

Frequently Asked Questions

about Kitchen
Fire Suppression



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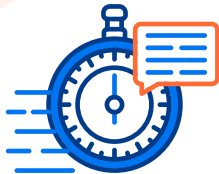
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KitchenShield FAQs

KitchenShield from Sensetech Systems is the worlds fastest growing kitchen fire suppression system and has many unique selling points over competitive systems, such as:

- ✓ Highly competitive pricing due to highly efficient manufacturing and distribution processes.
- ✓ Full international approvals to UL 300 | LPS 1223 | EN 16282 | EN 17446
- ✓ Simplistic in design
- ✓ Quicker to install
- ✓ Easier to maintain
- ✓ Less stringent parameters meaning more flexible installs
- ✓ Most cost effective and approved overlapping solution to UL 300
- ✓ Affordable and uncomplicated scaling of system where multiple extraction hoods are fitted.
- ✓ Proven anti-vibration technology on mechanical release mechanism suitable for mobile catering or kitchen container hire
- ✓ 5-year warranty as standard

Why Sensetech?



Rapid response to all enquiries



Fast turnaround on all site surveys/designs/quotes and account handling



The best installers in the UK



5-year warranty on system and installation



**APPROVED
TO UL 300***

**APPROVED
TO LPS 1223**

**MEETS
EN 17446**

**MEETS
NFPA 17A & 96**

**MEETS
EN 16282**



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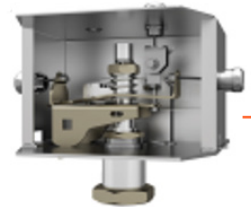
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Fusible Link Hanger



**EMT
Corner
Pulley**

MRM®



Nozzle



**Wet
Chemical
Cylinder**



**KitchenShield
500S and
500S+**



**Manual Pull
Station**



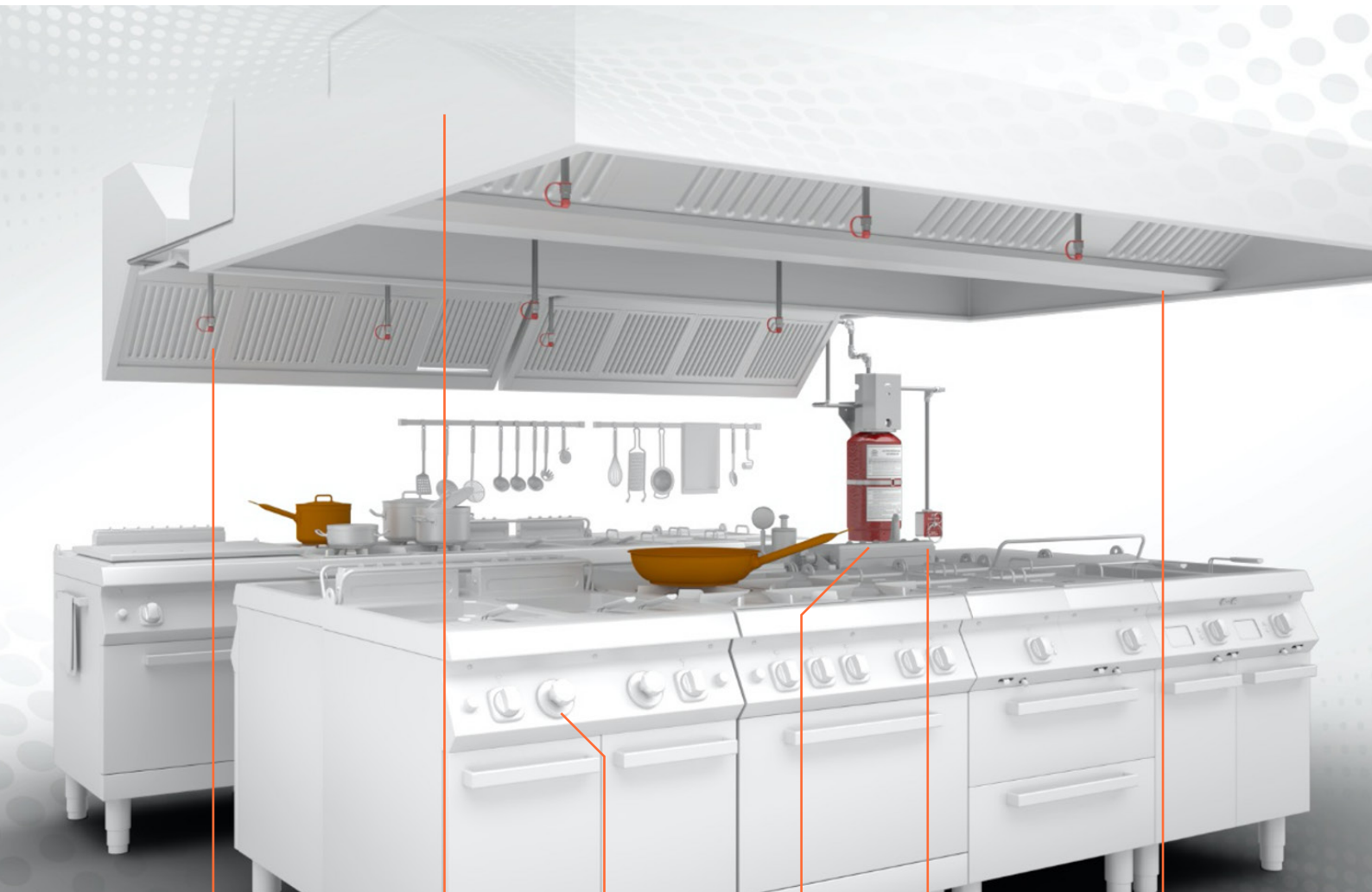
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KitchenShield
Nozzles

