

ADEXON®

Adexon-HFC120E

Technical Information

2024

Adexon-HFC120E

Horizontal fire curtain certified to 120 minutes integrity rating

Description

The Adexon-HFC120E horizontal active fire curtain offers a fire protection solution for stopping the spread of fire between floors. Designed to limit and control the spread of fire for 120 minutes at over 1000°C. It achieves the rating of 120 minutes integrity (E).

The system is tested and certified to ISO/DIS 21524-1:2019. The horizontal curtain features no visible supports, allowing for completely unobstructed atria and stairwells. This lets light flow and increases ventilation options in open plan spaces without extra structural supports*. Operation is via two 24V DC tubular motors (one motor to open, and one motor to close), controlled by an electronic control board and 2 small motor controller units.

Our standard lead time is 10 – 12 weeks from approval of drawings. Optional extras such as Emergency Retract Buttons and Obstruction Warning are available upon request.

* Horizontal fire curtains larger than 3m x 3m have permanent steel support wires (6-8mm dia) across the opening at approx 1m spacing to support the fabric during deployment.

Applications

The Adexon-HFC120E is suited to many different applications; some of the most common are:

- Openings in floors, or ceilings
- Covering over and around
- Stopping fire spread between floors, for example, to separate levels of a building's atria

Certifications and Ratings

Certification:

ISO/DIS 21524-1:2019

Fire Safety Certification, Fire Performance, No. APF-1963

Ratings:

Integrity, e, rating: 120 minutes
Radiation, w, rating: N/A
Insulation, i, rating: N/A
Smoke Performance: N/A

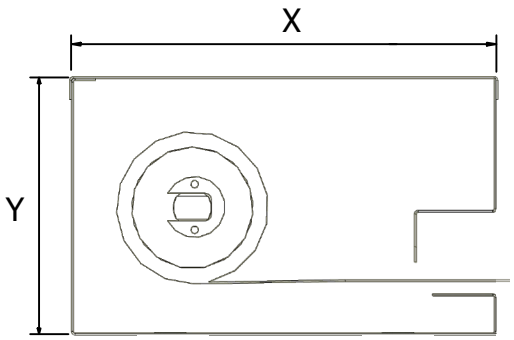
Maximum certified sizes

3.29m x 4.61m. Larger sizes coming soon.

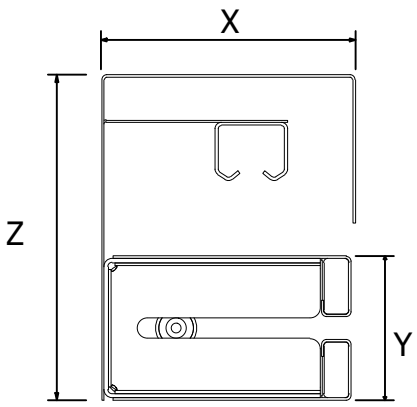


Headbox sizes

Manufactured from 1.2mm thick galvanised steel, the headbox is designed to have the smallest form factor possible to fit discretely into ceilings. Horizontal fire curtains have a headbox at both ends of the curtain, with each end containing a roller assembly. Headbox sizes change based on the fire curtain size requirements. Headboxes are available in all standard and non-standard PPC colours.
For any technical drawings, please contact admin@adexon-uk.com.



Headbox dims	
X	Y
360mm	200mm



Side guides

Manufactured from the same galvanised steel as the headbox, the side guides are designed to withstand the pressures caused by a fire. The side guides are available in all standard and non-standard RAL colours.

Side Guide Dims		
X	Y	Z
130mm	70mm	160mm

Bottom bar

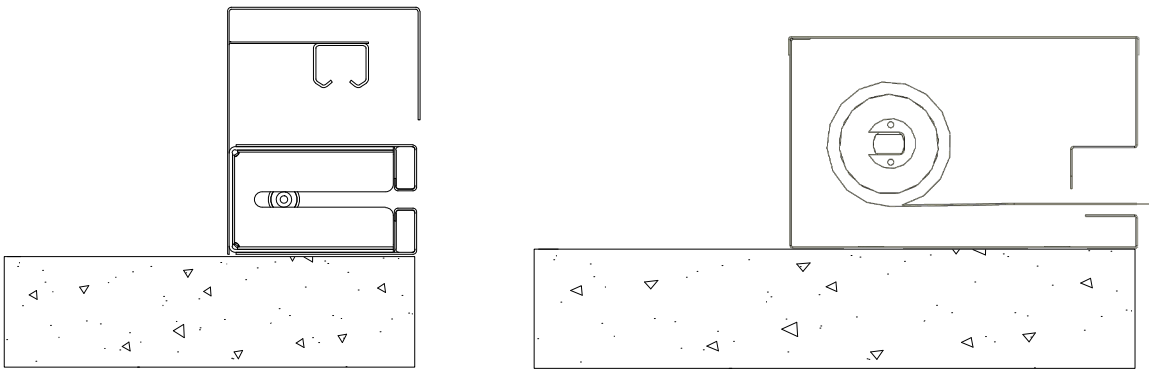
The bottom bar is only visible when the fire curtain is being activated. Because the bottom bar is not visible there is only one shape option available. The bottom bar is available in all standard and non-standard RAL colours.



