



fire design solutions

standards that are  
far from standard





At FDS, our technically advanced solutions put us at the forefront of the fire systems sector ...

## Feel Safer

At Fire Design Solutions, making people safer is what we do every single day, with our advanced products, our expert knowledge and our solutions-driven approach. But we don't just make buildings safer for the people who use them, we help our clients feel safer too. Because at FDS we have a passion for excellence that you can trust whatever challenges your project throws up, so you're always in safe hands with us.

We understand that safety is paramount, regardless of any commercial, value engineering or design considerations. That's why our solutions are designed to drive up safety levels and help you achieve fast and fuss-free approvals. It's why our installations are characterised by an attention to detail that guarantees quality and delivers complete reliability. It's also what keeps us innovating, refining our systems and investing in research and development to constantly improve safety levels across all kinds of fire systems in all kinds of buildings.

## Trust the Experts

At FDS we can help you find and implement the best solutions to make your building safer and more cost effective because we have the best people with the most in-depth knowledge in the industry. That simple fact ensures that we have two things that are fundamental to improving safety standards in your scheme: solutions-driven, advanced technology and total dedication to helping you achieve your safety and commercial goals.

Our expertise is built on solid experience across a team of individuals who have designed and installed fire systems for a prolific number of projects and shared the benefit of that best practice with each other. What's more, our service-oriented culture means that they will share that knowledge with you, ensuring that you understand the relative merits of different approaches and benefit from their technical know-how.

Best of all, our experts make sure their knowledge counts on each and every project. Our familiarity with fire codes and building regulations means that you can always be confident of swift and trouble-free approvals.

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And if there's a way to reduce costs or increase floor space by removing fire systems from the design whilst still achieving authority approvals, you can be confident that we'll offer you the very best advice.

## Access the Future

At FDS, our technically advanced solutions put us at the forefront of the fire systems sector but that's not good enough for us.

Why? Because what drives us is not creating a blueprint that works every time but developing systems that answer the present and future needs of our clients. That means that we never stop working to improve on what we've already produced and we always remain in tune with trends in construction, developments in technology and changes in legislation.

That's why R&D sits at the heart of our business, why we're passionate about new ideas, keen to consider new concepts and methodical about testing every solution that we develop. It's also what ensures that we're able to deliver seamless integration of fire systems and provide trouble-free commissioning with effective interfacing between the fire systems and other building controls.



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## Fan Assisted Smoke Venting Systems

Fire Design Solutions are experts in the design and installation of commercial and residential Fan Assisted Smoke Venting Systems.

Smoke is the single biggest killer in any building fire and rapid dispersal has been proven to save lives. Mechanical ventilation systems remove smoke from a building using ducts and fans, rather than relying on airflow, to provide a clear means of escape for occupants and access for fire fighting services.

We provide a complete solution for clients including design, supply, installation, commissioning and maintenance of fan assisted smoke venting systems. We work with clients across a wide spectrum of requirements from component parts of individual systems right through to value-engineered innovative design and install solutions for large-scale mixed use building projects.

Our highly qualified and trusted fire design engineers have worked on some groundbreaking projects across the UK, helping to make us a recognised authority in providing smoke venting solutions that easily outperform standard code-based systems, whilst maximising saleable floor area and keeping ongoing maintenance costs to a minimum.

### Innovative Solutions

When we design a fan assisted smoke venting system you can be sure that it exceeds the standard of code-based smoke venting systems and provides a flexible, cost-effective solution for you and your clients. Proven to rapidly remove smoke, keeping vital escape and access routes smoke free, our innovative systems have gained approval from the NHBC, various building control bodies and fire officers in England and Ireland.

Thinking 'outside of the box' when devising solutions for our clients comes naturally to us.



## Natural Smoke Venting Systems

Fire Design Solutions provides a complete turnkey package for natural smoke ventilation systems. Our integrated service delivers cost-effective smoke venting solutions to create safe environments that meet all necessary approvals.

The systems remain sympathetic to the architect's aesthetic vision, while offering maximum floor space efficiency and cost savings. From initial design and manufacture, through installation, to commissioning and ongoing servicing, it is a total solution that offers hassle-free handover, testing and maintenance - as a standalone system or as part of an integrated fire safety approach.

In the event of a fire, natural venting systems open air ways, using natural air flow dynamics to remove smoke, which is arguably the biggest threat to life. This can be attained by opening windows or vents, an automatic opening vent (AOV) or, where there is no external wall, a vertical smoke shaft.

