

HI-COOK

NEWS LETTER FROM ASAHI SOSETSU Co.,Ltd. | vol. 008

Café



TOPICS

HI-COOK Eye

Prevent Oil Degradation Now

Trend

Human Development and Manufacturing Industry: Accelerating the Industry's Working Practice Reform

HI-COOK Fryers

The Man with Enthusiasm

The photograph was taken at Ozaki-jinja Shrine (Kanazawa, Ishikawa prefecture)

The shrine with the attractive red-painted structure is dedicated to Ieyasu Tokugawa (Tosho-no-Ookami) and accordingly decorated with crests of hollyhock. Though compact-sized, some of its buildings (i.e., the main hall, the inner gate, and the front shrine) are important cultural assets.



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1st January 2022

New Year Wishes from the President

We wish you a happy New Year and ask for your continued generous patronage.

In 2021, the world initiated efforts to coexist with COVID-19. With widespread vaccination worldwide, society sped up the efforts successfully toward the end of the year: a small number of newly infected patients were reported continuously. Foreign tourists became quarantined for a shorter time than before, and many people started going out without masks as if they were free from risks of infection. Though there was an incredibly sharp decline of COVID-19 cases in Japan, its people were not fearless: just then, the new variant, Omicron, was discovered in South Africa and started spreading across the world, and Japan was not an exception. It would be crucial in 2022 that people live with COVID-19 cautiously: we are becoming less and less careful recently and should regain adequate tension and restore self-discipline to take risks and get active in a well-balanced way. At the same time, while the economy succeeds in getting partially active, prices, among others, of such edible oil sources as soybeans and rapeseeds, are soaring. Crude oil price, on the other hand, is dropping with the spread of Omicron. We do not know how the situation will evolve in the future. Moreover, as you know, the lack of semiconductors has an enormous impact on various industries without any prospects of solutions.

It is a year of Mizunoe Tora (Water Tiger in English) this year. The Mizunoe denotes thorough preparation with a positive attitude attained by surviving cold winter weather. That is likened to the time to prepare for welcoming a new life. The Tora represents the birth of a new life.

By analogy with the Chinese zodiac, a killer winter would come: we started moving an economy while living alongside COVID-19, and, therefore, we should face many more difficulties. We want to add value to our products by closely monitoring and quickly addressing changing needs in the market. We are committed to it and, to this end, value and welcome both your positive and negative feedback. We again wish you increasing prosperity and look forward to your continued business this year.

Kota Yamamoto

President

Asahi Sosei Co., Ltd.

HI-COOK Eye

Prevent Oil Degradation Now

China increased its import volume of soybeans and rapeseeds backed by its healthier economy. Global demand for biofuel ingredients is growing due to a zero-carbon society. The ingredients' production is decreasing due to bad weather. For all these reasons combined, the edible oil price is surging and is estimated to remain high in the future. To cope with this problem, I want to discuss oil deterioration and how we can mitigate it.

Room Temperature Oil Degradation and Its Indicator

The more fat and oil are exposed to oxygen and light, the more they deteriorate due to oxidation. The oxygen-led oxidation is called autoxidation, and the light-led one is photosensitized oxidation. The latter spoils fat and oil more quickly, and, therefore, it requires more attention: you should shield them from light. The amount of hydroperoxide, the degradation's primary product, can be quantified by peroxide value (POV), which often works for deterioration level judgment.

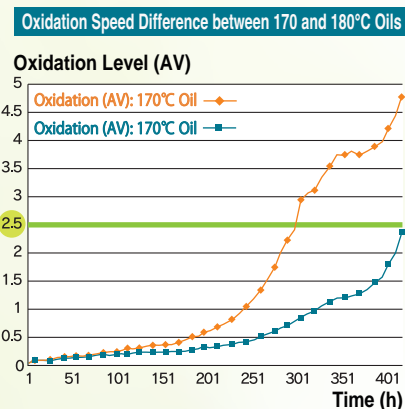
Hot Oil Degradation and Its Indicator

Hot oil deteriorates in various concurrent processes. Thermal oxidation, thermal polymerization, thermal decomposition, and hydrolysis are examples. Among them, thermal oxidation and hydrolysis are the most important. The latter is a chemical reaction in which fat, oil, and moisture in cooked foods react to one another, and the fat and the oil decompose into diglyceride and higher fatty acid. The latter is called free fatty acid, and it increases as oil deteriorates. It can be calculated by acid value (AV), a degradation index. Other conventional European indices include quantified polar compounds, whose examples are free fatty acid and polymeric substances. Odor (carbonyl value) and color (anisidine value) are indicators too. Because there are various indicators, you have to think

carefully, after determining characteristics of your products, which indicator you use to stabilize your product quality. Note there are POV and AV-related regulatory requirements, by the way.

Oil Temperature and Degradation

Our in-house test showed 180°C oil's AV reached 2.5 40%-faster than that of 170°C oil. That means the 10°C-cooler oil deteriorates far more slowly than the hotter oil does. Though cooler-oil frying takes a longer time, you should try it. If you have overcooked your products sometimes, you might be able to fry them in lower-temperature oil without spending any additional time and maintain their oil quality for a longer time. Even if it did take a longer time, it produces more juicy food. The saying, "lose a dime and win a dollar," should be applied here.