Grease
Extraction
Canopy

Manual
Activation

Grease
Filters

KitchenShield
Tank and MRM

Cooking
Appliances



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KitchenShield FAQs

Welcome to KitchenShield, brought to you by Sensetech Specialist Systems.

Q1. What is a kitchen fire suppression system (KFSS)?

A. A KFSS is a fixed fire protection system which is fitted within the grease extraction system and over open cooking appliances which produce grease laden vapours in commercial kitchens.

Q2. What is the purpose of a KFSS?

A. The purpose of a KFSS is to both detect and suppress a fire, should it break out, on a commercial cookline installed beneath a suitable grease extraction canopy.

Q3. What type of KFSS does Sensetech supply and install?

A. Sensetech are official authorised UK partners of the acclaimed KitchenShield system.

Q4. Do I need to provide power or water supplies for the KitchenShield system?

A. The system is a stand-alone, self contained and fully mechanical system. Only if you require fuel and fresh air shut-downs will a power supply be necessary.

Q5. How do fires break out on commercial cooklines?

A. There are various ways in which this can happen, generally this is either down to appliance failure such as a thermostat failing and cooking oils continuing to heat to "auto ignition" temperature (circa 360 degrees F or 182 degrees C) Or human error, such as overfilled pans, unattended cooking etc.

Q6. How does the KitchenShield system operate should a fire break out?

A. In order to comply with LPS 1223 the system must be equipped to initiate both manually and automatically. A continuous tensioned cable is attached to the mechanical actuation of the system

which passes above the appliances and through the plenum area of the extraction canopy. Every time the cable passes over an appliance which we are protecting, we install a fusible link. The solder is set to melt at a given temperature (commonly 365 degrees F/182 degrees C). So when a fire breaks out below, the flames are drawn into the canopy by the extraction, and past the fusible link which melts. The tension is then released which initiates the system. Alternatively, the KitchenShield system has a manual override, so in the event of a fire breaking out, the manual pull, which is a slack cable, can be pulled and the system is also initiated. This can be utilised earlier into the stages of a fire reducing the intensity of the fire, the smoke and gases.

Q7. What is the extinguishing media used in the KitchenShield to suppress the fire?

A. Wet Chemical which is a watery solution with a high level of potassium. The potassium reacts with the fats, oils and greases (FOGs) and creates a crust, called saponification, which starves the fuel of oxygen to prevent re-ignition. Wet Chemical is specifically designed for fires involving cooking oils and is the most suitable product for use in fixed kitchen fire suppression systems.

Q8. Why is the KitchenShield system called a suppression system and not an extinguishing system?

A. In order to extinguish a fire, not only must the fire be suppressed, but the possibility of re-ignition must also be removed. A fixed fire suppression system cannot guarantee extinguishment fully unless certain other processes are completed such as shutting down fuel supplies (gas & electric) and fresh air supplies, whilst maintaining the extraction to remove toxic gases and smoke. The extent that you are required to go will be determined by whoever has recommended the system be installed, but our surveyors can advise on the best course of action.



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Q9. How can I shut the fuel sources and fresh air down if my KitchenShield system activates?