Face fixed

Horizontal fire curtains are installed in a face fixed orientation. This ensures that you do not loose any of the opening size because of overhanging components. It also ensures that you have a more aesthetically pleasing opening. When a user looks up at an atrium or window, their view is not impeded by any of the fire curtain components. This also ensures ventilation is not impeded.

FACE FIXED



Fabric retention

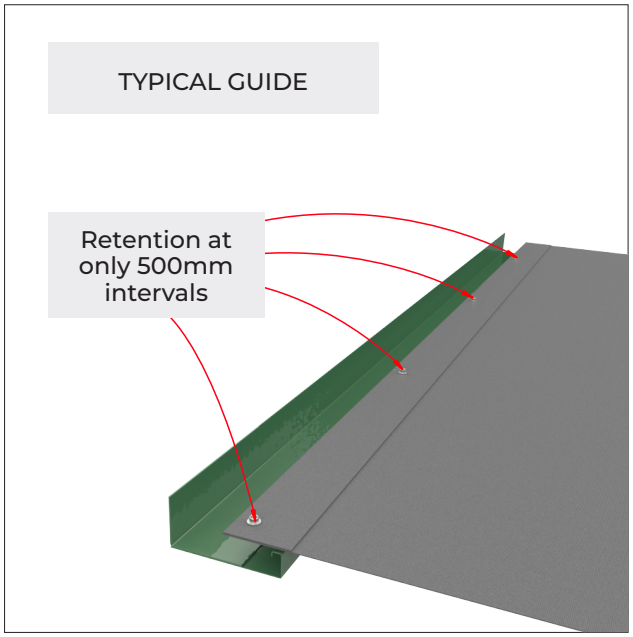
Adexon's guides have a unique fabric retention system that differs from all other UK manufacturers, utilising a full length retention design, instead of poppers/bolts retention every 500mm or so, that is used by others.

The Adexon design ensures the curtain doesn't;

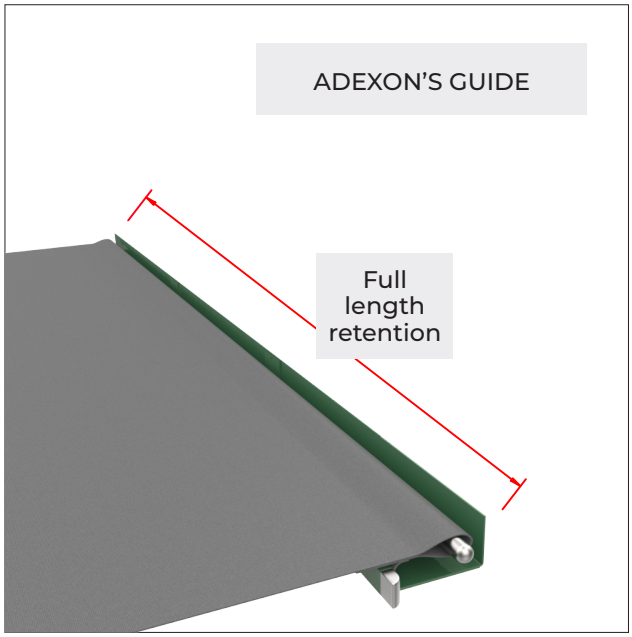
- snag and fail to descend
- blow out of the guides due to high pressure
- tear and rip

Read more on our website:
www.adexon-uk.com/why-fabric-retention-design-on-fire-smoke-curtains-matters-a-lot/

