

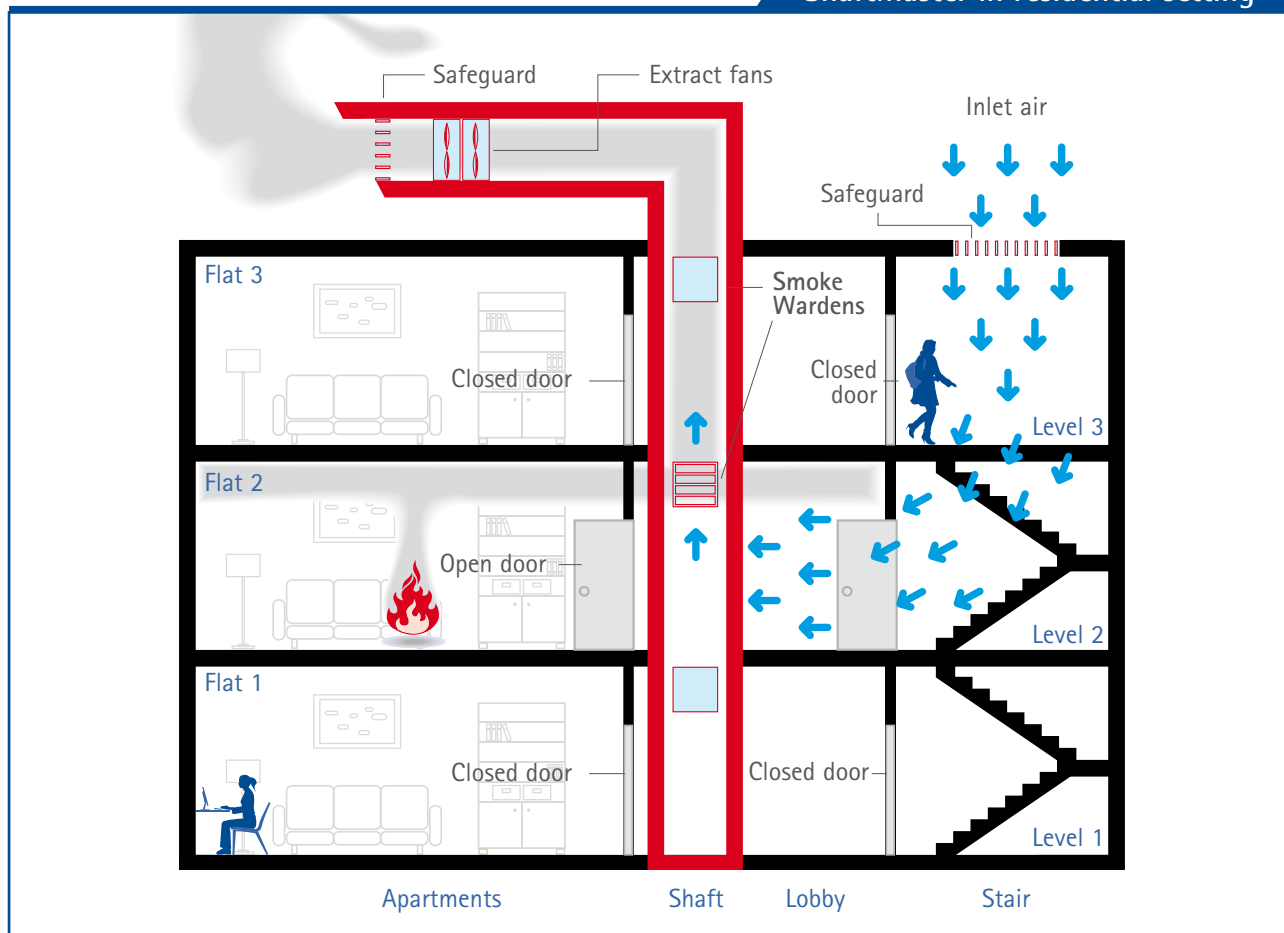
Space-saving fire shaft system for multi-storey buildings

In modern buildings, space is always at a premium. Fire safety regulations simply cannot be compromised, which is why Airvent has created the ShaftMaster – a mechanical smoke extract system providing an alternative to the BRE natural shaft in just a fifth of the area (80% space saving).

