

PFC/PFA SERIES

REGULATORY INFORMATION



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Re: Perfect Fry countertop deep fryer with integral ductless hood

9/20/24

To whom it may concern,

We currently have a distributor/customer interested in placing our equipment in your jurisdiction and we respectfully request that you review the following documentation.

Perfect Fry Company has been manufacturing a countertop deep fryer with integral ductless hood since 1986. This design has been a popular part of many convenient stores, snack bars, food kiosks, bars, concessions, etc. Recirculating systems were first introduced in the 1994 edition of NPFA 96 and have been subsequently referenced in numerous other codes (IFC 904.11, IMC 507.1 and UMC 516.0 to name a few). The advantages of this design for the customer are the following:

- easy installation
- cost effective
- requires minimal space
- no additional hoods or vents required
- totally self-contained
- complete automatic fire extinguisher integrated into the fryer
- complete safety systems

The ANSI accredited standards UL 197 and UL 710B are geared to ensure that current equipment provides a very high level of safety and meets strict air emissions requirements. Perfect Fry's PFC and PFA models meet all current standards, have been tested to these standards and are being manufactured under an ongoing follow-up services program which allows us to use the corresponding listing marks below. (Note: the CE mark is a self declaration mark).



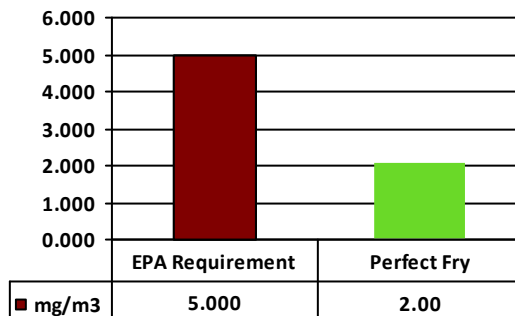
To bear these marks, Intertek has tested Perfect Fry products to the latest standards used in the United States, Canada and Europe. Intertek is the world's largest product testing and certification organization. Just as UL is, ITS is recognized in the USA by the Occupational Health & Safety Administration (OSHA) as a National Recognized Testing Laboratory (NRTL). Just as CSA is, Intertek is accredited in Canada by the Standards Council of Canada (SCC) as a Certification Organization (CO) and a Testing Organization (TO). As part of its program, Intertek conducts follow-up services and inspections to ensure that Perfect Fry products continue to be manufactured to the same specifications as when they were tested and first listed. ITS certification marks, which include many of those shown above, are recognized by state, provincial and other jurisdictional authorities across North America.

Meeting standards and bearing listing marks and approvals are necessary to comply with the law, but does the fryer really meet the concerns of local authorities for use in their jurisdiction?

Yes, not only does Perfect Fry equipment meet the latest regulations, they exceed them. Here's how:

Health Concerns

- Patented air filter system which includes a grease filter and a HEPA style air filter cartridge. The air filter cartridge needs changing on a quarterly basis on average. Most customers are signed up on an autoship program where they receive filters automatically according to their scheduled maintenance agreement.
- Air filter cartridge tested using EPA Test Method 202 over a continuous 8 hour period at maximum product capacity. Test results showed the filter allowed only 2.00 mg/m³ of grease-laden effluent, well below the 5 mg/m³ limit.



- Interlocks prevent the fryer from being operated improperly. Not only do they shut down the fryer's heating source and disable any further cooking, an error message is displayed on the LCD screen indicating the problem and an audible tone is heard. Some possible error conditions are as follows:
 1. Airflow switch (pressure differential): if there is insufficient airflow through the fryer
 2. Air filter switch: if the air filter is not installed or not installed properly
 3. Grease filter switch: if the grease filter is not installed or not installed properly
 4. Front panel switch: if the front panel is not installed or not closed properly
 5. Heater box: if the heater box is not installed correctly
 6. Main fan: if the main ventilation fan is not operating correctly
 7. Control fan: if the control fan is not operating correctly
- A door switch (PFC series) also prevents operators from "peeking" during a cook cycle by raising the baskets out of the oil immediately. This ensures that all grease-laden air is kept within the fryer and filtered properly.
- A drawer switch (PFA series) also prevents operators from operating the fryer while it's loading product.
- The fryer is completely modular and all the internal components can be removed in well under one minute for cleaning. The fryer's internal parts are made from stainless steel. The easier it is to clean, the more likely it will be cleaned. Cleaning instructions are located on a label on the inside of the front panel.

