fds contracting

Design, Install, Maintain

t +44 (0)1322 387 411
f +44 (0)1322 386 361
e info@fdsuk.com

www.fdscontracting.co.uk

FDS Contracting is a leading IFC SDI 19 certified designer and installer of high-quality, cost-effective smoke ventilation systems.

Our end-to-end service, from design & installation through to commissioning is supported by expert fire engineers to ensure compliance, performance, and peace of mind.

About Us

About Us
Group Values

Dan Foster
Group Managing Director

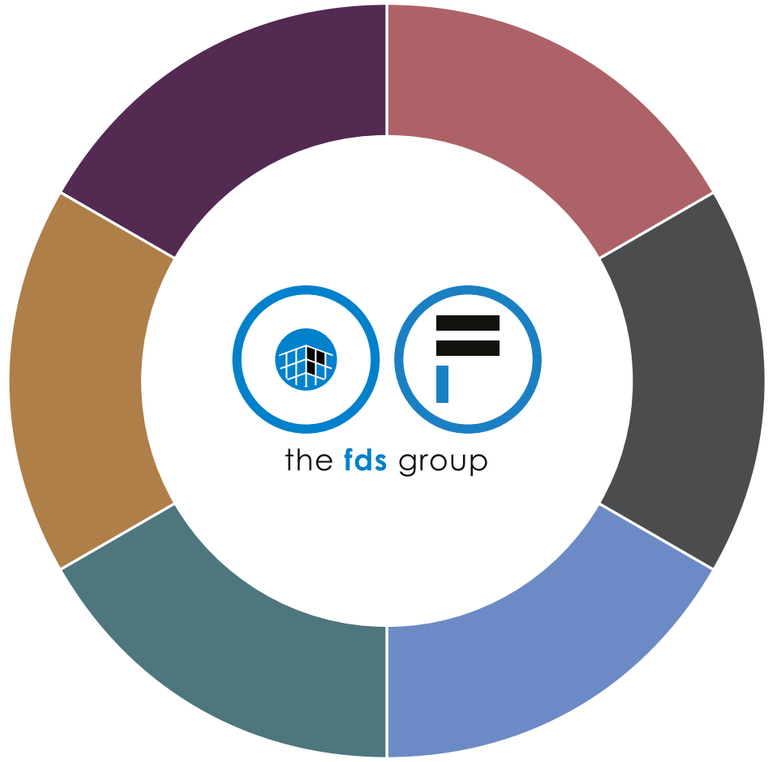
We are dedicated to delivering excellence across fire engineering, fire alarm systems and smoke ventilation – from consultancy, design, installation and commissioning through to service and maintenance. We are leaders because we are specialists. Decades of expertise and innovation allow us to recommend the best possible solution and tailor it to the individual needs of every project.

Founded by fire engineers with the aim of delivering consultancy, design and installation excellence, FDS Group remains at the forefront of creative, collaborative delivery of fire safety solutions and continually innovates to drive the industry forward.

Our values inform everything we do and are why hundreds of developers and contractors have relied on us to design and implement systems crucial to the success and safety of their buildings.

Our people are at the core of our business. The expertise and dedication of each member of our team helps us ensure the best possible service for every one of our clients across the project life-cycle and is why we are always forging new relationships.

We offer a truly holistic approach across all stages of the project cycle, meaning our clients are able to use one provider for all their fire safety needs.



Capability
Bespoke turnkey solutions: design, commissioning, installation, service & maintenance

Range
Extensive range of systems ensures best possible solution for every installation

Competence
Industry authority delivering innovation-driven solutions based on in-depth experience

Trust
Proven expertise and market leadership in reliable and effective fire safety systems

Support
Service, maintenance and technical support with emergency response 24/7/365

Value
Intelligent, value-engineered systems providing cost-efficient solutions

About Us
Why Choose FDS Contracting?

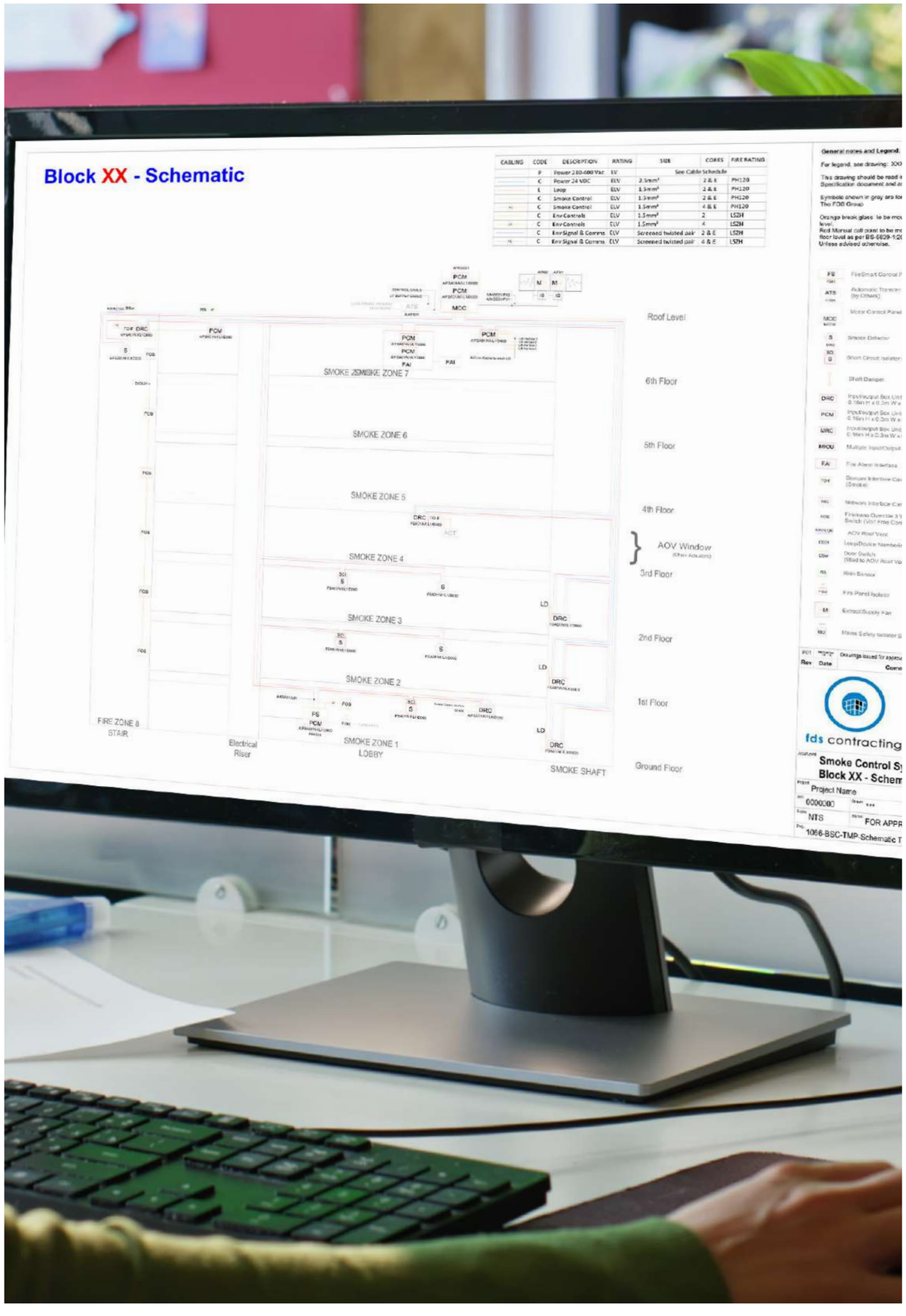
Technical excellence is where it starts but we go further. As well as making people safer, we also work to ensure that clients have complete confidence in the solutions we develop to meet the challenges of their particular buildings and locations.

