THERMAX

Contracting Services Limited

AUTOMATIC SMOKE CURTAIN

SPECIFICATION - Model SC1 Smoke Curtain (European Standards)

Product Description –

The SC1 active smoke curtain is manufactured from the X32K woven glass fibre fabric coated on each side with a micronised aluminium polymer coating. The complete curtain assembly is rated at 600oC for a period of up to 120 minutes and 1000oC for up to 60 minutes. The X32K fabric is wound onto a tubular steel roller assembly that incorporates a 24V permanent magnet motor. The roller assembly is fitted inside a galvanised steel headbox that can be fixed directly to the structure of the building. A standard bottom bar consisting of twin 20mm x 20mm x 3mm steel angles, with a white polycarbonate extrusion cover, is used to ensure the curtain deploys under gravity in a controlled manner (Gravity Fail Safe). Heavier bottom bars may be required for some curtains to ensure correct deployment or to reduce deflection of the curtain due to variations in air pressure.

Optional 100mm deep x 50mm wide steel side guides can be specified if required to limit the deflection of the curtain at its edge and minimise smoke leakage. The curtain headbox, bottom bar and side guides (if required) can be powder coated in any RAL colour as an optional extra, or can be supplied in stainless steel.

Product Performance –

The complete SC1 Smoke Curtain system has been tested in both single and multiple overlapping roller configurations to EN12101 - Smoke and heat control systems – Part 1 –Specification for Smoke Barriers, and fully complies with Directive 89/106/EEC of the Council of European Communities with EC Certificate of Conformity number 1121-CPD-FA001. The SC1 Smoke Curtain also has a third party Certificate of Approval from Warrington Certification Ltd. Certifire Certificate Number CF5030. The X32K fabric has a class 1 surface spread of flame rating when tested to BS 476: Part 7 and a fire propagation index I =4.8 when tested to BS 476: Part 6. These tests demonstrate compliance with the requirements for Class 0, as defined in Approved Document B of the Building Regulations in England.

Smoke Curtain	Single Roller	Multi Roller	Max Width (M)	Max Drop (M)	Classification	Test Standard
	Yes	Yes	Unlimited	10.0	D120 / DH60	BSEN 12101

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Control Systems –
A Standard or Multi function Group Control Panel (GCP) is used in conjunction with Standard or Multi-Function Motor Control Circuits (MCC) to operate up to 6No 24v permanent magnet motors to control the deployment and retraction of the Smoke Curtain.

In normal conditions the GCP provides a 24v supply to the motors and the curtain are held in the retracted position in the headbox. When the fire alarm is activated the contact in the GCP is opened and the power is removed from the motors, releasing the curtains to deploy under gravity in a controlled manner (Gravity Fail Safe). When the fire alarm system is reset the GCP reinstates the 24v supply to the motors and the curtains are retracted to their normal position in the headbox. Current limiting switches detect when the curtain had fully retracted and the supply voltage to the motor is stepped down to a holding voltage.

In the event of a mains power failure the 2 No 12v 7ah back-up batteries supplied within the GCP can maintain full control of the system for up to 4 hours. If the fire alarm signal is activated during mains power failure the curtains will deploy in a controlled manner as normal.

GCP Features & Options –
LED status Indicators - LEDs on the front of the Standard GCP display the status of the mains supply, battery charge, alarm and any fault in the CPU. The Multi-Function GCP has extra LEDs that display if a delay timer or override function is active.
Manual override – Facility to temporarily raise all the curtains connected to the GCP after deployment, for emergency egress.
Two stage descent – Programmable timer delay that deploys the curtain in two stages to allow egress before full deployment of the curtain.
Delayed descent – Programmable timer delay of up to 90 seconds after the fire alarm signal is activated before full deployment of the curtain.
Delayed ascent – Programmable timer delay of up to 90 seconds after the fire alarm signal is reset before retraction of the curtain.
GCP interlinking – Enables multiple GCP's to be connected when more than 6 motors are controlled by one alarm signal, to ensure synchronisation of curtain descent and retraction.
Heat or Smoke detector – Can be used in place of, or in combination with, the main fire alarm signal (Requires a manual reset button).
AV facility – An Audio Visual Unit that activates to warn that the curtains are descending. Sounder beacons can also be used.
BMS connection – The GCP can be linked to a Building Management System to show the status of mains power, battery charge, alarm, timer delays and manual override.
Curtain released signal – Signal to the BMS to confirm that the curtain has been released.
Obstruction sensor – Gives a warning if there is an obstruction in the path of the curtain.

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