- An acfm (actual cubic feet per minute) of 22.5 was measured during the emissions testing. This small amount of airflow ensures that the filtration system is properly removing the grease-laden air and odors while maintaining a constant safe ambient temperature within the fryer. During normal operations, the exhausted air averages around 10°C / 18°F above ambient. Clearly, this amount of airflow and heat generation does very little to effect the surrounding environment.
- An Owner's Manual which has a detailed cleaning and maintenance section.

Fire Safety Concerns

- PFS Automatic Extinguisher (PFS) is designed and approved specifically for installation within the PFC and PFA models. It is UL Component Recognized.
 - Automatic and manual operation with 2 nozzles (one above air filter and one in main frying compartment).
 - The PFS has been evaluated as an integral part of the fryer by Intertek.
 - A North American in-field service network to service the fire extinguisher exists for PFS maintenance.
 - Safety systems in place to safeguard against a fire and prevent one from escaping.
 1. If the limiting control (a mechanical switch controlled by bulb and pressure) within the heater box measures a temperature above 210°C / 410°F, the fryer's heat source shuts down and the LCD displays a system error over temperature condition.
 2. If the control system measures a temperature above 215°C / 419°F, the fryer's heat source shuts down and the LCD displays a system error over temperature condition.
 3. If the limiting control were to fail, it is designed to do so in the open position which would prevent any power from going to the heat source.
 4. In the unlikely event that all control systems failed and the oil began to heat to auto-ignition temperature (365°C / 689°F with recommended canola oil), the automatic system would operate once the fusible link separated. During fire testing, this occurred in under 30 seconds.
 5. The manual pull on the front of the fryer could be used to operate the PFS in the event of a fire.
 6. A pressure switch on the PFS exists to shut down the heat source and the fans once the system discharges or has lost pressure due to a leak. This removes any possibility of re-ignition by suffocating the fire due to the lack of oxygen and heat. This switch also ensures that the PFS is charged properly. In the event of a leakdown, the LCD will display a system error to check the fire extinguisher.
 7. A fire-rated damper at the exhaust of the fan also prevents any flame from escaping by closing like a curtain once the fusible link is broken at a temperature of 280°F (138°C).
 - A detailed PFS manual which contains information on the installation, inspection, maintenance and recharge of the system is available for fire service personnel and others interested.
-

Electrical Safety Concerns

- A custom heater module connector allows for easy removal of all the components. Tested separately and rated for 30A.
- Interlock switches which shut down the heat source if there is a problem.
- Each cord connected model is rated to draw 80% of the circuit load (according to the NEC). The PFC500 for example draws a maximum of 23 Amps at 240VAC. The circuit required is rated to 30 Amps.
- Meets the strictest European standards concerning EMI (Electromagnetic Interference).
- All control components are over-rated for their application and completely modular so that service, if necessary, can be performed easily.

To supplement the information on the previous pages, please find the following information enclosed:

- ETL vs UL article
- ETL Authorization to Mark
- NSF Official Listing
- UL Authorization to Mark
- UL PFS Listing
- A technical article on recirculating systems from UL's "The Code Authority"
- Exception in 2024 IMC for recirculating systems
- EPA Test Method 202 emissions testing data

As stated, we currently have a distributor interested in placing our equipment in your jurisdiction and we respectfully request that you review the documentation and provide an approval so that we may proceed.

Regards,



Stanley Sienko
Compliance Engineer
Perfect Fry Company

ETL vs. UL: THE DIFFERENCE IS SERVICE.



When it comes time to test your products to North American product safety standards, you may be led to believe that your choices are limited to certain marks, such as the UL Listed Mark. In reality, there are others equally recognized and accepted — prominent among them, the ETL Listed Mark issued by the ETL SEMKO division of Intertek.

Like the UL Mark, the ETL Listed Mark shows that your product has been independently tested by a Nationally Recognized Testing Laboratory (NRTL). That it has met the minimum requirements of widely accepted product safety standards. And that you have agreed to periodic follow-up inspections to verify continued compliance. And like the UL Mark, the ETL Listed Mark is recognized and readily accepted by manufacturers, retailers, distributors and authorities having jurisdiction (AHJs).

WHAT IT MEANS TO BE AN NRTL.

The NRTL program is part of the Occupational Safety and Health Administration's directive to ensure products are safe for use in the U.S. workplace. It recognizes the capabilities of private-sector organizations to determine whether a specific product meets safety standards developed by the American National Standards Institute (ANSI), Underwriters Laboratories (UL), and others.