Our role is technical: using advanced products, design expertise, and fire safety knowledge to protect people. We've designed and installed fire protection systems on various projects, sharing best practices across our teams to maintain exceptional expertise. We continuously innovate, refine systems, and invest in R&D to improve safety in all buildings. Our in-depth understanding of fire codes and building regulations ensures compliant, reliable systems with swift approvals. As of 2025, we have completed over 10,000 projects.

Competency is central to our work. With the Building Safety Act and BS 8670 series highlighting the need for skilled contractors, we embed competency throughout our process. Our engineers, designers, and project managers are fully qualified, backed by SCA IFC SDI 19 certification, setting an industry standard for smoke ventilation system design and installation. This certification ensures compliance with standards like Approved Document B and BS 7346.
In recent years, we've also collaborated with the Smoke Control Association to produce the SCA Guidance for Electrical Control Equipment in Smoke and Heat Control Systems and Guidance on the Maintenance of Smoke Control Equipment, further demonstrating our commitment to industry leadership.

As members of the Smoke Control Association, we raise industry standards and ensure top-quality, reliable, and compliant solutions. Our clients trust FDS for systems that meet Building Safety Regulator requirements and stand the test of time.

Choose FDS for a service focused on detail and collaboration. We'll guide you through every project phase, providing cost-effective, safe solutions without compromise. Our qualified team will commission and test smoke vent systems before handover, working with authorities to ensure full satisfaction and transparency.



FDS Contracting

Smoke Ventilation & Fire Alarm Design

By working with FDS Contracting, you gain access to a team that understands the intricacies of modern regulatory frameworks such as Planning Gateway Two and delivers designs that pass the most rigorous scrutiny

FDS Contracting delivers a complete smoke ventilation design service, tailored for Gateway 2 submissions. Our fully coordinated design packages include integrated smoke control, evacuation alert and fire alarm schematics, supported by professional reporting to meet Building Safety Regulator requirements.

We design smoke ventilation systems that maximise usable space while ensuring full compliance, helping to achieve a cost-efficient solution without compromising occupant safety. Every project is approached with precision and attention to detail, resulting in high-quality, reliable designs tailored to the unique needs of your development.

Backed by our in-house fire engineering division, clients benefit from direct access to highly qualified consultants, strengthening technical outcomes and improving overall project value.

We work closely with fire engineering consultancies to ensure CFD modelling is fully aligned with the wider fire strategy during Gateway 2 submissions. We help create a coordinated, evidence-led submission that meets Building Safety Regulator expectations.

FDS CFD
Computational Fluid Dynamics Modelling

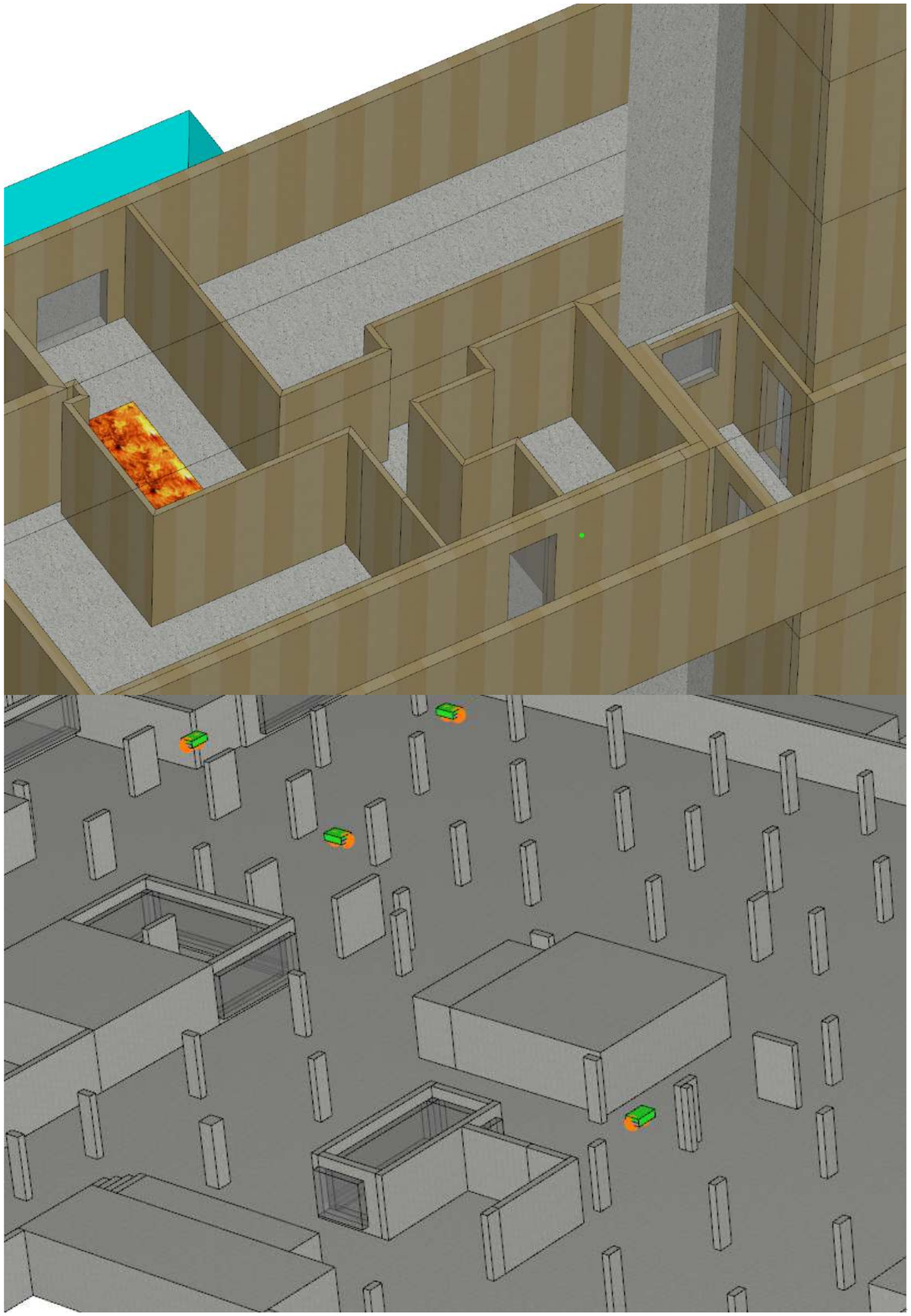
Computational Fluid Dynamics Modelling (CFD) is a specialist design tool we use to validate and optimise smoke ventilation performance in complex buildings. It enables us to simulate smoke movement, airflow patterns and fire conditions within a development, so we can assess system behaviour in detail and confirm the design will perform as intended.

