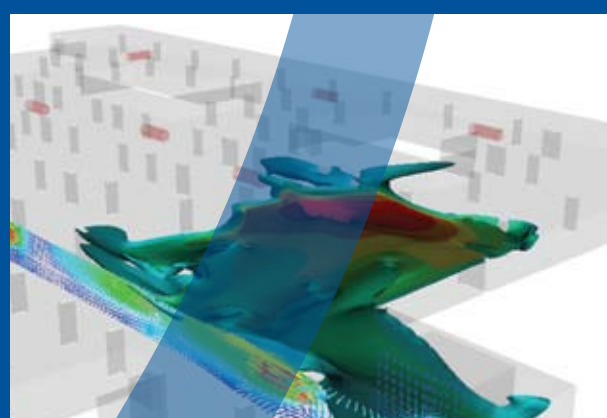
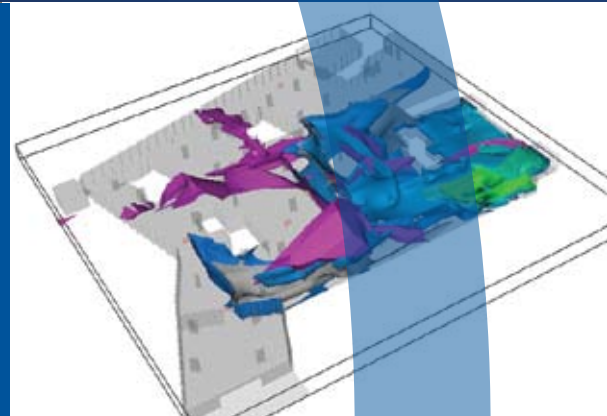


Car Park ventilation



Fire Design Solutions provides integrated services for smoke ventilation in car parks. We provide only high quality design and products to ensure the most reliable of systems.

Combining fire engineering consultancy expertise with specialist system design, Fire Design Solutions offers a holistic approach to car park smoke ventilation.

Impulse systems remove air pollution and smoke from the car park via main extract fans, which are vented to atmosphere. Jet fans assist in distributing and directing the air toward the main extraction point, while ensuring all areas are ventilated.

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Environmental Ventilation

Fire Design Solutions will design the car park to meet the customer design brief, making useful and cost saving suggestions for consideration. Using CO monitoring and a stepped control algorithm, we ensure there is sufficient air extract to remove day to day pollutants properly, while maintaining maximum energy efficiency.

Noise is another important environmental consideration. Impulse systems control the jet fans so that they run at low speed (and often not at all) for day to day ventilation, only turning them on when CO sensing detects a build up. The system has a provision for a higher speed when there is increased vehicular activity. Full speed only occurs in an emergency, where safety considerations take priority over sound levels.

Fire Design Solutions' skill comes in understanding air movement and smoke behaviour. We ensure all our design elements are optimised to achieve the most cost effective car park system possible.

Fire and Smoke Safety

Smoke purging or extract systems are designed to remove smoke during and after a fire. These systems typically achieve increased energy efficiency, space saving and cost benefits. Even a basic impulse ventilation system provides more efficient ventilation than a traditional ducted system.

Enhanced systems offer increased levels of safety over simple purging systems. By designing the smoke control system on a first principles design philosophy, enhanced systems work more efficiently than a basic smoke clearance standard. Jet fans (and other exhaust techniques) ensure controlled smoke movement toward the extract point, minimising spread. These systems aid safe escape and fire

fighting access, providing 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.

Unique Design Approach

Whilst Fire Design Solutions can provide the basic smoke clearance impulse ventilation system, we can take car park systems design to a new level. Fire Design Solutions is one of the few companies able to achieve an enhanced design standard. This is made possible through our professional fire engineering consultancy experience, combined with our specialist system design.

Together, this holistic design approach offers significant value engineering potential, including:

- The removal of sprinklers
- Reduction of the fire rating within the car park
- Reduction of the degree of compartmentation between the car park and remaining parts of the building
- Removal of costly two hour fire rated lobby ducts

Our fire engineering consultancy experience, combined with our specialist design, can verify designs and work with approving authorities and clients to ensure a safe, effective and cost conscious solution to the car park. The design is then justified using the latest CFD (Computational Fluid Dynamics) modelling techniques.

Fire Design Solutions can achieve an enhanced thrust car park ventilation system to realise true value engineering. High quality design and products are supplied to ensure sustainability and minimise life cycle costs.



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