As an OSHA-recognized NRTL*, Intertek has the authority to provide independent evaluation, product safety testing and certification for electrically operated or gas- or oil-fired products, and to include those that successfully complete testing in our *Directory of Listed Products*. This compilation of more than 40,000 products is published annually, and is also available online at www.intertek-etlsemko.com.

A TESTING PARTNER IS WHAT COUNTS.

If any OSHA-recognized NRTL can provide product safety testing and certification, what's the real difference between the ETL Listed and UL Marks? The difference is Intertek's responsive, customer-first service.

True to our roots, which can be traced back to the laboratory founded by Thomas Edison in 1896, Intertek becomes your testing partner. We provide experienced, industry-specific testing experts who understand your products, markets and objectives, and who bring insight and greater efficiency to the testing process. We actively participate in many industry organizations and committees — including the International Association of Electrical Inspectors (IAEI) — to stay abreast of ever-changing testing standards and practices. And we share this insight and knowledge with you.

Just as important, we answer to your needs and your schedules through a global network of state-of-the-art laboratories that offers fast, flexible testing no matter where you're located. So you can bring your products to market more quickly, more smoothly and more cost-effectively than ever before. For additional information about product safety testing with Intertek, visit www.intertek-etlsemko.com.

* Intertek operates in the U.S.A. as Intertek Testing Services NA, Inc., and is recognized by OSHA as a Nationally Recognized Testing Laboratory.



Intertek ETL SEMKO

Testing everywhere for markets anywhere.

COMMONLY ASKED QUESTIONS ABOUT THE ETL LISTED MARK.

What's the difference between the ETL Listed and UL Listed Marks?

Both marks indicate that a product meets the minimum requirements of widely accepted product safety standards, determined through independent testing by a Nationally Recognized Testing Laboratory (NRTL). So the only real difference between the marks is in the service of the testing laboratories behind them. Intertek's custom-tailored testing, quick turnarounds and flexible work methods promote collaboration between testing lab and manufacturer, to bring products to market more quickly, smoothly and cost-effectively.

Are manufacturers required to use UL for their compliance testing?

No. In fact, this misconception has misled many to believe that they don't have a choice in third-party testing partners. The only major requirement is that the laboratory performing the testing is an OSHA-recognized NRTL. Consequently, our ETL Listed Mark serves as an indicator of compliance with applicable product safety standards.



What products bear the ETL Listed Mark?

Intertek provides product safety testing and certification for a wide range of industries. In our *Directory of Listed Products*, which is easily accessed at www.intertek-etlsemko.com, you'll find over 40,000 products from telephones to x-ray machines, manufactured by companies like AT&T, Dell, Ericsson, General Electric, Panasonic and Philips.



Do retailers accept products bearing the ETL Listed Mark?

Since we are an OSHA-recognized NRTL, and the ETL Listed Mark is a recognized and accepted indicator of product compliance, there is no reason why a retailer would not accept ETL Listed products. Major North American retailers — including JCPenney, Sears, Costco and Target — accept the ETL Listed Mark.

NORTH AMERICAN HEADQUARTERS

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This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

Applicant:	G.S. Blodgett Corporation	Manufacturer:	G.S. Blodgett Corporation
Address:	42 Allen Martin Drive Essex Junction, VT 05452	Address:	42 Allen Martin Drive Essex Junction, VT 05452
Country:	USA	Country:	USA
Party Authorized To Apply Mark:	Same as Manufacturer		
Report Issuing Office:	Intertek Mississauga, Mississauga, ON		

Control Number: 4000200 **Authorized by:** *John Hercoog*
 for L. Matthew Snyder, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

This Authorization to Mark is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Authorization to Mark. Only the Client is authorized to permit copying or distribution of this Authorization to Mark and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement and in this Authorization to Mark. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.

Intertek Testing Services NA Inc.
 545 East Algonquin Road, Arlington Heights, IL 60005
 Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

Commercial Electric Cooking Appliances [UL 197:2010 Ed.10+R:26Jan2018]	
Standard(s):	Commercial Cooking Appliances [CSA C22.2#109:2017 Ed.3] Recirculating Systems [UL 710B:2011 Ed.2+R:07Oct2021]
Product:	Commercial Deep Fat Fryers
Brand Name:	PerfectFry
Models:	PFC, PFA, SFC; followed by three characters.



The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Wednesday, June 12, 2024** at 12:15 a.m. Eastern Time. Please [contact NSF](#) to confirm the status of any Listing, report errors, or make suggestions.

Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information:

<http://info.nsf.org/Certified/food/Listings.asp?Company=19000&>

NSF/ANSI 4 Commercial Cooking, Rethermalization and Powered Hot Food Holding and Transport Equipment

Perfect Fry Company Ltd.

42 Allen Martin Drive

Essex Junction, VT 05452

United States

603-225-6684

[Visit this company's website \(http://www.perfectfry.com\)](http://www.perfectfry.com)

Facility : Essex Jct, VT

Fully-Automatic Fryer[1]

DSA(1)

PFA(1)

- [1] (1) Model designation will be followed by a 3 or 4 digit number to indicate different electronic configuration.
- (2) May or may not have the following suffixes, in any combination or multitude, added to the base model to indicate graphics and/or preset adjustments for specific customers:
A through Z and 0 through 9. Suffixes may or may not be separated from the base model by a dash (-) or slash (/).
- (3) May or may not have the following prefixes that define a customer order

specification, in any combination or multitude, added to the base model to indicate graphics and/or preset adjustments for specific customers: A through Z and 0 through

9. Prefixes are separated from the base model by a dash (-) or slash (/).

Semi-Automatic Fryer[1] [2]

DSE(1)

PFC(1)

SFC(1)

[1] (1) Model designation will be followed by a 3 or 4 digit number to indicate different electronic configuration.

(2) May or may not have the following suffixes, in any combination or multitude, added to

the base model to indicate graphics and/or preset adjustments for specific customers:

A through Z and 0 through 9. Suffixes may or may not be separated from the base model by a dash (-) or slash (/).

(3) May or may not have the following prefixes that define a customer order specification, in any combination or multitude, added to the base model to indicate graphics and/or preset adjustments for specific customers: A through Z and 0 through

9. Prefixes are separated from the base model by a dash (-) or slash (/).

[2] Models are Certified for marine applications.

Number of matching Manufacturers is 1

Number of matching Products is 5

Processing time was 0 seconds

NSF International

789 N. Dixboro Road, Ann Arbor, MI 48105 USA

RECOGNIZES

Perfect Fry Company Ltd.

Facility: Essex Jct, VT

AS COMPLYING WITH NSF/ANSI 4 AND ALL APPLICABLE REQUIREMENTS.
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE
AUTHORIZED TO BEAR THE NSF MARK.



ISO/IEC 17066
Product Certification Body
#0218

Certification Program
Accredited by the
American National
Standards Institute



Certification Program
Accredited by the
Standards Council
of Canada

This certificate is the property of NSF International and must be returned upon request. This certificate remains valid as long as this client has products in NSF's Official Listings for the referenced standards. For the most current and complete Listing information, please access NSF's website (www.nsf.org).

A handwritten signature in black ink, appearing to read "S. Krol", is written over a horizontal line.

March 14, 2019

Certificate# C0480154 - 01

Sarah Krol

Global Managing Director, Food Safety Product Certification

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)COMMERCIAL COOKING APPLIANCES - COMPONENT
(KNGT2)

Manufacturer:	SEE ADDENDUM FOR MANUFACTURER LOCATIONS
Applicant: (233692-001)	7495 (Party Site) GS Blodgett Corp 42 Allen Martin Dr Essex Junction VT 05452 US
Recognized Company: (100557-141)	669061 (Party Site) PERFECT FRY L L C 42 Allen Martin Dr Essex Junction VT 05452 US

Use of the Mark

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party. The UL Contracting Party for Follow-Up Services is listed in the addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

It is the responsibility of the Applicant, Manufacturer(s), and Recognized Company to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

Additional Responsibilities

Additional responsibilities, duties and requirements for the Applicant and Manufacturers are defined under Additional Resources at the following web-site: <http://www.ul.com/fus>. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the Follow-Up Service Terms referenced below, please contact UL's Customer Service at <http://www.ul.com/aboutul/locations/>, select a location and enter your request, or call the number listed for that location.

Acceptance of Follow-Up Services

The Applicant and the specified Manufacturer(s) and any Recognized Company in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable service agreement is a Global Services Agreement ("GSA"), the Applicant, the specified Manufacturer(s), and any Recognized Company will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of a) use of the prescribed UL Mark, b) acceptance of the factory inspection, or c) payment of the Follow-Up Service fees. The Service Agreement incorporates such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking the following link: <http://services.ul.com/fus-service-terms>. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

Use and Ownership of the Follow-Up Service Procedure

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the Applicant, the specified Manufacturer(s), and representatives of UL and is not

to be used for any other purpose. It is provided to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

Definition of Terms

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

No Third Party Liability

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

Certification Body

UL LLC has signed below solely in its capacity as the certification body to indicate that this Follow-Up Service Procedure fulfills the requirements for certification documentation issued by the certification body.