This expertly engineered arrangement of top-grade components from the Airvent, range – ensures a high performance fire engineered solution for cost-effective protection of fire fighting stairs and lobbies. The system integrates seamlessly with other building services and does not affect the architectural vision of the building.



ShaftMaster in residential setting



ShaftMaster

Details

Airvent offers the full turnkey package, featuring design, CFD, supply, manufacture, installation, commissioning and – if required – ductwork and wiring. All of this is available with a three year warranty.

Fire fighting cores are a typical requirement of buildings with floors over 18m above fire service access, but now there's no need to compromise on design space.

Using fire engineering, CFD (Computational Fluid Dynamics) modelling and Airvent's industry-leading product range, the ShaftMaster offers a safe, practical solution to building designers' needs for more saleable or lettable space.

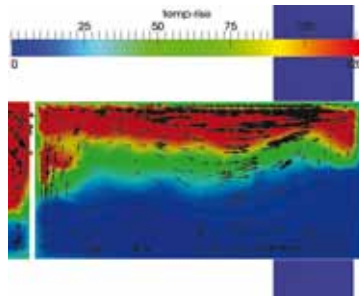
The system exceeds the performance of the BRE shaft described in BR79204 and meets the requirements of BS5588 part 5 – now incorporated in BS9999 – all while occupying typically 0.6m² (as opposed to the 3m² required by a BRE natural smoke shaft).

Depressurisation

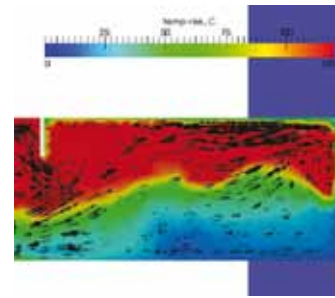
When designing mechanical smoke ventilation systems, great care must be taken to ensure safe levels of pressurisation/depressurisation in the stairwell and fire fighting lobby. Poorly designed systems will draw smoke from the fire zone into protected areas and hamper escape by increasing door opening forces. If insufficient extraction is provided smoke may escape into the stairs and compromise means of escape and fire service access.

The ShaftMaster system adopts depressurisation principles in accordance with BS EN 12101:6. Motorised dampers with aesthetic grilles or AOV flaps will be fitted at each level and interfaced with the fire alarm such that only the damper on the fire affected floor is activated. An Airvent Safeguard smoke ventilator of 1.0m² is fitted at the head of the staircase for replacement air inlet.

Airvent ShaftMaster CFD model



Standard BRE Smoke Shaft CFD model



Note the improved clear layer offered by use of the ShaftMaster

Components

The ShaftMaster system is comprised of a number of quality Airvent standard smoke ventilation products, combined with our design and integration experience to ensure a safe and compliant solution:

- > Extract fans (duty and standby) rated at 300°C for 2 hours
- > Safeguard louvered duct termination
- > Safeguard louvered stairwell ventilator
- > Enforcer motorised smoke damper and grille to each lobby
- > Smoke Warden AOV ventilator
- > DoorMaster door actuator.

Controls

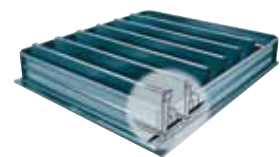
- > MCC/fan starter panel (including autochangeover)
- > Pressure sensor in each lobby
- > Smoke detection to each lobby
- > Fireman's Override Switch – auto/off/override switch
- > Local outstation panels
- > Modern touchscreen open protocol IntelliVent HMI mimic panel



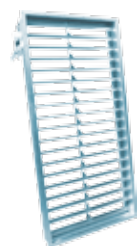
Smoke Warden



Smoke Fan



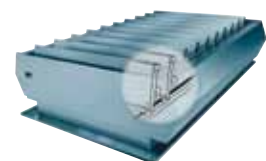
Safeguard



Enforcer



IntelliVent OPC



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