CFD is particularly valuable where a fire-engineered solution is proposed that sits outside prescriptive guidance or where the design requires additional technical justification. Our team translates the modelling outputs into clear, professional reports suitable for submission to the Building Safety Regulator and Building Control, supporting the project through the approvals process, including Gateway 2 where required.

CFD modelling goes beyond simple rules of thumb by showing how smoke accumulates, how temperature and visibility change over time, and where pressure differentials may develop in complex environments such as open atria, tunnels and interconnected floors. This level of insight supports the development of robust fire strategies and helps demonstrate how proposed systems — such as smoke ventilation and pressurisation — will perform under real fire conditions.

CFD is increasingly used to support performance-based fire design where prescriptive guidance alone doesn't address the complexity of a building or its intended use. It provides evidence that safety objectives — such as maintaining tenable conditions for evacuation — are met, and enables designers to justify decisions where engineered approaches differ from standard regulatory paths.

Our CFD services include performance-based smoke modelling, providing detailed simulation of smoke movement, temperature, visibility and tenability to validate engineered fire strategies. We produce comprehensive reports to support Gateway 2 and Building Safety Regulator submissions, ensuring designs are evidence-led and approval-ready. We also offer independent third-party peer reviews of external CFD models, verifying methodology and conclusions to strengthen compliance, reduce risk and provide additional assurance to clients and approving authorities.



FDS Contracting
SDI-19 Certified Installers

We pride ourselves on the expertise of our team of engineers and project managers as well as our SDI-19 certification.

These certifications, recognised across the UK, ensure that every smoke ventilation and fire alarm system we install is completed to the most stringent industry standards. It underscores our commitment to safety, quality, and compliance.

Our experienced Smoke Ventilation and fire alarm system installation team ensures the process is carried out professionally and to schedule. Working on the simplest installation to complex applications, they ensure your project is delivered on time, within budget and to the highest standard of professional care.

Experience with large and complex developments ensures our Smoke Ventilation and fire alarm Installers can meet accelerated build schedules, conduct phased handovers, and coordinate work with fellow contractors.

Our client-focused approach is why we count many of the UK's largest developers among our continually growing portfolio of repeat clients.

Different projects require varying Smoke Ventilation and fire safety needs depending on their sector. However, fundamentally, the goal remains the same - to provide emergency smoke clearance in the event of a fire. Our consultancy, design, installation, commissioning and maintenance services cover the following sectors:

- Residential
- Commercial
- Educational (Student Halls etc.)
- Data Centres
- Leisure Centres
- Hotels

Dean Thomas
Business Development Manager

dthomas@fdsuk.com
07760 785599

FDS Contracting
Smoke Ventilation, Fire Alarm & Life Safety System Commissioning

Our expert commissioning service ensures developers and building owners have complete, expert support both during the build and upon completion of the building.

At FDS Contracting, we commission and test smoke ventilation systems in accordance with BS 7346-8:2013—Smoke Control Systems, helping to ensure compliance, functionality, and a smooth handover process. Our team of project managers and commissioning engineers will ensure the smoke venting systems are installed on time and to the highest level of quality. Our experience of large and complex developments means that, where required, we can meet accelerated build schedules, conduct phased handovers and efficiently coordinate work with other contractors.

Our qualified team of engineers will commission and test the installed smoke vent systems prior to building handover. We will also work with approving authorities to ensure they are satisfied with the system. This includes providing demonstrations of the performance where required.

What's Included in Smoke Ventilation Commissioning?

- Functional testing of smoke ventilation systems in line with design specifications and regulatory standards
- Integration checks with fire alarm and building management systems
- Cause and effect testing to verify system response in the event of fire
- Fine-tuning and calibration to optimise system performance
- Comprehensive documentation and certification for your records
- On-site support during final sign-off or client demonstration

Why Commissioning Matters

Proper commissioning not only helps secure Building Control approval but also minimises risk, ensures legal compliance, and provides peace of mind for both client and contractor.

Competency Credentials
SDI-19

Given the strict demand for competent servicing, it's crucial to look at the certifications and qualifications of any provider you engage. In the UK, there are well-established third-party certification schemes attesting to a company's expertise in each domain:

For smoke ventilation systems, the gold standard certification is the IFC SDI-19 scheme.

Developed by the Smoke Control Association in partnership with IFC Certification, SDI-19 certifies that a contractor is competent in installing smoke control systems.

It requires firms to demonstrate specialist know-how and compliance with relevant standards (e.g. Approved Document B and BS 7346 parts 4, 5, 7, 8).

The scheme has become mandatory for SCA member companies that install smoke ventilation, raising the bar across the industry.

Crucially for clients, an SDI-19 certified provider has been independently audited for their smoke control competence – so you know your smoke control systems are in qualified hands.

Our Systems

FDS Group
Systems Overview

There is ‘no one-size-fits-all’ approach to smoke ventilation. The individual characteristics of every building and the requirements of each project mean that different approaches and systems are required. At FDS we help you to select the option that is most suitable for your project and ensure you have the design, installation and commissioning support that you need.

Mechanical Smoke Ventilation

MSV Systems consist of powered fans attached to ventilation shafts. In the event of a fire, dampers on the affected floor open and the fan activates to evacuate the smoke.

Car Park Smoke Ventilation

These systems serve a dual purpose of day-to-day ventilation to provide the required air quality as well as the evacuation of smoke in the event of a fire.

Natural Smoke Ventilation

A simple smoke venting solution, these systems utilise Automatic Opening Vents (AOVs) or windows and the natural flow of air through the building to draw the smoke out.