TYPICAL GUIDE

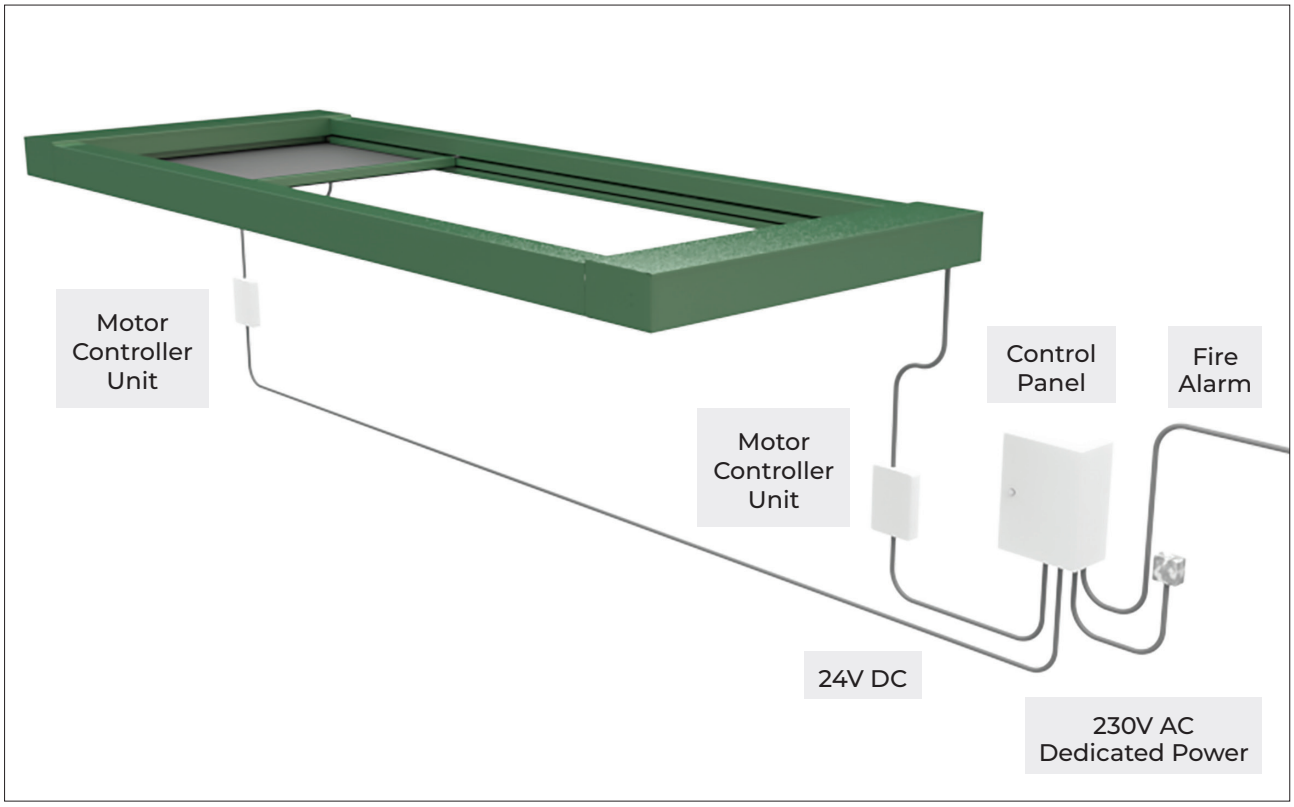


ADEXON'S GUIDE

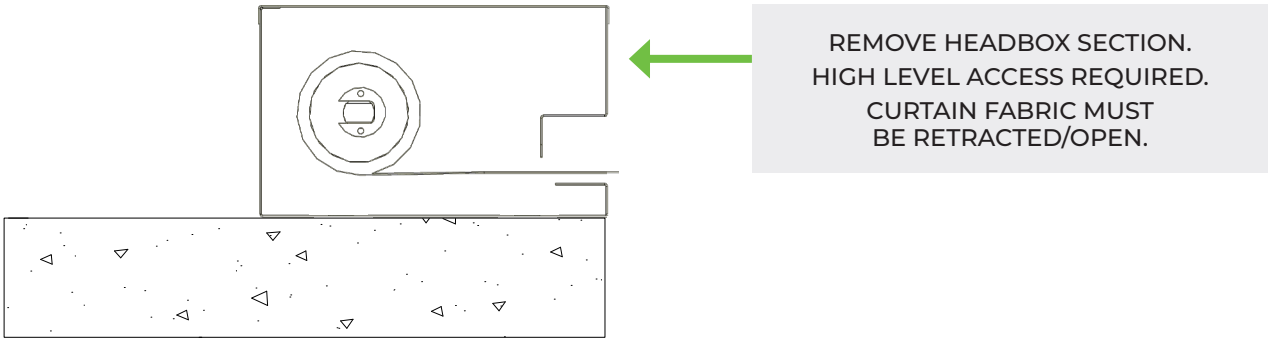


Site wiring

The Adexon control panel and motor controllers can be used to wire multiple curtains together. Standard single curtains require a 230V AC, 6-amp fused spur. If multiple curtains are controlled by one control panel, the power supply required varies. The curtain is activated via a normally closed volt-free signal, which can be supplied by several source types, for example, a smoke alarm, fire alarm, BMS. When the fire curtain is fully retracted, our proprietary 24V DC tubular motor holds the curtain in its fire-ready position.