Bruce A. Mahrenholz
Director
Conformity Assessment Programs (CPO)
UL LLC

LOCATION

(233692-001) 7495 (Party Site)
GS Blodgett Corp
42 Allen Martin Dr
Essex Junction VT 05452 US
Factory ID: B
UL Contracting Party for above site is: UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L38384-11-82805102-2
Report Reference R38893-20150828
Date 4-Apr-2023

Issued to: CUSTOM FILTER L L C
2300 Raddant Rd, Suite 100 Aurora, IL 60502
United States

This is to certify that representative samples of AJZV - Filter Units, Air
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.


Standard(s) for Safety: UL 900, 8th Ed., Issue Date: 2015-04-21

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.


Deborah Jennings-Conner, VP Regulatory Services

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L38384-11-82805102-2
Report Reference R38893-20150828
Date 4-Apr-2023

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
2FR00701	Dry-type, throw-away air filter units, max. 1.75 in. depth

Deborah Jennings-Conner

Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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KNGT2.EX257375 Commercial Cooking Appliances - Component

[Page Bottom](#)

Commercial Cooking Appliances - Component

[See General Information for Commercial Cooking Appliances - Component](#)

PERFECT FRY L L C

EX257375

552-553 Rte 3A
Bow, NH 03304 USA

Automatic extinguisher units, Model(s) PFS, stored pressure type, containing 1000 ml. of potassium based wet chemical extinguishing agent designed to discharge the wet agent through fixed discharge nozzles for the extinguishment of Class B fires within a self contained commercial cooking appliance with integral ductless hood. The extinguisher unit is pressurized to 100 psig. (689 Kpa) at 70°F (21°C) and has an operating temperature range between 32°F (0°C) and 120°F (50°C). The Model PFS extinguisher unit operates automatically through the use of fusible links or manually through the use of the provided manual pull station. The intended application and installation limitations, as well as the inspection, maintenance and recharge instructions and outlined in the PFS Owner's Manual (p/n 6PT008) dated November 30, 2005.

Marking: Company name and model designation.

[Last Updated](#) on 2010-11-29

[Questions?](#)

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The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

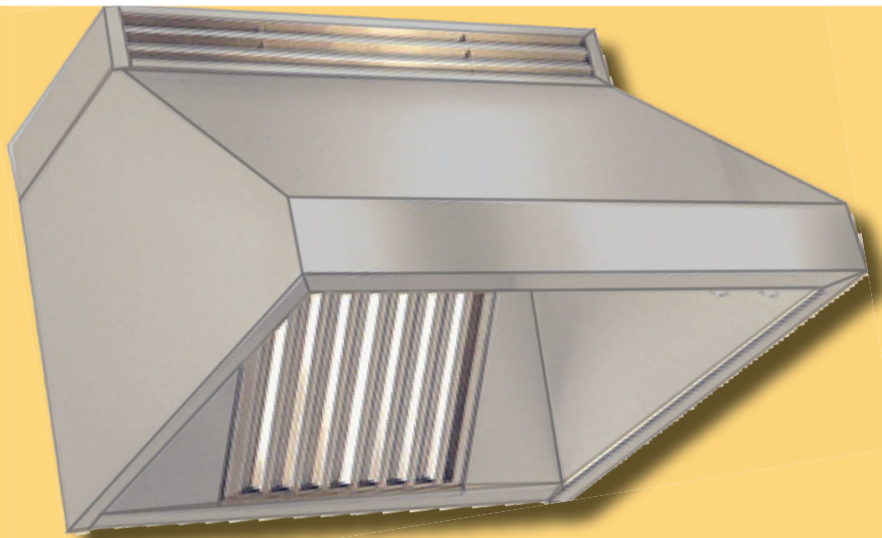
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The EPH Regulator

News and technical information for the Environmental and Public Health regulatory community.

Recirculating Hood Systems

By John Taecker and Jim Dingman



Recirculating hood systems, also referred to as “ductless hoods,” are being used in an ever-increasing number of commercial cooking applications such as deep-fat fryers and griddles.