Fire Alarm Systems

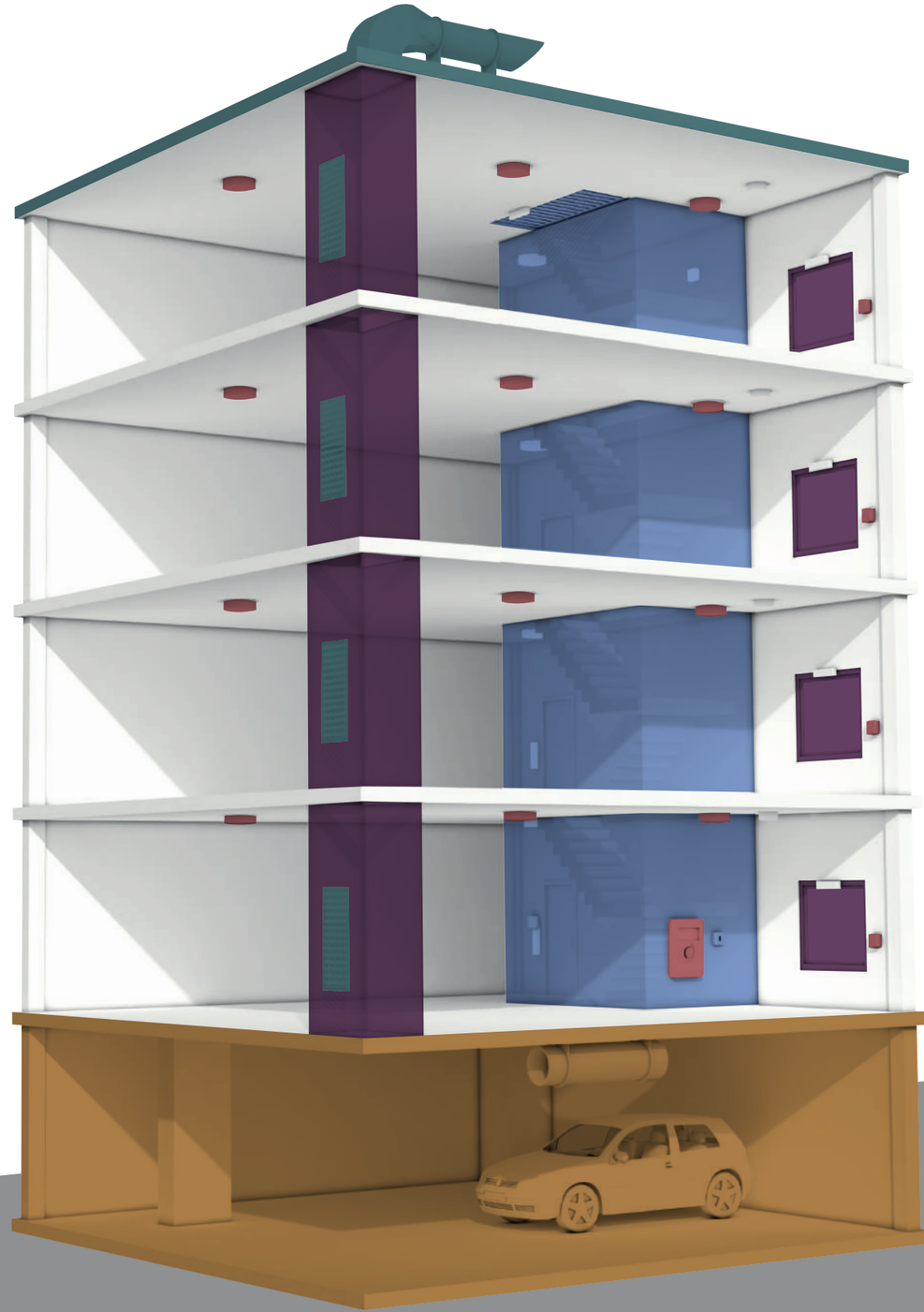
Automatic fire alarm systems constantly monitor the building’s environment to provide early warning to occupants and alert authorities to a potential fire.

Corridor Environmental Systems

Ventilation is achieved through the mechanical extraction of heat from the common areas to combat the natural build-up of heat that can occur.

Evacuation Alert Systems

An Evacuation Alert System is an essential part of any residential building to allow the Fire Brigade to evacuate occupants in a controlled and safe manner.



The experts in Mechanical Smoke Ventilation

Mechanical Smoke Ventilation
System Introduction

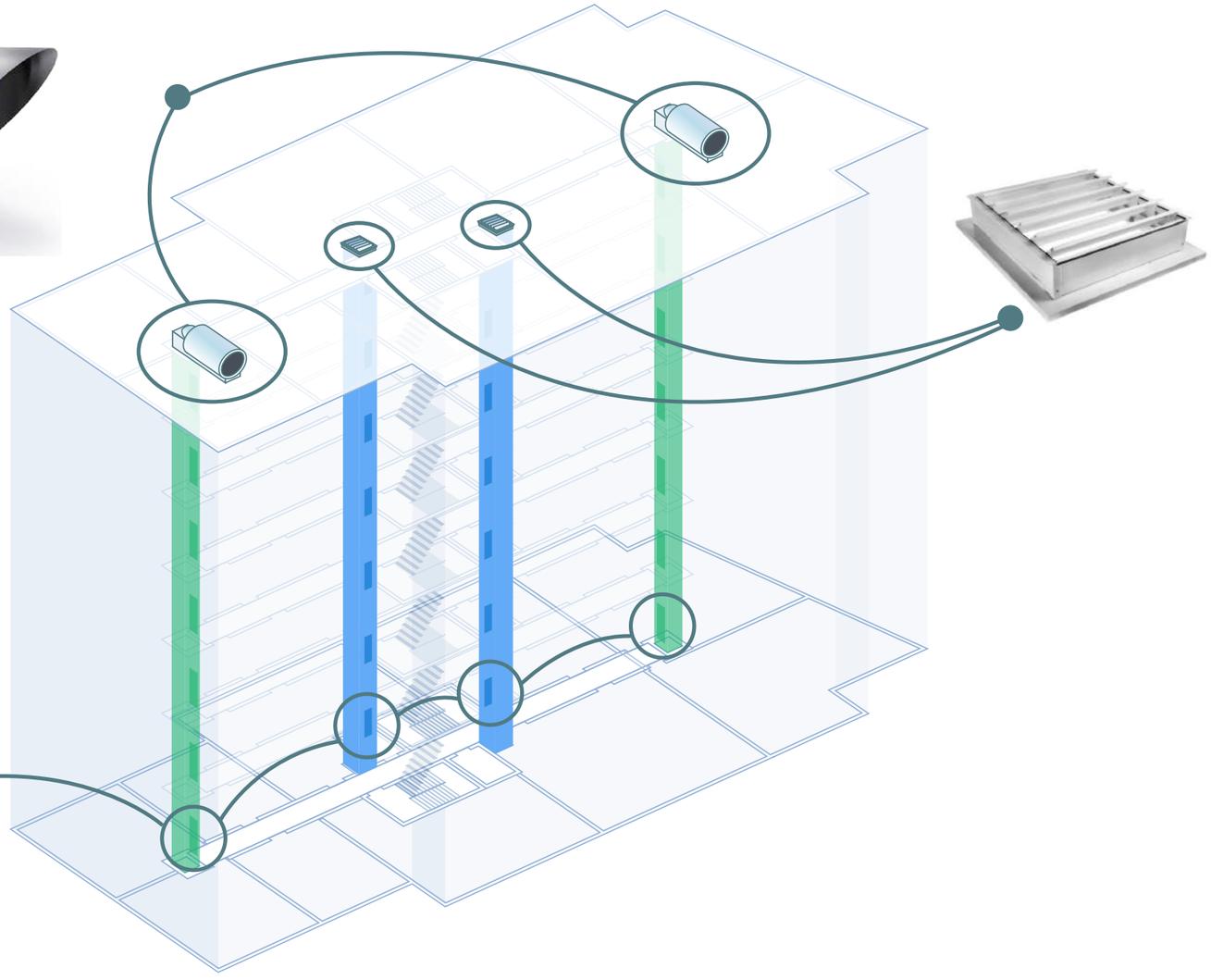
Smoke is the single biggest killer in any building fire, so its rapid dispersal is critical to saving lives. Among the most effective ways of achieving this is a mechanical ventilation system that uses fans and ducts to remove smoke quickly and efficiently, ensuring a clear escape for occupants and safer access for firefighting services.