Oil Degradation and Heat Source Temperature

The contact between oil and a heat source (regardless of an electric heater or a gas burner) gets very hot. Of course, the hotter the source is, the faster it heats the oil, and the higher thermal efficiency is. However, the hotter the source is, the more the oil degrades, too: balancing the efficiency and the degradation is subtle.

New Oil Turnover Rate

We often refer to the quotient obtained by dividing the volume of original in-fryer-tank oil by that of new oil added to the tank later as "new oil turnover rate." A smaller quotient means less deterioration. If you add new oil frequently, you replace the whole oil before it is over-spoiled: you can use the whole for a longer time and can produce tastier foods. We should design fryers, ensuring their mechanical strength, that can achieve the best results with a minimum amount of oil.

Removing Sediment from Oil

Frying remnants facilitate oil degradation, too: leaving many of them inside the tank for a long time will damage oil because they contain moisture. They will be burned, attached to products, and color the oil if being heated for a long time, of course. To help you prevent them, we are committed to designing systemized fryers with built-in sediment removers and filters that best suit your products.

Careful Oil Storage

You must shield the oil from light. Rapid cooling of hot oil could somewhat prevent deterioration, too. Our oil storage tanks have cooling functionalities for that purpose.

We try to cut oil costs as much as possible because of the recent oil price surge. I believe the attempt will largely contribute to a better global environment too. We have been working hard to make oil-friendly fryers and improve and develop optional peripheral equipment for a long time under the slogan of "clean cooking oil ensures tasty fried foods." We want to strive even more earnestly to supply environmentally-friendly cooking machines which help users produce tasty food.

“IMF World Economic Outlook” forecasts that the world economy, mainly that of advanced nations, is and will be recovering even while the world is tackling the recurrent pandemic outbreaks. The Japanese were very anxious about the pandemic-led negative growth (from July to September 2021) amid the poor long-term economic growth. The Japanese economy, however, is also expected to recover in 2022: domestic demand will increase dramatically due to consumption decline stoppage. We should further strengthen Japanese manufacturing businesses, which are leading the domestic economy, to make both people and companies happy accordingly.

Working Practice Reform for Manufacturer

Currently, all manufacturing companies face the challenges of easing severe labor shortages, improving the work environment by promoting production efficiency, and motivating employees. The labor reform law that required 1) mandatory annual paid leave (note: employers stipulate the timing), 2) controlling the overtime limit, and 3) ensuring equal-pay-for-equal-work was enforced in April 2019. Varied businesses are working on this reform. They need to create an appealing work

Productivity Enhancement and Lightening Workload by Visualization

An ideal labor environment helps workers work effectively to provide customers with quality products. Production is mentally as well as physically demanding. The staff knows product quality depends on their skills and are responsible for meeting a tight deadline. Information can reduce such strains. Our production processes are difficult to control because we make custom-made products. With process visualization tools using digital technologies (i.e., RPA), however, each staff can monitor the whole process and make necessary judgments and responses promptly. In addition, you could develop such a reliable system that can store, show, and manipulate similar products and past trouble data and engineering know-how. This way, picturing and sharing such information, which production staff hardly do, can reduce the team's anxiety and burden.

Digitalization with Smartphone Apps

Though many companies are going digital and paperless, it is hard to introduce PCs to the shop floor: the staff rarely use them in the first place. What about smartphones, then? They use

such objectives as productivity enhancement with a select few, overtime reduction, increasing employees' motivation, and promoting their growth. The team built a system where employees consult managers to set their targets of skill improvement and their future vision realization and are evaluated based on their enthusiasm and achievement from hard work. The system becomes effective in 2022. Organizations must make a continuous effort to comply with the reform law and contribute to economic revitalization by taking specific reform actions. Significant action should be developing improvement/reform-embracing corporate culture and employees taking into account workers' points of view. For the shop floor, managers should build systems to create an attractive working environment, provide information tools and other infrastructures, appreciate workers' growth willingness, and create a worker-friendly environment. Personnel scans their surroundings to identify rooms for improvement, solve problems and work enthusiastically. If all they worked out well, they will create an attractive work environment. These attempts must be our priorities in rebuilding the Japanese economy.

Trend Human Development and Manufacturing Industry: Accelerating the Industry's Working Practice Reform

environment where staff is assigned a task they are best at, and accordingly, work actively and happily to survive. Labor reform for the shop floor is not easy. The one for office workers has been easy: a worker-friendly environment has been created smoothly and rapidly: they have been allotted co-working spaces, non-territorial offices, and fancy and efficiency-oriented office supplies. They can also work much more freely: remote working and video conferencing have become increasingly popular due to COVID-19 outbreaks. Providing production staff with such a flexible workplace is very difficult. Since they keep manufacturing equipment and work-in-process in fixed places, they cannot change working layout freely, seeking a comfortable work setting.