Fire Design Solution's natural venting systems provide a reliable and cost-effective method of meeting the requirements of Approved Document B. In the event of a fire, smoke detectors will activate the natural smoke venting system on that floor. This creates a natural air flow to purge smoke from the building and exhaust it into the atmosphere, offering a safe means of escape for occupants, with greater visibility and access for fire fighters.

We understand the correct fire rating required of every component to maintain the necessary compartmentation within the building and that knowledge is underpinned by our ongoing research and development commitment.





# Car Park Ventilation

Fire Design Solutions are experts in the design, build and installation of both commercial and residential Car Park Ventilation Systems.

Our aim with car park ventilation is to provide the most cost-effective solution tailored to the type of car park, the layout of the car park and any additional fire legislation that may be in force over and above the basic code standards. Thanks to our understanding of fire legislation, research into real fire data and modelling of pollution control, we are able to manipulate the systems and can often reduce system costs or remove unnecessary high cost systems, such as sprinklers, to provide our clients with significant value engineering savings. We are also able to offer hybrid environmental systems where full smoke control systems are not required.

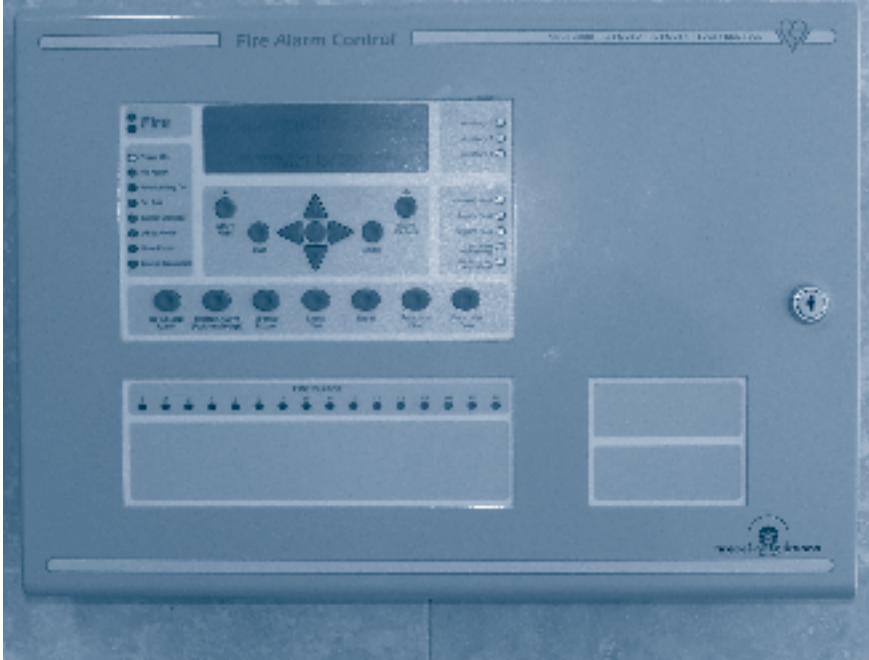
## Environmental Ventilation

Using CO monitoring and a stepped control algorithm, Fire Design Solutions ensure there is sufficient air extraction to remove day-to-day pollutants properly, while maintaining maximum energy efficiency.

## Fire and Smoke Safety

Smoke is a real threat to life in an enclosed space such as an underground car park and also causes significant issues for fire fighters dealing with the fire. Fire Design Solutions' smoke extraction and venting systems are systems designed to rapidly remove smoke during and after a fire. In addition, thanks to our value engineering expertise, our systems typically achieve improved energy efficiency, increased usable space and reduced costs for our clients.

Our full smoke control systems aid safe escape and fire fighting access, providing a smoke-free approach to within at least 10m of the seat of the fire - as recognised by the relevant British Standard (BS 7346-7:2006) relating to covered car parks for an enhanced fire fighting system.



# Fire Alarm Systems

Fire Design Solutions provides design, supply, installation, commissioning and maintenance services for fire alarm systems. We are able to provide these systems individually or as part of an integrated fire safety solution for an entire building.

Modern automatic fire alarm systems are designed to constantly monitor a building's environment for the presence of combustion. Their role is to notify occupants of the need for evacuation while a possible fire is investigated.

In many cases they are connected to the emergency services and will automatically summon assistance upon deployment. Safety is paramount and the audible and visible early warning signals that automatic fire alarm systems provide ensure that occupants have a good chance of evacuating the building safely.

At Fire Design Solutions our engineers use their experience to optimise the design and installation of fire alarm systems and to seamlessly integrate them with associated fire safety and smoke ventilation systems to control the spread of fire and smoke. We make sure that our systems are fully compliant with the relevant British Standards (BS 5839) and the correct categorisation. Our fire alarm system panels are approved to BS EN54-2 and BS EN54-4.