Fan-Assisted Smoke Venting Systems make use of a mechanical extract shaft that serves a common corridor and/or lobby. When smoke is detected, a fire damper to the smoke shaft on the affected floor automatically opens (all other dampers remain closed). In turn, a vent at the head of the relevant staircase will open, allowing the smoke to be removed and make up air for the smoke extraction system to be introduced. The fan at the top of the shaft extracts the smoke, preventing its migration into adjacent compartments.

We offer a complete turnkey package, delivering cost-effective solutions to create safe environments that meet all necessary approvals. Our service encompasses everything from design and manufacture to installation, commissioning and hand-over. We can also provide on-going servicing and maintenance.

Mechanical Smoke Ventilation
System Overview

FDS fan assisted smoke venting systems exceed the standard of code-based smoke venting systems, removing smoke quickly and efficiently to keep vital escape and access routes smoke free. Our innovative systems have gained approval from the NHBC as well as building control bodies and fire officers across the UK and Ireland.



Fan Set

The duty fan at the top of the mechanical smoke shaft extracts the smoke from the common area and prevents migration of smoke into the escape staircases.

Stair Ventilator

On detection of smoke, the vent at the head of the staircase opens.

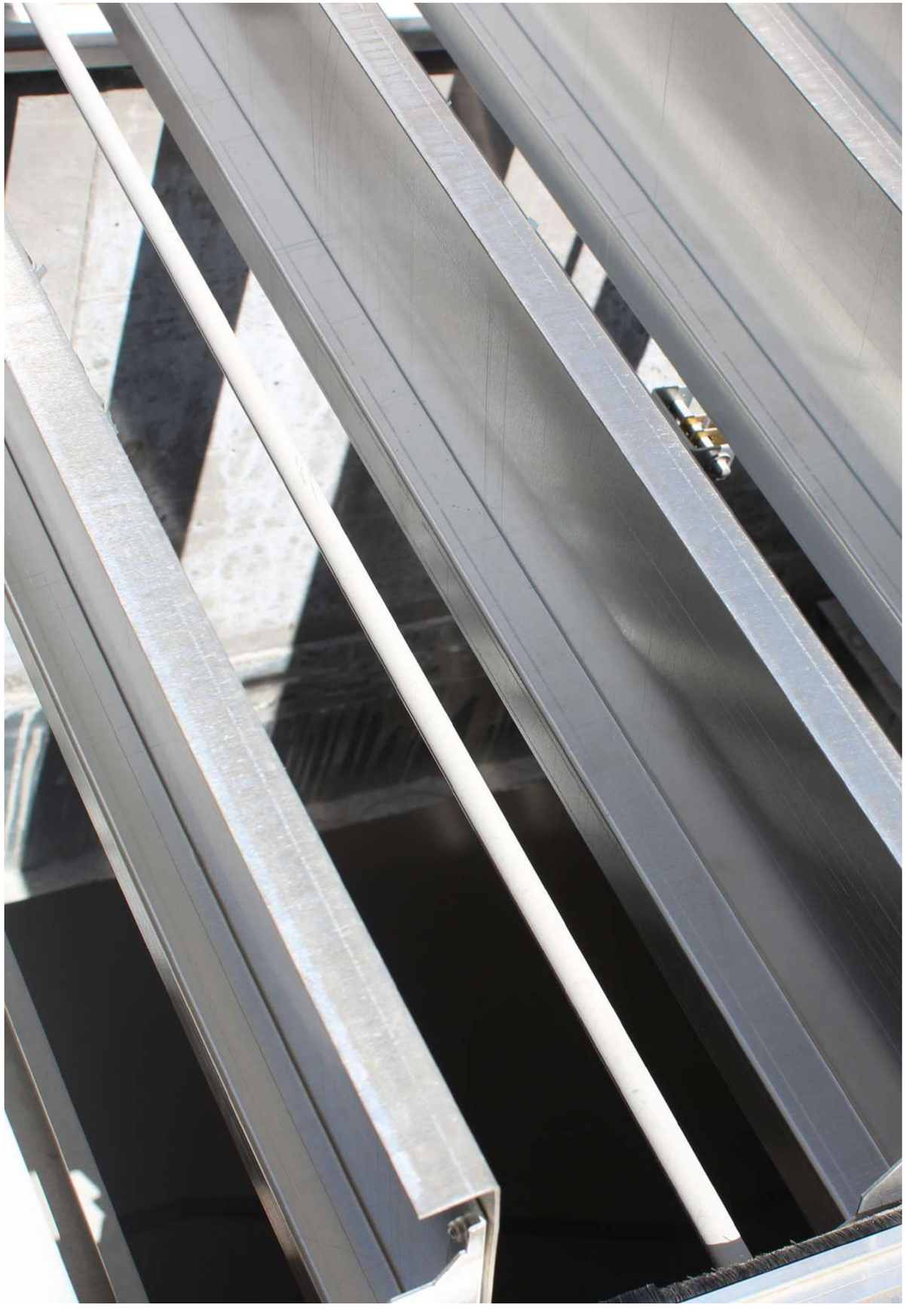
Mechanical Smoke Shaft

Our systems comprise of a mechanical extract shaft that serves the common corridor and/or lobby.

Smoke Shaft Damper

On detection of smoke within the lobby, only the fire damper to the shaft on the fire floor will open.