A. When installing a KitchenShield system, gas interlocks and fuse boards can be connected via our remote relay controllers (either 500S & 500S+) which automatically trigger both the shutdowns and fire alarm, or just the fire alarm. A 500S will initiate the fire alarm only and requires no mains power. A 500S+ will shutdown the gas, electrics and fresh air supplies, also the fire alarm can be initiated. For the 500S+ a dedicated 13 amp non switched fused spur will be required plus links to the interlock and fuse boards.

Q10. Is it mandatory to sound the fire alarm and shut down fuel and fresh air supplies?

This is an area where there is still a great deal of interpretation in the UK. The best way to answer the question is to give an example of what happens when a fire occurs. Therefore, say for example the thermostat fails on a fryer. The oil heats up to auto-ignition point and ignites. At this point the system can be activated using the manual release, or the detection will activate after a period of time as the fire intensifies. Assuming the system is maintained and cooking equipment is correctly situated, the fire will be suppressed. If the fryer's fuel source is not shutdown at this point, post activation, the oil will continue to heat up under the protective saponification layer eventually boiling and breaking the seal. This will introduce oxygen to the oil which is now above auto ignition and therefore will ignite again, however, there is no protection in place as the system has already discharged. Therefore, we would always recommend that fire alarms and fuel shutdowns are installed, and we would ask that you request clarification from whoever it is who is recommending the system is installed and to what approval/standard they wish to meet. These are always better arranged by yourselves due to costs and protocol of the fire alarms, although we will guide you through the entire process.

Q11. How big is the KitchenShield system?

A. Generally, the more common systems are no bigger than a large fire extinguisher and are generally mounted out of the way, whilst remaining accessible for on-going maintenance.

Q12. Does the KitchenShield system have stainless steel covers around the cylinders?

A. The MRM which sits on the neck valve of the cylinder has a stainless-steel cover as standard to avoid tampering, we do also offer stainless steel covers which hide the cylinders from view where needed, however we would advise that tanks are on view where possible. This is to ensure that the system is not overlooked and forgotten when it blends into the kitchen and therefore misses extremely important maintenance.

Q13. Are KitchenShield systems expensive?

A. It greatly depends on what your set up consists of, size of the extraction system, the number of extract spigots, the number and size of cooking appliances which we need to protect, the average cost is circa £3.5 - £4.5K.

Q14. Does the extinguishant used in the KitchenShield system damage surfaces and appliances?

A. As the KitchenShield wet chemical is a high potassium water based solution, then prolonged contact with certain surfaces and electrics can lead to corrosion. Therefore, once a system has activated and the fire service have given the all clear, a deep clean should be completed ensuring the clean pays attention to the extraction canopy, grease traps and any cooking oils are disposed of and replaced with new. At the same point contact Sensetech to arrange a system flush and recharge. In addition your catering service company should be called to check over all appliances, initially to ensure that the fire was not caused by a malfunction, secondly to ensure all appliances are cleaned and free from issue.



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Q15. What is the benefit from having a KitchenShield system fitted?

A. The first and obvious answer is that should a fire break out, if you have a fully approved KitchenShield system installed, then the KitchenShield will react quickly in automatic mode, or can be overridden in manual mode to efficiently deal with the breakout of fire. Once you have established what caused the fire, had it addressed, recharged the system, and had a clean down...you will be ready to reconvene service. Compare the cost of initial installation against a serious fire without a KitchenShield system which would bring about temporary closure, loss of clients, loss of staff and loss of revenue, awaiting insurance payout with no guarantees. Most businesses who suffer a major fire never recover and reopen.

B. Then there is a real possibility if you have been identified as requiring a system fitting, then you may not be able to get insurance without one, or you may be subject to increased premiums.

Q16. Am I legally obliged to have a KitchenShield system fitted?

A. No, it is not a legal requirement in the UK to have KFSS fitted in commercial kitchens. However certain circumstances may dictate the need to have KFSS fitted. For example, if the commercial kitchen is attached to a sleeping risk, or where evacuation of those with mobility issues can increase the time required for safe escape. Additionally, where kitchens are open to restaurants or other areas within a complex or shopping centre, the landlord may well insist a KFSS is installed. It's also likely if your property is a listed building that KFSS will be required to satisfy insurance requirements.

Q17. How do I decide which system to fit and where can I research the different manufacturers and systems?

