



2022

# Hot Topics

Helping You Protect Lives And Property

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## The Importance of Class K Fire Extinguishers for Restaurants

According to a 2017 report from the National Fire Protection Association (NFPA), fire departments respond to over 7,000 restaurants and bar fires every year<sup>1</sup>. Although the cooking equipment is the leading cause of those fires, 7 out of 10 did not spread beyond the place of fire origin. The NFPA restaurant standard, NFPA 96, requires both a kitchen system and Class K extinguishers for the cooking areas. A logical conclusion is that the kitchen systems and the extinguishers are doing a good job of protecting employees and patrons and keeping property losses to a minimum. Here is what you need to know regarding the Class K extinguishers that are installed as a backup to the restaurant system.

Class K fire extinguishers are intended for installation in restaurants and other buildings with commercial cooking operations, like office buildings, schools, and universities with cafeterias. This type of extinguisher is specifically designed for fires in cooking appliances where oil is used as the cooking medium. Class K extinguishers are required to be installed by state fire codes across the country. There are no substitutes. Only Class K extinguishers are permitted for this application.



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# Put a **FREEZE** on Winter Holiday Fires

It's fun to decorate for the winter holidays, but holiday decorations can increase your risk for a home fire. As you deck the halls this season, be fire smart.



**Half** of the home decoration fires in December are started by candles.



**More than 1/3** of home decoration fires are started by candles.



**Christmas** is the peak day for candle fires.



Keep candles at least **12 inches** away from anything that burns.



A dry Christmas tree can burn very hot and very fast.



**More than 1 in every 5** Christmas tree fires were caused by a heat source too close to the tree.



Read manufacturer's instructions for the number of light strands to connect.



Make sure your tree is **at least 3 feet away** from heat sources like fireplaces, radiators, space heaters, candles or heat vents. Also, make sure your tree does not block exits.



Get rid of your tree after Christmas or when it is dry.



For more information on how to prevent winter fires, visit [usfa.fema.gov/prevention/outreach/holiday.html](https://usfa.fema.gov/prevention/outreach/holiday.html) and [nfa.org/winter](https://nfa.org/winter).

# The Importance of Class K Fire Extinguishers for Restaurants



## Class K Extinguishing Agent

The agent in a Class K extinguisher is called “wet chemical”. When discharged during a fire, a foam is formed that extinguishes oil fires by smothering (eliminating contact with air). Interestingly, it is the same agent as used in the restaurant extinguishing system. The agent is discharged from the extinguisher through a special nozzle that creates a fine mist spray that gently lands on the surface of a grease fire without splashing. Although the agent contains about 98% water, there is a special additive that chemically reacts with the fat in the cooking oil to create a thick foam blanket that floats on the surface of the oil.

## How Class K Extinguishers Work

Unlike conventional extinguishers that typically require a sweeping action, the thick foam blanket is created almost instantaneously when the mist spray hits the oil surface. Since it is floating on the surface of the oil, it naturally spreads across the top of the oil. This action suffocates the fire, meaning that the oil vapors cannot reach the air and continue burning. On the other hand, upon extinguishment, the oil temperature is still elevated and will spontaneously ignite if exposed to air. Therefore, it is extremely important that the foam blanket be left undisturbed until the oil has a chance to cool.

## Minimum Number of Class K Extinguishers

Every commercial kitchen that uses oil as a cooking medium must have at least one Class K extinguisher. But many larger kitchens must have more than one. That is because the maximum travel distance from the cooking appliance hazards to a Class K extinguisher cannot exceed 30 ft. Other factors that will drive the need for more extinguishers are visibility, accessibility, and cooking area appliance locations. Since life safety is paramount, technicians will often install multiple Class K extinguishers in strategic locations based on safety considerations and discussions with owners and restaurant managers.

## Class K Extinguisher Placards

It is necessary to have both extinguishers and a fire system for every commercial cooking operation that uses oil as a cooking medium. A placard is required to be installed at each Class K extinguisher to inform the kitchen staff that the extinguisher is only to be used after the suppression system has been discharged. This is important because the system has an interlock that automatically shuts down the heat sources in the appliances.



BL189 - Typical Class K Extinguisher Placard Required by Code

## Employee Safety Training

The local state fire code requires restaurant employees be provided with instructions on the use of extinguishers and operation of the hood system. Not only is training required upon initial hiring of new employees, training is also required on an annual basis for all kitchen staff.

