Falcon

FRYER ANGEL

Making Kitchen Fires a Thing of the Past

FRYER ANGEL

The Fryer Angel™ is an integrated safety system that removes the risk to kitchen staff, customers and the general public, while also stopping any direct damage to equipment, premises and surrounding facilities.

Fire Safety Issues in Commercial Kitchens

Figures show that the fire service in Great Britain attended over 33,000 fires in industrial and commercial buildings in the last 3 years[1]. The impact of a major fire can be something that many businesses never recover from.

According to the London Fire Brigade 44% of restaurant fires were caused by either faulty or misused catering equipment[3] and catering facilities are in the top 6 most common causes of fires in the UK.

Fire needs fuel, heat and oxygen to ignite and then to become established. So it's no surprise that commercial kitchen environments are highly hazardous.
Some of the hazards are obvious like overheating oil, which could easily occur in a hectic kitchen environment.
In England the fire service was called out to a commercial building fire where the direct cause of the fire was a fryer on average 400 times per year[4], 10% of which involved human injury or death. 75% of these fires involved damage to the fryer itself, the kitchen, the whole building or adjacent facilities.

Existing Solutions

Currently there are a number of systems in the marketplace (such as fire suppression systems and extinguishers) that are designed to put out fires after they have started, but doing nothing to prevent fires starting in the first place.

With a fire suppression system a fire has to be taking place before it leaps into action, increasing the danger for everyone present. The suppression system then uses foam or water to extinguish the fire but the resulting smoke, foam and oil overspill can cause damage and lots of mess, resulting in significant kitchen downtime and cleanup costs.
While the prevention of fires is paramount, the prevention of flare ups, which is a common occurrence, is also of crucial importance.
Flare ups can damage the appliance, lead to the interruption of service, with costly repairs and often the need for replacement units. That's not to mention potential injuries to the operator and other kitchen personnel.

How do these fires and flare ups happen? The most common reasons are simple - operator error / misuse and low oil levels.

Falcon takes their duty of care very seriously and have recognised the need to provide additional solutions to significantly reduce the risk of fire in commercial kitchens. To this end Falcon have developed a patented solution that prevents fires and flare ups starting in the first place – The Fryer Angel™. This is done automatically without relying on any input from kitchen staff.

Employer's Duty of Care

Kitchen operators have a moral and legal obligation to their staff and customers to use the safest equipment available.

To help prevent fire in the workplace, an employer must conduct a risk assessment which should identify what could cause a fire to start, ie sources of ignition (heat or sparks) and substances that burn, and the people who may be at risk.

Once any risks have been identified, appropriate action can be taken to control them. Consider whether they can be avoided altogether or, if this is not possible, how to reduce the risks and manage them. A prime example of this would be where possible using the safest and most practical technology and solutions available. Consideration of how to protect people if there is a fire is also necessary.

How Does the Fryer Angel™ Work?

The Fryer Angel™ system consists of a sensor (circled) located in the fryer tank (inserted at the point of manufacture) that detects the level of oil at two different points in the tank. This allows the operator to be alerted when the oil level has fallen below the recommended level (top up level on sensor), well in advance of the critical level (low point on sensor), at which point the Fryer Angel™ will activate and switch the fryer off automatically.

If the fryer is turned on without the minimum level of oil present then the Fryer Angel™ will react instantaneously, not allowing the heating system to operate until oil is returned to a sufficient level.
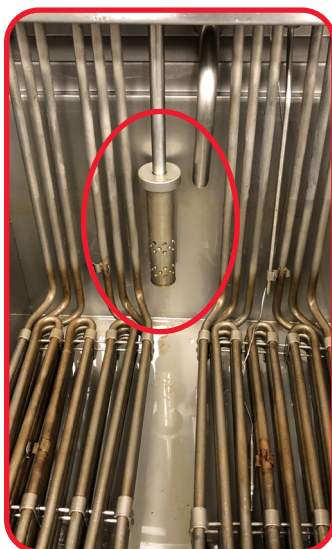
Fryer Angel Animation
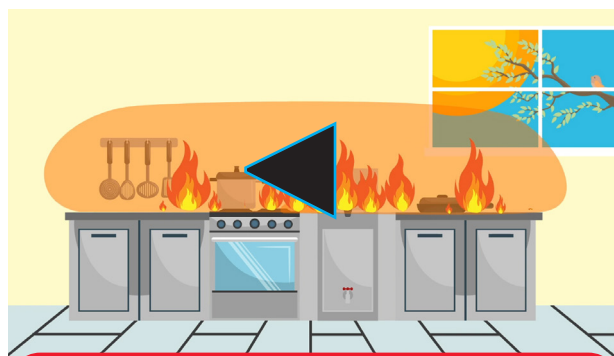
Click on the video above to watch our animation showing how the Fryer Angel™ can protect your kitchen

Third Party Verification & Testing

After significant in-house and field testing, gas and electric fryers with Fryer Angel™ technology fitted were sent to KIWA, a world-leading independent testing, inspection and certification body. They subjected the appliances to extensive functional testing, such as physical abuse tests on the sensor and accelerated ageing tests.

"The functionality of the Falcon Fryer Angel™ was maintained under all test conditions ... the sensor will prevent burner ignition sequence activation under low oil level occurrences. This will in turn prevent pan fires occurring due to ignition with low oil."

Mark Crowther, Technical Director, KIWA

The Fryer Angel™ has also been approved and certified by BSI, the standard setters of UK industry.

Summary

The Fryer Angel™ from Falcon:

✓ is a unique safety system for commercial fryers.

✓ has the potential to eradicate fryer fires and flare ups from commercial kitchens, providing security and safety to people and facilities.

✓ will provide financial benefit by means of preventing:
- equipment / kitchen downtime
- the need for costly repairs and asset replacement
- significant insurance payouts for property damage, loss of earnings and even personal injury or loss of life claims.

Available models

The Fryer Angel™ technology is available in the following models:

Model	Power	No. pans	Filtration?	Brand
G401X	Gas	1	No	400 Series
G401FX	Gas	1	Yes	400 Series
E401X	Electric	1	No	400 Series
E401FX	Electric	1	Yes	400 Series
E421X	Electric	2	No	400 Series
E421FX	Electric	2	Yes	400 Series
E421F2X	Electric	2	Yes (both pans)	400 Series
E422X	Electric	2	No	400 Series
E422FX	Electric	2	Yes	400 Series
G3840X	Gas	1	No	Dom Plus
G3840FX	Gas	1	Yes	Dom Plus
E3840X	Electric	1	No	Dom Plus
E3840FX	Electric	1	Yes	Dom Plus
G9341X	Gas	1	No	F900
G9341FX	Gas	1	Yes	F900

References:
1. Home Office - Fire statistics incident level datasets (published 13/5/21)
https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Community-Safety/Fire-Incidents/Fires-and-False-Alarms/accidentalprimaryfires-by-cause-sourceignition
https://www.firescotland.gov.uk/about-us/fire-and-rescue-statistics.aspx
2. https://www.london-fire.gov.uk/safety/the-workplace/pubs-bars-and-clubs/
3. Home Office - Fire statistics incident level datasets (published 13/5/21)

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