How is the headbox accessed after installation



Operation

Within each headbox there is a roller assembly housed, one that houses the polyurethane-coated fibreglass fabric and the other to draw the curtain to it's fire operational position. The fabric is drawn down the galvanised steel side guides which include a fabric retention system to guarantee the fabric is retained within the guides during operation and ensure fire protection. Operated by tubular motors contained within the second roller assembly that are connected to the Adexon control panel which, in the event of a signal from the alarm, will activate the curtain.

Battery backup

It is mandatory that horizontal fire curtains are fitted with a secondary uninterrupted power supply. This is because a fire curtain in the horizontal orientation does not have a gravity fail-safe. As such, a secondary power source is required to be able to move the curtain into its fire ready position if the mains power fails.

Product specification

Under ISO 21524:2019, our Adexon-HFC120E fire curtain obtained a fire rating of 120 minutes (2 hours) integrity (E), when tested to ISO 834-1:1999. Therefore the Adexon-HFC120E is classified as E120 in accordance with the classifications of BS EN 13501-2:2007+A1:2009.

Our fabric is manufactured from fibreglass strands woven between reinforcing stainless steel wires. The fabric is covered with a flame-retardant polyurethane compound on both sides. This provides a high level of fire resistance tested to above 1000°C and the pressure and temperature associated with a fire.

Horizontal fire curtains larger than 3m x 3m have permanent steel support wires (6-8mm dia) across the opening at approx 1m spacing to support the fabric during deployment.

Case study: LJMU Redmond's Building

With its roots stretching back as far as the Industrial Revolution, Liverpool John Moores University remains a prestigious player in the university league tables for the North-West of England.

We installed four of our Adexon-HFC120E horizontal fire curtains, which were installed across the technical office/store, the TV studio and TV Newsroom, and post-production room. These Active Fire Curtain systems were customised with a white RAL 9010 finish on the side guides, bottom bar, and headbox, to ensure it did not stand out unnecessarily against the spaces décor. We also installed a smaller Adexon-HFC120E fire curtain across the void staircase. This design was finished off with a black RAL 9005 headbox which ensured it remained aesthetically pleasing.



Uniclass Specification

Adexon-HFC120E Horizontal Fire Curtain

Pr_25_80_79_38 : Horizontal active fire curtain barriers (Adexon Horizontal HFC120E)

1. Description: Horizontal fire curtains are fixed to one or both sides of the opening. Instead of deploying top to bottom, these curtains can deploy horizontally from left to right, or vice versa, so are appropriate for different spaces. These have an integrity (E) rating, which limits and controls the spread of fire, with a maximum classification of 120 minutes.
2. Manufacturer:
   Adexon Fire & Smoke Curtains
   Prospect House
   Huyton Church Road
   Liverpool L36 5SH

   t: 0151 422 9111
   e: admin@adexon-uk.com
   w: www.adexon-uk.com
3. Product reference: Horizontal HFC120E
4. Operation: Automatic, using 24V DC tubular motors in conjunction with motor controllers controlled by an electronic control board. Standard single curtains require dedicated 230V AC in a 6-amp fuse spur.
5. Standards:
   - 5.1. Barrier assemblies: ISO 21524-1
   - 5.2. Test standards: EN 1365-2:2014
6. Third-party certification: Applus+ Certificate APF-1963
7. Size: Curtain max. dimensions - Contact Adexon for max sizes

   Determine project requirements on a curtain-by-curtain basis through detailed design and scheduling. Refer to drawings for locations
8. Performance:
   - 8.3. Fire resistance: RE 120
10. Deployment: Determine requirements on a curtain-by-curtain basis
11. Activation: As advised by the Client's Designers, may vary on a location-by-location basis
12. Finish: All headbox and rail components shall be made from galvanised steel as standard. Powder coating available (C1-5) to RAL colour to be advised by the Client's Architect.
13. Accessories: Determine requirements on a curtain-by-curtain basis

ADEXON®

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E&OE

Acclaim Accreditation
Applus
BRE GLOBAL CERTIFICATION
UKAS MANAGEMENT SYSTEMS 0007
CHAS® Accredited Contractor CHAS.co.uk
Constructionline Gold Member