Onsite instructions often include a walkthrough of the cooking area. As a minimum, this includes identification of each pull station for the kitchen system, Class K extinguishers, and the accompanying extinguisher placards. Once these safety features are identified, kitchen staff need introductory and annual instructions on the following:

- How to manually operate the hood system to shut off heat sources and extinguish a fire
- How to notify the fire department in the event of a fire emergency
- How to effectively evacuate employees and patrons in the event of a fire emergency
- How to operate and use a Class K fire extinguisher as a backup to the hood system

Your customers with restaurants and cafeterias will appreciate that you know so much about Class K extinguishers that are installed to protect their operations. They will also appreciate your insights on how Class K extinguishers work and what their employees need to know regarding fire safety. So, the next time you make a service call at a commercial kitchen, take time to catch up with the manager to talk about safety. You might also want to leave a copy of this article for future reference and as a safety reminder. ♦

<sup>1</sup>Structure Fires in Eating and Drinking Establishments, Richard Campbell, February 2017, National Fire Protection Association, <https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-life-safety/oseating.pdf>



# Extinguisher Safety Checks

According to NFPA 10 and OSHA 1910.157(e)(2), your customers are expected to check their extinguishers at least monthly. They should contact you if any of the following checks reveal a problem.



- Check that extinguisher hangers are securely anchored.
- Check that break-glass panels have hammers or breaker bars.
- Check that extinguisher signs are provided unless extinguisher locations are obvious.
- Check that extinguishers are not empty by lifting them.
- Check that plastic seals in ring pins are not broken.
- Check that extinguisher gauges are in the green zone.
- Check extinguisher gauges for damage, such as cracked or smoked lenses.

It is dangerous to leave an extinguisher and associated equipment in a derelict condition. Consider sharing this checklist with your customers and make sure they know to call you if they discover a problem. Better yet, offer to do the monthly safety checks for them. Your team is trained for that! ♦

## Employee Spotlight

### Meet Junior Briones, International Sales Development

After graduating from Belmont Abbey College in 2008, armed with a BA in International Business, Junior joined the Exports Department at Brooks. In August 2013, he left Brooks to earn a Master's Degree in International Development in the UK. Eventually moving back to Charlotte, Junior rejoined Brooks in August 2022 with a position in International Sales Development.

Responsible for developing business opportunities and relationships internationally, Junior serves and manages Brooks' international clientele, ensuring their every need is looked after. Working at Brooks now "is like returning home," says Junior. He has great memories from previous years of employment and service to customers. He again gets to work with colleagues and customers he has come to know and respect.

Junior's motto in life is "don't let the mule of your mind ride on the back of your spirit." The gist of which is "let your spirit guide the mind in all that you do." He's also fond of treating others as he would like to be treated. And to help achieve these adages, he works hard to maintain his

physical and mental health through exercise, reading, and eating well.

His most favorite place on the planet happens to be Venice Italy, which he visits as much as possible. He never gets tired of it either. Speaking of favorites, his top two palatable choices have to be Ceviche and good steaks.

When not at work, Junior spends a lot of time with his wife, Mariana, and his four sons (Leo 2, Elias 3, Virgilio Emanuel 4, and Joshua 15). He coaches and plays soccer and loves deep-sea fishing. And something very few know about Junior, is that he spent a lot of time working with Indian tribes in the Amazon rainforest of South America, where he participated in many native medicinal rituals and ceremonies. ♦





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## Troubleshooting the Cause of Continuous Flow from the Relief Valve of a Reduced Pressure (RP) Backflow Prevention Assembly

One common cause of failure of a backflow prevention assembly is due to it being installed without first flushing out the piping. Another cause of failure is simply an old water supply network that delivers dirty water with debris in it. It is called a “failure” of the assembly because there is not supposed to be continuous flow of water from the relief valve. You will need to perform troubleshooting to identify the problem component(s), remove the debris, replace any worn or damaged parts, and then test the assembly to ensure you have solved the problem and the RP assembly is working properly. If a customer reports continuous discharge at the relief valve, here are the potential locations of debris that could be causing this type of failure.

Obviously, one of the main causes of continuous flow from the relief valve is debris in the first check, second check, or the relief valve typically holding one or more of the two checks in a slightly open position. If the water system is in a static condition (no flow), and one of these checks is allowing flow, there is likely debris at the seat of a check that must be removed. You know this because the springs in the first check and the second check are intended to hold the discs tightly against the seats. This ensures that no water can flow past these checks. Therefore, if there is

continuous flow from the relief valve, there is likely foreign matter fouling one or both checks and not allowing proper sealing to occur. The following information will help you to efficiently identify the location(s) of the debris, correct the problem, and place the assembly back into service.