These systems capture the cooking effluent from a cooking appliance, process the captured air through various filters and vent the filtered air back into the room where the appliance is located. These systems can be either portable or permanently installed, and include an integral fire extinguishing system to protect the hood system and appliance area. This article provides an overview of the UL Listing categories for these products, as well as an overview of the code requirements that address the installation, use and maintenance of these units

Recirculating hood system requirements were originally introduced in the 1994 edition of the National Fire Protection Association (NFPA) 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, and have subsequently been introduced in the International Fire Code (IFC), the International Mechanical Code (IMC), and the Uniform Mechanical Code (UMC). They were previously

investigated in accordance with requirements in UL 197, *Standard for Safety for Commercial Electric Cooking Appliances*. Requirements covering these appliances were later updated and moved to UL 710B, *Standard for Safety for Recirculating Systems*.

Recirculating hood systems are Listed for safety under two UL product categories. Complete, self-contained systems are Listed under “Commercial Cooking Appliances with Integral Recirculating Ventilation Systems” (KNKG). These systems include the cooking appliance, hood, and fire extinguishing system. Systems Listed under “Hoods/Recirculating Systems for Use with Specified Commercial Cooking Appliances” (YZCT) cover only the hood, recirculating and extinguishing systems. These systems have been investigated for use with a specific cooking appliance that is provided separately.

Regardless of the system, these products are intended for installation in accordance with

Section 904.11 of the IFC, Sections 501.2 and 507.1 of the IMC, and Section 516.0 of the UMC. They are also intended for installation in accordance with NFPA 96.

Both systems comply with the same construction and performance requirements. If the cooking appliance is provided separately, information on the recirculating hood label and in the instruction manual specifies the particular cooking appliances that have been investigated and found suitable for use with the recirculating hood system.

Although ductless and ducted hoods are similar with respect to many construction and electrical performance requirements, ductless hoods have additional requirements for the recirculating hood system and the fire extinguishing system.

continued on page 2

Recirculating Hood Systems *continued*

A recirculating hood system includes a fan, a collection hood and an air filtering system consisting of a grease filter. It may also incorporate other air filtering devices. An additional capture and emissions test, based on U.S. Environmental Protection Agency (EPA) Test Method 202, is conducted to ensure the emission of grease-laden effluent does not exceed an average of 5 mg/m³ during an eight-hour test cooking period. These systems incorporate an automatic fire extinguishing system that has been evaluated for the specific combination of the hood and the cooking appliances.

The fire extinguishment test criteria are similar to UL 300, "Standard for Safety Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment." However, it

is customized to recognize the retention limitations, and limitations of the heat production of the specific cooking appliance that is provided as part of the system.

Recirculating hood systems may also be Classified for sanitation to ANSI/NSF 2 "Food Service Equipment." These products can be found under the UL product category "Food Equipment" (TSQU). Products Classified under this standard are evaluated with respect to materials used in the design and construction of food, non-food, and splash zones. They must also comply with the performance requirements specified in this standard.

Hoods that have been Classified by UL to ANSI/NSF 2 will bear UL's EPH Mark in addition to any other UL Listing Mark.

As with all types of exhaust hoods, the operating instructions must be carefully reviewed for information regarding proper maintenance of the fire extinguishing system. The building design must also provide sufficient ventilation, and heating and cooling capacity for the intended installation.

Additional information on commercial cooking equipment can be found in UL's "Commercial Cooking Equipment Marking and Application Guide" at www.ul.com/regulators/CommercialCooking.pdf.

For more information about commercial cooking equipment, contact Jim Dingman in Northbrook, Ill., by phone at +1-847-664-1579 or by e-mail at: James.D.Dingman@us.ul.com

UL Launches New Certification Program for Bottled Water

Mark enables consumers of bottled water to effectively demonstrate third-party certification for product quality and safety

Underwriters Laboratories (UL) recently launched a new certification program for bottled water. This new program enables consumers of bottled water to choose brands that have been certified by UL to meet the Food and Drug Administration (FDA) and International Bottled Water Association (IBWA) requirements for quality and safety. This Mark will also enable producers of bottled water to differentiate and more effectively communicate their commitment to the quality and safety of their product.

The announcement of the new Certified Water Quality Mark demonstrates UL's continuing commitment and leadership in water quality.

In the summer of 2007, UL commissioned a blind market research study to quantify the value of the UL Mark among U.S. consumers of bottled water. The study found that in every tested scenario there was significant consumer preference for bottled water brands that carry the UL Mark, and that many consumers would switch brands or pay more to get the benefits of the UL Mark.

