ensures equipment can be adapted over time for varying uses and layouts.”

Nevertheless, sustainability remains >

**“ON THE COLD SIDE, A LOT OF THE TRENDS THAT WE EXPECT TO PREVAIL IN 2021 WILL BE CONTINUATIONS OF CHANGES THAT BEGAN IN 2020”**

Larger, walk-in coolers will be more popular due to the rise of the ghost kitchen with its centralized refrigeration



# ALWAYS KEEP YOUR COOL

## NOBODY DOES IT BETTER

Traulsen prep tables and equipment stands are specially built to keep food at a consistent, safe temperature in difficult applications. For more demanding kitchen environments, our **Glycol Prep Tables** deliver 24/7 cooling performance with the lid open.



24-HOUR PERFORMANCE



FROST AND FAN FREE, DEFROST FREE RAIL DESIGN



DESIGNED FOR PERFORMANCE NEAR HOODS, HVAC, OR COOKING EQUIPMENT



COVERING ALL YOUR **REFRIGERATION** EQUIPMENT NEEDS



TS Series Full Size Prep Tables



TE Series Equipment Stands



TB Series Glycol Prep Tables



[traulsen.com](http://traulsen.com)

Traulsen © All Rights Reserved



a high priority for the industry, driven in part by regulatory standards, such as mandatory EPA low global warming potential (GWP) refrigerant regulations or ENERGY STAR.

“On the commercial kitchen side, more and more refrigeration equipment categories are adopting low GWP refrigerants including ice machines, soft serve machines and prep tables,” notes Livchak. “Blast chillers are slowly gaining more traction in the US market – a trend partially led by experienced foodservice consultants who understand how important it is to use this equipment to modify and modernize kitchen production strategies.”

#### POST-PANDEMIC PRIORITIES

The post-pandemic world may see more intense efforts to improve resource efficiency, as lower operating costs and a greener footprint will always be among the industry’s priorities.

“Everyone wants refrigerants to be zero GWP, so it will be interesting to see how that can be achieved with larger refrigeration systems while staying safe,” adds Livchak. “Zeotropic refrigerant blends like R446, R447 and R451 are close to being accepted, so manufacturers may already be trying to integrate them into walk-in coolers and ice machines.”

In many parts of the foodservice

sector, revenues are tight, and it is a brave move to invest in new technology when no one is sure when the pandemic will end or when business might return to pre-Covid levels, given the impact of the virus on the broader economy. Nevertheless, the spark of innovation never goes out.

In the post-pandemic world, new technology will be needed to help the industry adapt to a new way of doing business, but for now, the short-term priority is survival.

“Independent restaurant operators are just trying to stay open and any health code violation could set them back, so they are more vigilant about keeping food at a safe temperature,” believes Livchak. “However, most independent operators don’t have the capital to invest into new refrigeration equipment and will probably nurse their existing equipment along, even if their old equipment is on its last legs.”

For cold-side equipment, the market needs reliable equipment that can operate efficiently in a time of changing demand patterns. When revenues return, investment in new technology will become a priority, so manufacturers must work with their clients, and with consultants, to ensure the new breed of chillers, refrigerators and freezers is what the industry needs. ■

#### Covid: playing a part in the vaccination program

Vaccination programs for Covid-19 are under way in earnest around the world and keeping the vaccines cold is of vital importance. While the Pfizer vaccine must be stored at  $-70^{\circ}\text{C}$ , and the Moderna vaccine must be kept at around  $-20^{\circ}\text{C}$ , the AstraZeneca vaccine developed in the UK can be stored and transported at normal refrigeration temperatures of between  $2^{\circ}\text{C}$  and  $8^{\circ}\text{C}$ .

The latter opens up the potential for commercial refrigeration to play a part in the vaccination rollout.

“Mainly for the healthcare industry, the ability to keep medicines and vaccines cold in remote areas, as well as added emergency refrigeration and storage, is important,” says Camacho’s Brett Daniel. “The Covid-19 pandemic has driven the need for more readily available, mobile refrigeration.”

Some companies have offered their refrigeration capacity, although there has been little response so far. Indeed, some manufacturers have urged caution.

Kitchen equipment manufacturer Hoshizaki, for instance, has stated that, while the AstraZeneca vaccine can be stored in its Climate Class 4 rated or higher refrigerators, a domestic, Climate Class 3 (or lower rated) refrigerator cannot provide a temperature range stable enough.

“Medical refrigeration is a totally different sector,” notes Frontier Energy’s Livchak. “We cannot say with any certainty that commercial foodservice units will be adequate to do much vaccine storage based on extremely low-temperature vaccine requirements, however, that may change with newer vaccines that may not require such intense storage.”

“Still, the mixing of food and medicine is a tricky area and perhaps the closest it will come is the use of pharmacies in grocery stores for administration of the vaccine.”



# HOSHIZAKI

soda  
spirits  
iced tea

Our job is keeping your everything cool.



*Creative Cocktails*   
HOSHIZAKI SPECIALTY ICE



Click to find your cool  
[hoshizaki.com](http://hoshizaki.com)