The experts in Natural Smoke Ventilation



Natural Smoke Ventilation
System Introduction

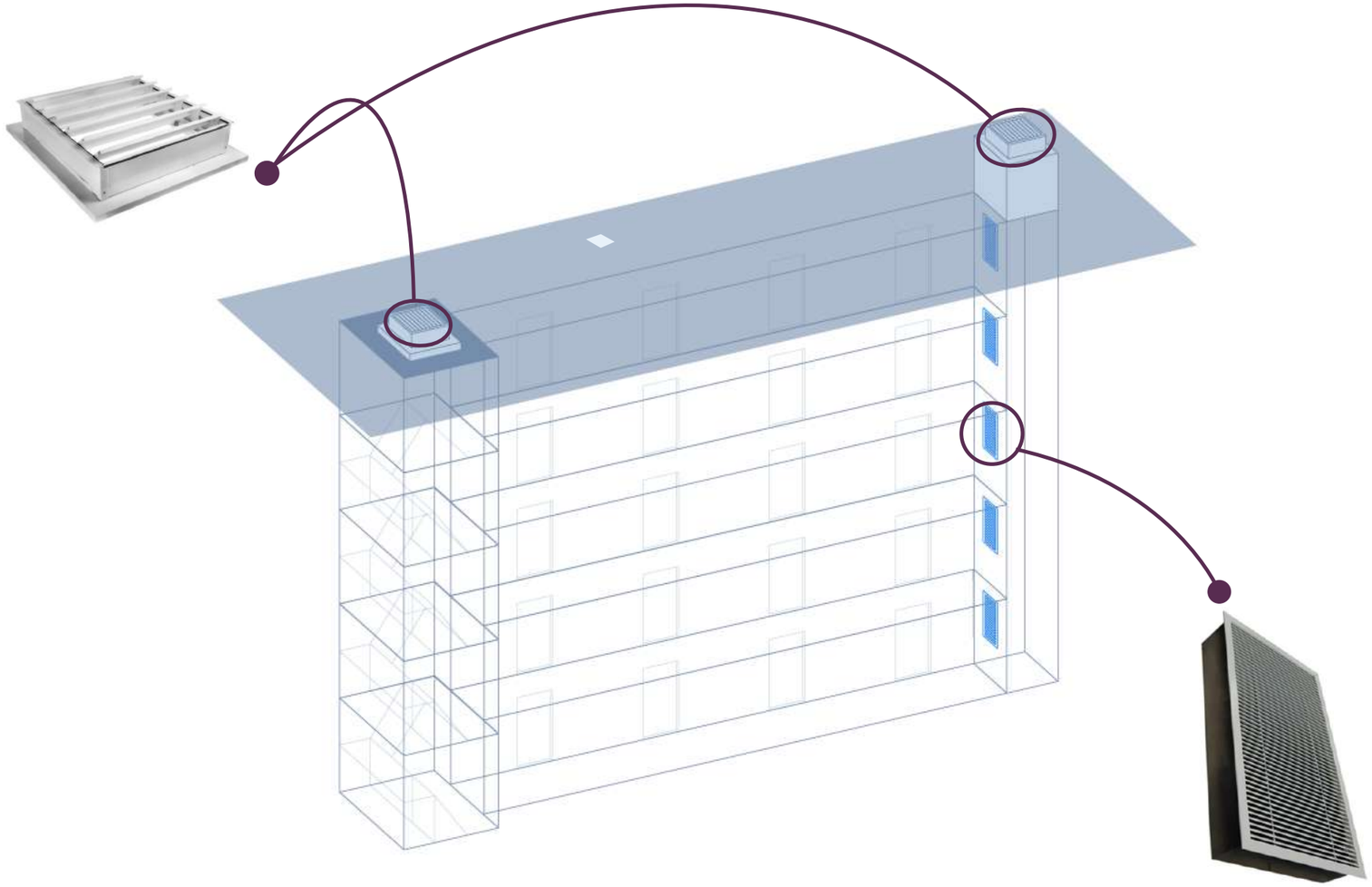
Natural Smoke Venting Systems create a natural airflow that purges smoke from a building, clearing areas to ensure a safe means of escape

We can design systems based around windows or vents; automatic opening vents (AOVs); or, where it is not possible to vent through an external wall, a vertical smoke shaft. In the event of a fire, smoke detectors will activate the system and natural airflow dynamics will be used to remove the smoke as quickly and efficiently as possible.

This versatility of Natural Smoke Venting Systems allows them to form part of an integrated fire safety scheme or, where appropriate, used as a standalone solution. Selection of the correct approach will depend on the specific characteristics of the building. Our design engineers work with you to identify the option that is right for the project and formulate a tailored solution that delivers the most effective results.

Natural Smoke Ventilation
System Overview

Our Natural Smoke Venting Systems provide a reliable and cost-effective solution to the requirements of Approved Document B. 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.



Automatic Opening Vent (AOV)

A mechanically operated vent that is linked to the fire detection system and opens in the event of a fire.

AOV Windows

These are commonly used to provide natural smoke ventilation. Actuators can be used to automatically open the window in response to smoke.

Vertical Smoke Shaft

Where vents or suitable windows on exterior walls cannot be achieved, a smoke shaft can be used to provide ventilation.

The experts in Car Park Smoke Ventilation

Car Park Smoke Ventilation
System Introduction

Smoke is a major threat to life in enclosed spaces and with the additional day to day environmental ventilation requirements, underground car parks represent a particular challenge. Ensuring the system is designed and installed correctly is vital to achieve complete occupant safety.

We are experts in the design, build and installation of car park ventilation systems, providing cost-effective solutions tailored to the particular needs of every installation - commercial or residential. Our smoke extraction and venting systems are designed to remove smoke rapidly and effectively both during and after a fire.

Our in-depth understanding of the requirements of both Approved Document B (Fire Safety) and Approved Document F (Ventilation) means that we can deliver peace of mind that the chosen solution will fully comply with all legislation. Our experience in fire safety design, research into real fire data and modelling of pollution control means we are able to develop highly efficient ventilation systems – often rationalising the design to provide significant cost savings without compromising on safety.

Car Park Smoke Ventilation
System Overview

We offer a range of options for car park ventilation to suit every project regardless of the type and location of the car park, the design of the building and size of the space.