The UL Mark is one of the most widely recognized and trusted safety symbols in the world. Bottled water manufacturers who use UL's certification services can now very effectively communicate their commitment to the quality and safety of their products.

The UL Certified Water Quality Mark will first be available for bottled water products intended for distribution in the United States. Consumers can be assured that bottled water bearing the Mark is produced at plants audited by UL. Those audits are inclusive of the IBWA, Hazard Analysis and Critical Control Point (HACCP) and Good Manufacturing Practice (GMP) requirements. To date, UL has analyzed more than 1.5 million water samples for thousand of bottlers, public water supplies, engineering firms, consultants, and state and federal agencies, including the Environmental Protection Agency (EPA) and the U.S. military. UL's water laboratory is certified in 48 states and Puerto Rico, making it the most certified laboratory for bottled water analysis.

The introduction of the new Certified Water Quality Mark for bottled water is the latest in a series of milestones for UL's Water Program. In 2007, UL was awarded the IBWA Plant Inspection Contract, allowing UL to conduct unannounced annual third-party audits of bottled water plants for IBWA members and candidate members.

UL's water quality certification program is accredited in the United States and Canada. UL is a recognized certifier of water products and water testing by the EPA, and is an active participant on numerous national standards committees and industry task groups.

For more information on UL's classification Mark for bottled water or its certification services for drinking water treatment units, contact Dan Klaybor at 1-800-332-4345, ext. 45530, or Daniel.C.Klaybor@us.ul.com.



Section 507 Commercial Kitchen Hoods

507.1 General

Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or II and shall be designed to capture and contain cooking vapors and residues. A Type I or Type II hood shall be installed at or above *appliances* in accordance with Sections 507.2 and 507.3. Where any cooking *appliance* under a single hood requires a Type I hood, a Type I hood shall be installed. Where a Type II hood is required, a Type I or Type II hood shall be installed. Where a Type I hood is installed, the installation of the entire system, including the hood, ducts, exhaust *equipment* and *makeup air* system shall comply with the requirements of Sections 506, 507, 508 and 509.

Exceptions:

1. Factory-built commercial exhaust hoods that are *listed* and *labeled* in accordance with UL 710, and installed in accordance with Section 304.1, shall not be required to comply with Sections 507.1.5, 507.2.3, 507.2.5, 507.2.8, 507.3.1, 507.3.3, 507.4 and 507.5.
2. Factory-built commercial cooking recirculating systems that are *listed* and *labeled* in accordance with UL 710B, and installed in accordance with Section 304.1, shall not be required to comply with Sections 507.1.5, 507.2.3, 507.2.5, 507.2.8, 507.3.1, 507.3.3, 507.4 and 507.5. Spaces in which such systems are located shall be considered to be kitchens and shall be ventilated in accordance with Table 403.3.1.1. For the purpose of determining the floor area required to be ventilated, each individual *appliance* shall be considered as occupying not less than 100 square feet (9.3 m²).
3. Where cooking *appliances* are equipped with integral down-draft exhaust systems and such *appliances* and exhaust systems are *listed* and *labeled* for the application in accordance with NFPA 96, a hood shall not be required at or above them.
4. Smoker ovens with integral exhaust systems, provided that the *appliance* is installed in accordance with the manufacturer's installation instructions, is listed and tested for the application, and complies with Chapter 5.

507.1.1 Operation

Commercial kitchen exhaust hood systems shall operate during the cooking operation. The hood exhaust rate shall comply with the listing of the hood or shall comply with Section 507.5. The exhaust fan serving a Type I hood shall have automatic controls that will activate the fan when any *appliance* that requires such Type I hood is turned on, or a means of interlock shall be provided that will prevent operation of such *appliances* when the exhaust fan is not turned on. Where one or more temperature or radiant energy sensors are used to activate a Type I hood exhaust fan, the fan shall activate not more than 15 minutes after the first *appliance* served by that hood has been turned on. A method of interlock between an exhaust hood system and *appliances* equipped with standing pilot burners shall not cause the pilot burners to be extinguished. A method of interlock between an exhaust hood system and cooking *appliances* shall not involve or depend on any component of a re-extinguishing system.

The net exhaust volumes for hoods shall be permitted to be reduced during part-load cooking conditions, where engineered or *listed* multispeed or variable speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section. Reduced volumes shall not be below that required to maintain capture and removal of effluents from the idle cooking *appliances* that are operating in a standby mode.