Such changes as work automation, remote work introduction, and work rules change are hopeless too. That is especially true for a custom-made product manufacturer like us. We have to identify occupational difficulties and find in-house optimum solutions to change our environment successfully. To start with, we must establish an internal work system to address immediate issues and identify future corporate goals.

smartphones every day and, therefore, can use them readily. They can carry them around too. Using Word and Excel on smartphones is not convenient enough, however. Form-access apps, if available, would digitalize the shop floor swiftly: you can enter data into the app much more effortlessly and faster than into spreadsheets and documents. Another advantage is that you can attach pictures to the app data easily. Pictures are perfect records. Photographic inspection records, directly attachable to written records, would prove what happened if any dispute arises later. Handwritten inspection records tend to be incomprehensible: their readability depends on each writer's writing skill.

Appraisal System: Admiring Growth Willingness

“Enthusiasm is a key to quality machine production: skills are secondary (...). The saying ‘Craftsmanship depends on human development.’ is very apt. Workforce determines everything.” That is our corporate vision. It states explicitly that a satisfied and willing labor force is essential for a successful manufacturing organization. We formed an appraisal system improvement team in 2020 with



Appraisal System Improvement Project Team

The team identifies ideal employee characteristics based on the company's management philosophy and sets behavioral goals. It prepares a career development sheet for workers' eagerness and development evaluation.



Communication Space

Staff refresh themselves and interact with each other here. It has increased the chances of staff communication to a greater extent. It has brought a greater-than-expected success, where staff can think of fresh ideas.



Clean Cooking Oil Ensures Tasty Fried Foods HI-COOK Fryers



Oil flavor, along with the ingredients' taste and freshness, is vital for the savor of Karaage and Tempura. Clean oil is essential when cooking delicious fried foods. We design HI-COOK fryers, applying a "new oil turnover rate**" theory: the fryers are fed with a minimum amount of oil to keep oil clean throughout the cooking processes. Accordingly, they can produce palatable fried foods.

* The rate is a quotient obtained by dividing the inside-the-tank-oil volume at the start of production by that of oil added to the tank later. A smaller quotient indicates less degradation.

Application for Food Manufacturers

Various pieces of optional equipment, combined with the chief system, ensure all-time clean oil during production.

HI-COOK Fryer System

Heat Exchanger Fryer Model DLNC ⊕ Oil Mist Catcher Model OMC ⊕
Continuous Oil Filter Model KF or Continuous Oil Filter ⊕ Drum Filter Model ST

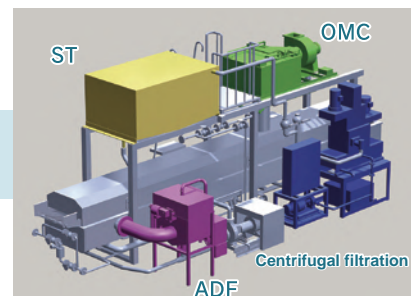


Image of Model DLNC with optional equipment



Heat Exchanger Fryer Model DLNC

- Viable system for pre-frying products and snacks: they consume an amount of energy in a short time during production.
- A continuous circulation filter system successfully keeps the oil clean.
- Stable oil temperature in the food infeed area achieves crispy crust.
- We keep the new oil turnover rate (first-supplied oil) to a minimum to ensure high-quality oil throughout the cooking process.
- Any heat source (i.e., gas, steam, and a heat medium) will do: it is up to your facility requirements.

Continuous Oil Filter Model KF



It well works exclusively with a large-sized continuous fryer. Its precise filtration removes particles that otherwise accelerate oil degradation to lengthen oil life. You do not have to dispose of oil frequently.

Drum Filter Model ADF



The equipment in the oil circulation path continuously filters sediment inside the oil. It is operable automatically around the clock. Different mesh filters are available: you can choose the one that best suits your sediment's size.

Oil Storage Tank Model ST



You can store oil in the tank when you clean your fryer. Installing the tank above the fryer will save shop floor space.

For Better
Work
Environment

Oil Mist Catcher Model OMC



Oil mist and heat go through the water inside the equipment before being discharged into the air: the equipment captures the mist efficiently to leave less oil stain inside the factory. You do not need any hoods to improve the environment.

*The above and the machine specifications are subject to change without prior

The Man with Enthusiasm Vol. 7

Manufacturing Section Chief Seiichi Tanibo

Mr. Tanibo has been with Asahi for 25 years. He is young but one of the middle-level leaders responsible for the section. As his name implies, he is sincere, treats all people equally, and is trusted by his co-workers and subordinates. He loves camping with his family. He camps out probably 30 days a year continually in Noto, Ishikawa prefecture: he keeps a good work and life balance. He likes starting a fire for an open fire, catching fish for supper, making discoveries in nature, and talking all with his kids earnestly. He helps them acquire true strength in their lives by giving them a sense of peace and chances to have valuable experiences. The word camping comes from the Latin "campus" which means "the

place for people gathering." A workplace is the same. People with different views gather, work hard, encourage and support each other, and foster interpersonal



relationships. He says, as a team leader, "I have a strong desire to make a strong team of people from sheet-metal working, welding work, pipework, and assembly work together to create good products." The whole production staff, led by him along with other young leaders, would become more active in the future.



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