Natural Ventilation

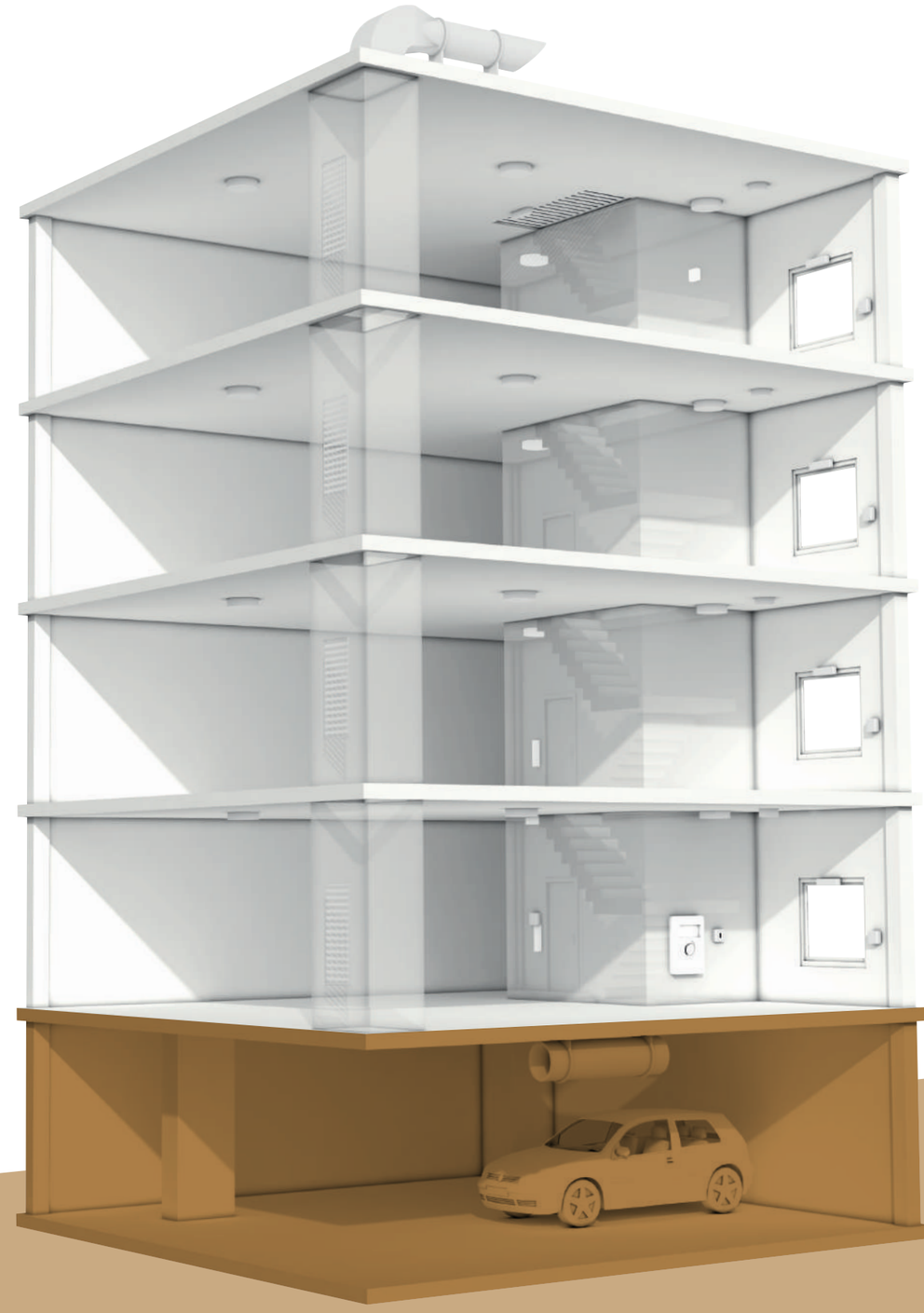
Usually found in above ground car parks, these cost-effective solutions make use of natural airflow through the space to reduce the level of pollutants to an acceptable level.

Hybrid

Where natural smoke venting cannot be achieved, impulse or induction fans can be used in addition to the natural openings to improve the cross-flow of air.

Mechanical

These systems provide the greatest level of performance for both smoke removal and CO clearance and are required for underground and enclosed car parks.



Tackling the Specific Challenges of Underground Car Parks

Underground car parks present a particular challenge in terms of ventilation, not only in the event of a fire but also day-to-day exhaust fumes.

Our smoke control systems provide smoke clearance and firefighting access, providing a smoke-free approach to within at least 10m of the seat of the fire, as required by the British Standard BS 7346-7:2013 relating to covered car parks for an enhanced firefighting system.

To meet the required standards for smoke extraction, mechanical car park systems must achieve at least 10 air changes per hour (ACH). In full smoke exhaust mode, the system utilises both the impulse or induction fan and the main exhaust fan to efficiently clear the smoke.

By using CO detectors, the MSVS automatically activates when CO levels rise above a pre-set limit to ensure a concentration of 30 parts per million (ppm) over an eight-hour period, as set by Approved Document F, is not exceeded. Using CO monitoring and a stepped control algorithm, we ensure there is sufficient air extraction to ensure effective removal of day-to-day pollutants, while maintaining maximum energy efficiency.

The speed of the main extraction fans will vary based on the levels of CO detected. Between 30ppm to 49ppm, air will move throughout the car park at an exchange rate of three air changes per hour. Over 50ppm the exchange rate will increase to six air changes per hour.

The experts in Fire Alarm Systems

BS 5839 Compliant
Fire Alarm & Detection System
System Introduction

Modern automatic fire alarm systems are designed to constantly monitor a building's environment and, if indications of combustion are detected, will provide audible and visible early warning signals to alert occupants or residents to the need to evacuate the building. In many cases, they will also be connected to a remote monitoring site to enable early contact with the emergency services.

At FDS we provide smoke detection coverage to residential common corridors for the activation of the smoke control system. We use our experience to optimise the design and installation of fire alarm and detection systems, integrating them seamlessly with associated fire safety and smoke ventilation systems to control the spread of fire and smoke. We also bear in mind the need for system maintenance and will, where possible, ensure that our design proposals allow for safe and speedy access.

We design and install to full BS 5839 compliance This not only enables us to provide cost effective systems but also to provide solutions suitable for complex building layouts. We can design fire alarm and detection systems that will interface with any required third party system such as access control lifts and sprinkler systems etc.

Fire Alarm
System Overview

We can provide these systems individually or as part of an overall fire safety solution for an entire building, unlike our competitors, FDS will ensure that they are fully compliant with the relevant British Standards (BS 5839) and correct categorisation. Our fire alarm system panels are approved to both BS EN54-2 and BS EN54-4.

FDS FireSmart Panel

This is an open protocol, life safety control system that manages and monitors all our fire safety components within a building.

Detectors

Photoelectric and heat activated smoke and fire detectors send a signal to the FireSmart panel to trigger the alarm and provide a location to aid the fire service when

BS 5839 System

This system can be extended to provide a fire alarm system to any and all parts of the building to satisfy BS 5839.

The experts in Corridor Environmental Systems

Corridor Environmental
System Introduction

Unwanted heat build-up is an increasingly common issue as building design focuses on creating air-tight and well insulated, energy efficient structures. While individual properties within multi-storey residential schemes may be well ventilated, the common areas and corridors may be exposed to unintended heating effects and even poor air quality.

Our corridor environmental systems provide an efficient and cost effective solution by integrating with our advanced mechanical smoke ventilation systems to achieve day-to-day comfort ventilation. A temperature sensor activates the system once a pre-set temperature is reached and switches off once the correct temperature has been achieved. In the event of a fire, the system reverts to fire safety mode to quickly remove smoke from the building. Our ambient airflow venting systems also make use of existing or proposed natural smoke ventilation systems.

We have extensive experience in the design and installation of these systems. Our specialist teams can advise on the most economical and efficient ways of eliminating unwanted heat gain.