507.1.1.1 Multiple Hoods Utilizing a Single Exhaust System

Where heat or radiant energy sensors are utilized in hood systems consisting of multiple hoods served by a single exhaust system, such sensors shall be provided in each hood. Sensors shall be capable of being accessed from the hood outlet or from a cleanout location.

507.1.2 Domestic Cooking Appliances Used for Commercial Purposes

Domestic cooking *appliances* utilized for commercial purposes shall be provided with Type I or Type II hoods as required for the type of *appliances* and processes in accordance with Sections 507.2 and 507.3. Domestic cooking *appliances* utilized for domestic cooking shall comply with Section 505.

507.1.3 Fuel-Burning Appliances

Where vented fuel-burning *appliances* are located in the same room or space as the hood, provisions shall be made to prevent the hood system from interfering with normal operation of the *appliance* vents.

507.1.4 Cleaning

A hood shall be designed to provide for thorough cleaning of the entire hood.

507.1.5 Exhaust Outlets

G.S. BLODGETT CORPORATION PERFORMANCE REPORT

SCOPE OF WORK

Performance – EPA 202 Emissions evaluation

PRODUCT: PFA 840 Deep Fat Fryer

REPORT NUMBER

104966086COL-001E

ISSUE DATE

23-FEB-2023

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DOCUMENT CONTROL NUMBER

GFT-OP-10h (6-July-2017)

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PERFORMANCE TEST REPORT

Client	G.S. Blodgett Corporation Stanley Sienko 42 Allen Martin Dr. Essex Junction, VT 05452
Project No.	G104966086
Product	Commercial Deep Fat Fryer
Model	PFA 840
Sample Identification Number	COL2212281301-001
Date Received	12/28/2022
Condition	Prototype
Evaluation Date(s)	2/13/2023
Report Number	104966086COL-001E
Report Date	2/23/2023
Standard	EPA Test Method 202 - Condensable Particulate Matter (Revised 12/1/2010) per UL 710B Standard for Recirculating Systems section 59

Report Parameters		
Product Cooked	3/8" Straight Cut French Fries	95 lbs Total
Cook Time	8:00	Minutes
Average Stack Velocity	29.10	Ft/s
Sample Volume	8.501 (300.189)	m³ (ft³)
Emissions Results	2.00	mg/m³

Test Setup:

The test sampling equipment was set up with the measurement site located 10 ft upstream the nearest disturbance (minimum 2 ft) and 3 ft downstream the nearest disturbance (minimum 0.5 ft) per EPA 202. The glassware used in the sampling procedure was prepared via the baking option of EPA Test Method 202 at a temperature of 300°C for 6 hours. The test was run for a duration of 8 hours using 8 total traverse points (2 ports, 4 traverse points each). Each traverse point was sampled for 1 hour respectively. A prior to and post-evaluation leak check was performed and found to have a leak rate of less than 0.02 ft³/min.

Test Procedure:

The deep fat fryer model PFA 840 was set up for EPA 202 testing on 7/26/2022 before the EPA 202 test. The cook product used for the duration of the testing were 3/8" straight cut frozen French fries. It was determined during the capture test for UL 710B that the following recipe was sufficient to overcook the product:

Oil Temperature = 374°F (maximum allowable set temperature)

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PERFORMANCE TEST REPORT

Cook Time = 8 minutes

The fries were loaded and unloaded from the cooking appliance continuously throughout the duration of the 8 hour test. During the 8 hour test, there was no instance where a cooking cycle was run without any fries in the frying chamber. A total of 95 pounds of French fries were cooked throughout the duration of the test.

Test Recovery:

Following the completion of the test run, the test data was collected from the sampling program and the post-evaluation leak check was performed. The probe and glassware were subsequently recovered per EPA Test Method 202.

Performance Results:

Once the recovery procedure was completed, the necessary calculations were made per EPA 202 to determine the final result for grease laden effluent captured. The total amount of grease-laden effluent collected by the sampling train was found to be 2.00 mg/m³, which would constitute a pass in accordance with UL 710B.

Test Performed by:



T. Kennedy
Project Engineer
23-Feb-2023

Report Approved by:



M. Lindeman
Director of Operations
23-Feb-2023

PERFORMANCE TEST REPORT

Photographs:



Test Setup

PERFORMANCE TEST REPORT



Finished Cook Product



Food Product Used

PERFORMANCE TEST REPORT



Pre-Loaded Cook Product