A. When researching, you should consider several factors the most important being "is the system

approved?" So, when looking at different systems ensure at the very least the system is compliant to LPS 1223 (LPCB Loss Prevention Certification Board) you can check the system or manufacturer at Red Book Live - <https://www.redbooklive.com/>

In the United States where KFSS is mandatory, the approval required is UL300 (Underwriters Laboratories) UL 300 is considered a more robust approval than LPS 1223 as the fire testing is more rigorous and harder to achieve for manufacturers and therefore the systems which are compliant to UL300 are considered a better choice as they give greater protection. In recent years a new approval has been launched to attempt to increase the standard of KFSS systems, this was initially EN 16282, but more recently a new standard has been released which mirrors the UL 300 standard, this new standard is EN 17446 and ensures you receive a system which is fit for purpose and can be connected to shut downs and fire alarms as required.

Q18. What approvals does the KitchenShield system meet?

A. KitchenShield holds full international approvals, it is UL 300 / LPS 1223 / EN 16282 & EN 17446.

Q19. Can any fire company fit KitchenShield systems?

A. No, any fire company fitting these systems must be authorised by the manufacturer to ensure they are trained correctly and are able to stock and supply parts for on-going maintenance, recharge and repair. When choosing an installer, be sure to request a copy of their certificate of authorisation, if you are unsure consult your insurance broker, or contact the manufacturer direct. If you use non-authorised installers, you run the risk of sub-standard workmanship with non-authentic parts and of voiding your insurance should you suffer loss through a fire incident. Sensetech are the UK officially authorised installers and maintainers.



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Q20. How long do KitchenShield systems take to fit?

A. Generally based on a common size kitchen featuring a wall type canopy with fryers, range, grill and griddle, the KitchenShield system would take approximately 6-8 hours depending on system type.

Q21. Do I need to close my kitchen whilst the KitchenShield system is installed?

A. Unless your Kitchen operates 24/7 then the answer is no! Sensetech will work around your kitchen service to ensure your trade is not impacted. Sometimes where larger or multiple systems are required, additional shifts may be required.

Q22. Do KitchenShield systems protect the whole kitchen?

A. No, all KFSS systems are specifically designed to protect the immediate high-risk area underneath the extraction canopy, up into the extract canopy itself and into the extract ductwork, so any cooking appliances not under the extraction canopy cannot be protected.

Q23. If I often move my cooking appliances around to enable menu changes, will I still be protected by KitchenShield?

A. If you intend on moving appliances, then you must make this known to the surveyor as you will require an "overlapping" system. This would increase the system size; however, it will mean your cookline is future proofed as the system will be installed to cover the entire hazard area under the extraction canopy as opposed to where appliances are located only, this is called "appliance specific."

Q24. How much more expensive is an overlapping KitchenShield system against an appliance specific KitchenShield system?

A. The increase in cost is negligible compared to other systems. KitchenShield has a fully approved solution for overlapping coverage, we can offer both solutions so you can compare.

Q25. How long from point of enquiry can I expect before the system can be installed?

A. If the site is a new build, then generally we would be the last trade in before the deep clean is completed as we will need everything fitted and all kitchen appliances in their final operating positions. If its an existing kitchen then often these can be turned around very quickly, but often a date will be agreed by which time the system can be completed.

Q26. What sort of kitchens will KitchenShield be fitted into?

A. Any commercial kitchen which contains open cooking appliances which produce grease laden vapours, are installed according to catering regulations and are fitted directly under a compliant extraction canopy.

Q27. What if I have more than one extraction canopy and separate cooklines in the same kitchen?

A. The KitchenShield is simplistically scalable and can protect multiple risks within the same kitchen. If the extraction canopies are all common (meaning they all extract into one single common duct before reaching fresh air) then we will link all systems together ensuring all systems will activate simultaneously in the event of a fire. This may sound dramatic but is necessary to ensure all traces of fire are completely eradicated. If the separate extract canopies all extract to fresh air separately then each canopy will have a standalone KitchenShield system which will operate independently. These separate systems can be identified by signage to ensure the correct system is activated if manual activation is opted for.



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Q28. Does the system need maintaining after installation?

A. Yes, in order to ensure the system is serviceable it must be maintained bi-annually. Certain components must be replaced regularly as they become clogged or coated in grease and residues from the cooking process. Maintenance also ensures the 5 year warranty remains valid.

Q29. How long will the system last?

A. If the system is maintained and certain items which are subject to harsh conditions are monitored or repaired/replaced as required, then the system will last indefinitely. However, at every ten-year point, any part of the system which is subject to pressure, such as the tank, must be replaced along with the wet chemical. Normally this is done as a straight swap with new which is the most economically viable option.



If you have any further questions, please email kitchenshield@sensetechsystems.co.uk for a quick response.



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