Corridor Environmental
System Overview

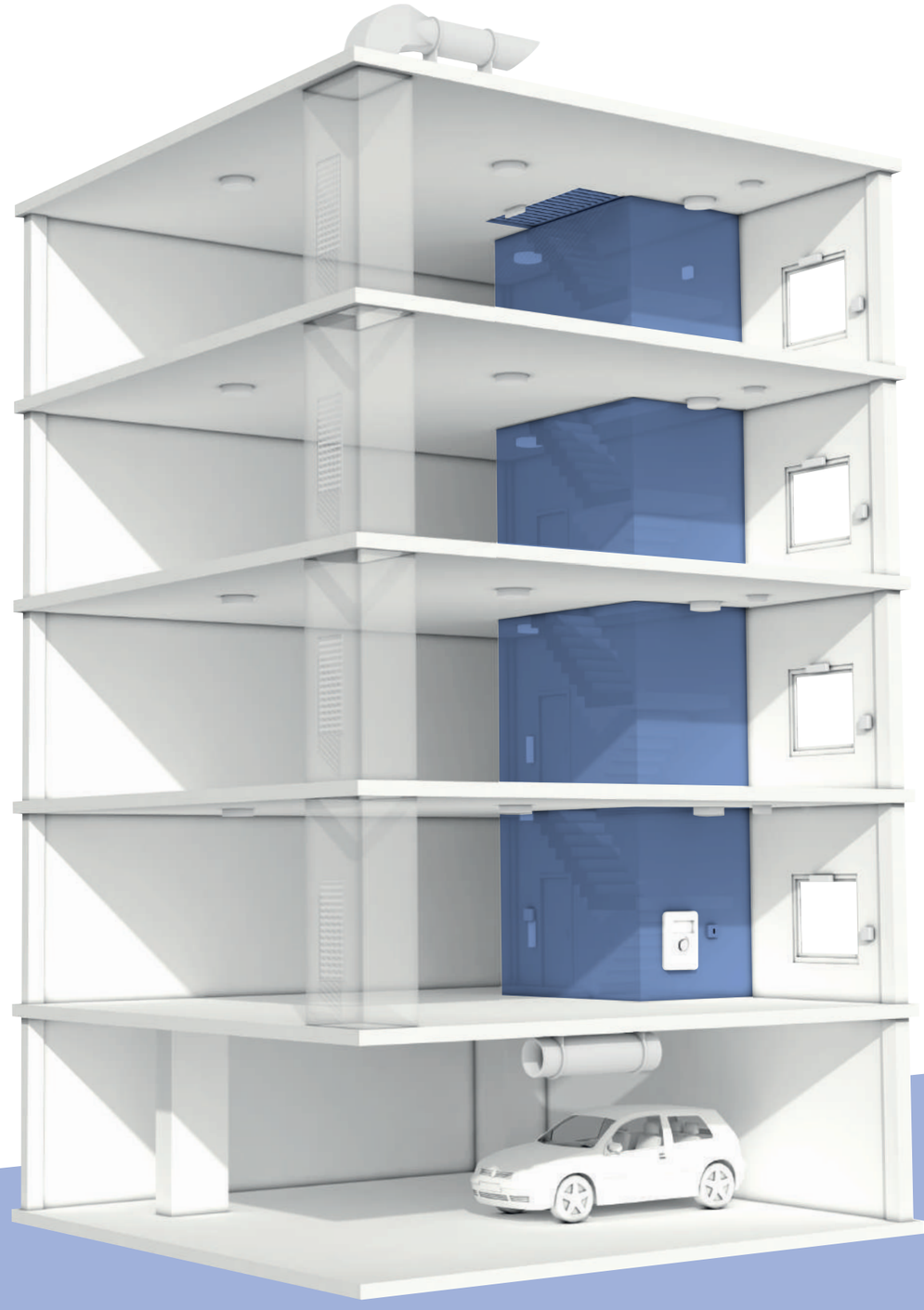
The advantage of this approach to comfort ventilation is the cost efficiency of utilising the existing smoke ventilation systems to create a healthy and more comfortable environment for building occupants. We offer both integrated and chiller systems to meet the specific requirements of the project. Our systems also take into account acoustic requirements, with the inclusion of primary and secondary attenuation to minimise noise breakout.

Integrated Systems

Our systems use existing or proposed mechanical or natural smoke vent shafts to draw heat away from common corridors and other problem areas.

Chiller Systems

Consisting of a chiller unit and axial environmental fan which is connected to a smoke shaft. It supplies cooled air for applications where ventilation alone does not overcome the heat build up.



Evacuation Alert Systems
System Introduction

The successful and safe evacuation of occupants is essential during a fire. The FDS Evacuation System is an essential part of any fire safety strategy for residential buildings to allow the Fire Brigade to evacuate occupants in a controlled and safe manner.

Evacuation Alert Systems are operated by the fire and rescue service via a control panel that triggers evacuation alerts inside each apartment for specific areas or floors.

In compliance with BS 8629, an alarm sounder is required to be positioned in each flat in a block and must provide audible alerts resulting in controlled evacuation by the Fire Brigade.

The system quickly alerts occupants to the threat of danger with heightened visual and audible alerts resulting in evacuation times being quicker.

Compliance

As of December 2022, a requirement of ADB is that in new blocks of flats over 18 meters high, the implementation of an evacuation alert system is recommended, stating that:

This code of practice is strongly advised for new buildings containing flats and are equally relevant as best practice for existing buildings too.

“In blocks of flats with a top storey over 18m above ground level, an evacuation alert system should be provided in accordance with BS 8629.”

Why is this?

In incidents where widespread evacuation is necessary, having an evacuation alert system in place enables resources to focus on critical firefighting operations. Moreover, a swifter evacuation ensures the safety of residents.

What is BS 8629 and Why is it Important?

BS 8629 is the British Standards Institution code of practice for ‘the design, installation, commissioning, and maintenance of evacuation alert systems for use by fire and rescue services in buildings containing flats’.

BS 8629 was initially developed as part of a review of Scottish building standards in 2017.

The recommendations for the implementation of BS8629 had quickly come into place following the tragic Grenfell Tower incident in June 2017.

Evacuation Alert Systems
What are the Benefits?

1
Toggle switches are easy for fire and rescue service personnel to operate.

2
LED indications make it easy for the fire and rescue service to view evacuation zone status and implement evacuation strategies quickly and easily.

3
Evacuation alert panel is housed in its own security-rated enclosure to prevent malicious damage.

4
Slide-in labels make it easy to clearly mark evacuation zones and avoid any confusion.

5
Patented BS EN 1303- compliant lock and key mechanism for exclusive access by the fire and rescue service – ensuring minimal risk of unauthorised use.

6
1 to 4 loop formats supporting 500 mA per loop for total flexibility.

7
Built-in battery back-up options – up to 17 ampere-hours, to meet the BS 8629 code of practice recommendations.

8
Wired, wireless or hybrid system solutions available for maximum versatility.

9
Commissioning and servicing are quick and easy using our virtual PC tool.

“FDS were instrumental in ensuring we met the tough and seemingly impossible deadline set for us. Their ability to adapt, work efficiently under pressure and support the team has made a significant impact.”

Project Manager on Kings Road Park Project / Editquest