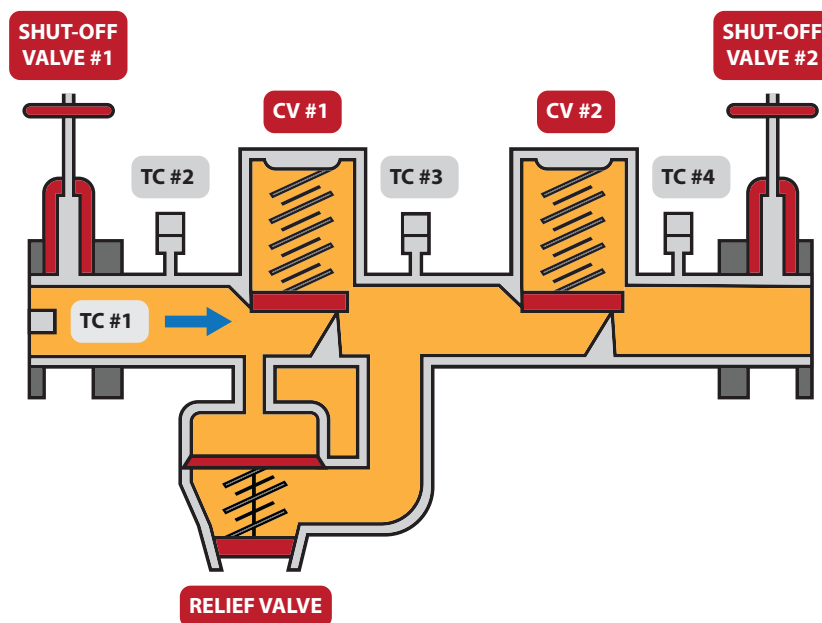
### Report of a Leaking Relief Valve

Let's say you have been called to a customer's property because there is a report of a leaking relief valve. The first step is to close the Shutoff Valve #2. Once the valve has been closed completely and the flow of water from the relief valve stops, this provides an indication of the following conditions:

- The relief valve is working properly.
- The first check (CV#1) is working properly.
- Shutoff Valve #2 is most likely providing a tight seal.
- Therefore, the issue is probably debris that is fouling the second check, causing the relief to open with back pressure.

The corrective action is to open the second check, remove debris, clean the disc and seat, and replace components that may show signs of damage or wear.

### Reduced Pressure Backflow Prevention Device (RP)





## Simulate Flow

Keep the Shutoff Valve #2 closed. If the relief valve continues to flow, the problem could be either the first check or the relief valve. Now open TC#4. This will simulate a flowing condition through the backflow assembly. Opening TC#4 causes CV#1 and CV#2 to open due to the flow of water out of TC#4. During this flowing condition, if water stops flowing from the relief valve, the problem is with the first check. The corrective action is to open the first check, remove debris, clean the disc and seat, and replace components that may show signs of damage or wear.

On the other hand, if the relief valve continues to leak, then the problem is not CV#1 or CV#2. These two checks are eliminated as possible problems because both are allowing flow of water, as indicated by flow out of TC#4. The relief valve will show leakage if there is debris holding the relief valve open. Servicing of the relief valve is necessary, including removing debris, and cleaning the valve disc and seat and replacing any worn or damaged parts.

## Conclusion

Troubleshooting enables you to identify the problem valve(s). Cleaning the valve(s) of debris is most often the solution. That is because RPs purchased from Brooks are all pre-tested by the manufacturer to ensure they are functioning correctly. Once installed, they must be re-tested to ensure that they are operational. Piping should be flushed prior to installation. Any debris that is introduced to an RP

assembly occurs due to either the piping at the jobsite not being flushed or the water supply network is delivering contaminated water with debris in it.

**“Chronologically eliminating potential problems with the RP assembly will allow you to identify the source of the relief valve flow and apply the appropriate fix.”**

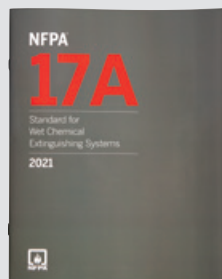
Testing is now necessary. Every time you perform troubleshooting and repair a reduced pressure backflow prevention device, it is imperative that you also perform a certified backflow prevention test to confirm that the device is working properly. This information is also required for the backflow preventer assembly inspection and maintenance report form that you must fill out upon completion of the work.

Troubleshooting is a process of discovery. Chronologically eliminating potential problems with the RP assembly will allow you to identify the source of the relief valve flow and apply the appropriate fix. Your knowledge of these troubleshooting steps helps you maintain your good reputation while saving your customer money, due to an efficient troubleshooting analysis. ♦

## Legislation & Code

# Brooks Tracks Legislation and NFPA Standards Development

Michigan – Senate Bill 1204 was filed on October 13. This proposed legislation amends Michigan’s Skilled Trades Regulation Act by establishing fire sprinkler fitter’s licensing requirements. The bill was referred to the Committee on Regulatory Reform. FEMA sent a letter recommending clarification that the requirements do not apply to pre-engineered systems.



NFPA 96 – The technical committee responsible for restaurant and commercial cooking fire safety held their final meeting, by teleconference, on September 15. A major change to the standard is updating the propane requirements for food trucks to match NFPA 58. The next edition of the standard becomes available in the fall of 2023.

NFPA 17 and 17A – Although there were no public comments on the first drafts of NFPA 17 and 17A, there was a teleconference meeting on November 18 to finalize the revisions. The next edition of those two standards will also be available in the fall of 2023. ♦

## Alarming Quality!

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