## Unique Design Approach

With the introduction of the L5 category ('all other situations'), which covers fire-engineered applications, we are now able to offer clients a system design based upon a full understanding of fire dynamics and smoke flow. This not only enables us to achieve a cost-effective solution but also to offer an approach that lends itself to complex building layouts.

Additional design focus is placed upon the need to maintain the system and so, where possible, we modify the design proposals to allow for safe and speedy access.

In addition to meeting the functional requirements of the building regulations, our hybrid systems allow for the protection of property and life over and above the basic code requirements.





# Security systems

Security access controls and alarm systems are usually installed and maintained separately, which often causes interface issues. Fire Design Solutions are able to supply, install and maintain complete security access control packages, eliminating any possibility of these interface issues occurring.

## Access Control

FDS can help you secure your building and ensure the safety of occupants with a door entry system that will suit the exact requirements of your unique building. Whether you need to secure a specific area of the building for use by selected personnel only or you want to enhance security across your entire operation with an integrated, multi-site access control system, FDS has a system to suit your needs.

## CCTV

With both digital and IP systems available, using Closed Circuit Television to protect and monitor your staff, your premises, your stock and your customers, has never been easier. Whether you're looking for process control CCTV for workplace monitoring, Wireless CCTV or IP CCTV web cams and video servers to interlink buildings and offices without the need for cables, or extreme CCTV equipment for use in harsh environments, we will help you specify the most appropriate system for your current needs.

## Disabled Refuge and WC Alarms

Following the Disability Discrimination Act (DDA) that came into force in 2004, providing a safe means of refuge for disabled occupants who may not be able to use lifts or staircases in the event of a fire or other emergency is now a legal requirement for all public buildings with more than one storey. Our Disabled refuge and WC communication systems offer fire-proof two-way communication, which ensures that disabled people can always raise the alarm and speak to the emergency services/building management team, allowing them to communicate their location and receive help quickly.



## Door Entry Systems

Our comprehensive range of video and audio door entry systems offers a comprehensive choice: from simple, single door entry to a fully-integrated and centrally-controlled security system with multiple door access. We can offer you the flexibility to select handsets, entry panels and controller options, including two-way speech, colour video, digital keypads and alarm input facilities and our experts can ensure that your system is fully DDA compliant where this is applicable.

## Public Address & Voice Alarms

Whether you need to be able to communicate with staff, provide information to customers on site or you simply want to enhance safety by having a public address system that can be used in an emergency, we can recommend the right system to suit your requirements. We will interface your public address system with your fire alarm to provide clear and coherent alerts and evacuation messages across your site in the event of an emergency.



## Residential Sprinkler Systems

Fire Design Solutions provides a fully integrated cost-effective design and install service for residential sprinkler systems, engineered to offer occupants the safest possible protection from fire. They are designed specifically to control the spread of a fire within an apartment and from that apartment to any other; essential considerations in any residential building's evacuation philosophy. For people living in high-rise buildings or those who may otherwise struggle with mobility, they can be a life saver.

The importance of sprinkler systems is reiterated within the latest revision of Approved Document B - sprinkler systems are now an absolute requirement on residential developments with floors 30m above ground level.

FDS provide a complete range of systems, from basic, code-compliant systems to enhanced, value-engineered systems that enable ongoing maintenance to take place in the common areas, thereby avoiding the need to enter individual apartments every six months. Our innovative approach, assisted by our full-scale testing unit, has also allowed us to offer solutions to enable open plan apartment design.

At FDS, we're always driving innovation and now unnecessary water damage due to false activation of sprinklers in residential buildings could soon be a thing of the past, thanks to a groundbreaking new sprinkler system we have designed and developed.

Designed to offer a sprinkler system solution for open plan layouts, the new FDS AS01 Apartment sprinkler system offers increased design flexibility, allowing apartments to be constructed as open-plan living areas without the need for a protected entrance hall, internal fire doors, fire resistant walls and fire collars. Thanks to the advanced multi-criteria detection systems used to operate the sprinkler heads, which activate the sprinkler if a fire is detected anywhere within the apartment, the sprinkler system offers enhanced performance and functionality, dramatically improving the building's fire safety. Meanwhile, the system's ultra efficient water release system minimises the potential for false activation, preventing the risk of unnecessary water damage which is often associated with conventional sprinkler systems.

FDS Residential Sprinkler Systems offer significant benefits including:

- A value-engineered alternative to the basic code standards
- Open plan apartment layouts
- A failsafe 'double knock' system to minimise potential accidental discharge
- Increased speed of installation
- Removal of dedicated pumps, tanks and additional vertical pipework
- Aesthetically pleasing head arrangement
- Full Professional Design Service
- Fully researched and tested systems

Fire Design Solutions engineers work closely with architects on all aspects of sprinkler system design and installation to ensure the most cost effective implementation for their clients.







Fire Design Solutions' Emergency Evacuation System is a cost-effective solution designed to meet current risk requirements ...

## Emergency Evacuation Boxes

Fire Design Solutions provide a complete design and install service for emergency evacuation systems to facilitate evacuation of building sites, no matter how large or complex.

Developed by our fire safety engineers in direct response to concerns over the suitability of manual bells and klaxons for large developments, our Emergency Evacuation System automatically sounds a highly audible alert across the entire construction site.

### Safe and Sound

Following the activation of any call point, linked sounders are simultaneously triggered on all floors and remote areas of the site. The alarm is loud enough to overcome normal background noise, ensuring it can be heard by everyone working on site.

Fire Design Solutions' Emergency Evacuation System is a cost-effective solution designed to meet current risk requirements. Featuring robust alarm boxes, each with manual override switches, it is simple to install and remove. This makes it perfect for sites with phased construction.

Fire Design Solutions can either sell the system directly to clients or provide a rental and buy back scheme that includes system maintenance.



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## Ambient Airflow Venting

Fire Design Solutions provide Ambient Airflow Venting to remove unwanted heat from residential buildings with internal stair cores and lobbies. For maximum cost and area efficiency, our specialist system design team can integrate Ambient Airflow Venting with our advanced smoke venting systems.

Ambient Airflow Venting is achieved through a positive air exhaust system that utilises existing or proposed mechanical or natural smoke vent shafts to draw heat away from common corridors and other problem areas.

## Proven Solution

At FDS we design the environmental Ambient Airflow Venting to maximise heat removal, providing occupants with comfortable internal temperatures.

We can help you achieve substantial cost savings wherever we can utilise the smoke shaft during the initial construction stage, thus allowing us to complete installation in just one exercise. Our system has a proven track record of eliminating heat gain from the common heating/hot water pipework that runs above corridor ceilings and allows the common stairway to be cooled. It also factors in the scheme's acoustic requirements, with primary and secondary attenuation included in each system to minimise noise breakout.



## Service and Maintenance

Fire Design Solutions' expert team is always on hand, providing planned maintenance and emergency call out service support. Our maintenance service is cost-effective and comprehensive, ensuring optimum product performance. In the event of equipment failure, our response and repair service is fast and efficient.

Fire Design Solutions can offer preventative maintenance support that will extend the life of a system and reduce the likelihood of failure. This ensures the finest product performance, as well as ensuring all legislative obligations are met.

We can offer RRO fire risk assessment and full maintenance service on fire safety systems regardless of manufacturer or installer, including:

- Smoke control systems, including fan assisted and natural smoke venting systems
- Car park ventilation systems
- Fire alarm systems
- Environmental climate control systems
- 24-hour emergency call out
- Fully trained engineers
- Technical support
- Spares support
- Service log books and specific site file history
- Six-monthly scheduled preventative maintenance visits

Our experienced engineers provide a quick and efficient maintenance call out and repair service to building owners and operators. This gives you total peace of mind that your smoke control system will protect life and property in the event of a fire.







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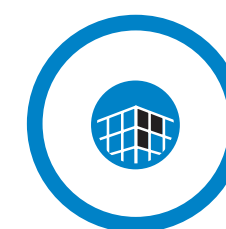
## We Understand

At FDS we understand fire and smoke. We know how they behave, how quickly they spread and what's required to stop them.

What's important for you is how we use that understanding. We use it to establish a clear critical path to success that is bespoke to every project and considers both the unique features of the building and the specific goals of the delivery team. We use it to develop cost effective and reliable fire systems that allow you to gain fire approvals without adhering rigidly to the code. Above all, we use it to improve safety: the goal that we share with our clients and the approving authorities.

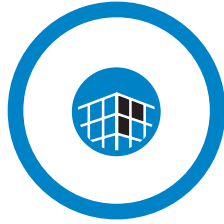
We may not always offer a conventional approach to improving safety but neither do we champion innovation for its own sake. Our creative approach is targeted, driven and focused on providing the solutions that the marketplace needs. Our commitment is to continuous innovation delivered with passion and purpose and our expertise is in delivering installations that match the needs of our clients, their building's and the buildings' end users.

We understand that your fire systems decisions matter and we know how to provide you with choices that will improve safety, minimise costs and maximise useable space.



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