

DSI Smoke and Fire Curtains

Elevator Shaft and Lobby Protection

Wall Opening Protection

Floor Opening Protection

Atrium Smoke and Fire Management

Smoke Channeling and Compartmentalization

Smoke and Fire Protection with Egress

The **SMOKE** and **FIRE CONTAINMENT** People
doorsysinc.com



BURN TEST AT UL

LETTER FROM THE PRESIDENT

Door Systems®, is a full-service smoke and fire protective curtain company dedicated to providing innovative solutions to your existing smoke and fire protection needs. We assist in concept, design, and layout of all future smoke and fire containment projects.

Whether you are an architect seeking consultation on a new construction project or a building owner/engineer looking to bring your existing smoke and fire control system up to code while reducing maintenance cost and energy expense, the Door Systems staff is here to assist.

Our Gravity Fail Safe DSI Smoke and Fire Protective Curtains have innovative features and the highest technical specifications available yet offer cost-effective and flexible solutions to fire and smoke control. Our curtain systems are designed to be discreet, robust, and simple to operate and maintain.

This globally recognized technology is gaining rapid acceptance here in the United States. The manufacturing processes and quality control procedures of our products are certified to meet the full requirements of ISO 9001:2015. Every smoke curtain and fire curtain from Door Systems is Certified and Listed by UL. All our DSI Smoke and Fire Protective curtains are rigorously tested and comply with all UL standards allowing their incorporation into architectural designs throughout the United States.

Please take a moment to look through our product applications and see how our curtain technology will play a valuable role in your building design.

Sincerely,

Jeff Bonnema

Jeff Bonnema, President
Door Systems

FIRE AND SMOKE PROTECTION TO SUIT ALL YOUR APPLICATIONS

Here at Door Systems®, we take great pride in providing the architectural industry with top notch design services as well as a product that is unmatched in design, function, and durability. We offer all our clients to come by and tour our Placentia, CA or San Jose, CA showroom and see various DSI Fire protective Smoke Curtain® configurations and applications in action.

Feel free to contact us over the phone or via email to assist you in your application design needs.



Elevator Shaft and Lobby Smoke Containment

Elevator shafts are easy conduits to spread smoke and fire which can engulf an entire building in minutes. While virtually invisible when retracted above the ceiling, DSI elevator smoke curtains create a smoke and fire barrier that replaces the need for elevator lobbies.

Wall Openings and Fire Compartmentalization

To prevent the spread of smoke and fire from one zone to another, DSI Smoke and Fire Curtains are a vital element of smoke and fire compartmentalization strategy.

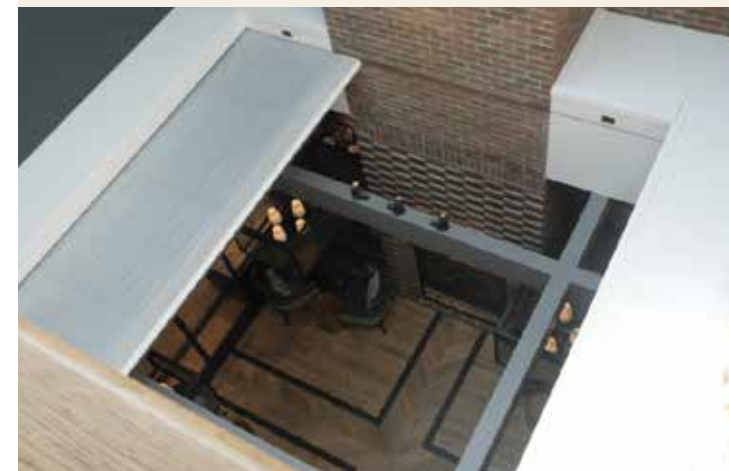


Atrium Smoke and Fire Strategy

Atriums create large open spaces that can be quickly engulfed in smoke and fire as it spreads from lower to upper levels. The spread of smoke and fire can be limited by DSI Smoke and Fire Curtains as they channel smoke to extraction systems.

Access Areas

Escalators and stairs create gaps between floors. These gaps are critical points that need to be sealed to stop the spread of fire and smoke from the lower and upper levels. By deploying on the upper level, fire curtains create a physical barrier against fire.



Floor Openings

Loft areas present design challenges of preventing smoke and fire from spreading through ceiling and atrium voids, stairwells and skylights.

Fire-rated Glass Alternative

Fire-rated glass is not only extremely expensive, but also has size limitations. This means unsightly mullions will have to be incorporated in most applications. Use of the DSI Fire Curtain, in front of non-rated glass, serves as an architecturally pleasing and cost-effective alternative.





MODEL DSI-600
Elevator Smoke Containment System®

A cost-effective and architecturally pleasing solution for your elevator shaft and lobby fire protection.

The DSI-600 elevator smoke curtain creates a code compliant smoke and draft control assembly when paired with fire-rated elevator doors. The Gravity Fail Safe deployable SMOKE and FIRE protective curtain system is composed of a glass fiber fabric rolled on a round steel tube in a fire-rated assembly. The curtain remains retracted above the finish ceiling by a low voltage system until activated by the fire alarm system at which point it descends at 6 in/sec and creates a smoke and fire barrier.

Compliant with...

Code	Description
UL 10 D	One Hour, Two Hour, or Three Hour Fire Protective Curtain System
UL 1784	Listed Smoke Migration S Label
UL 864	Listed Release Device
AC77	ICC Evaluation Test Report ESR #4761
	California State Fire Marshall Listed
	OSHPD Approved
	LAFD Approval for High Rise Applications

ADVANTAGES:

- Custom sizes available to fit any size elevator
- One curtain can cover entire elevator bank
- Compact design: 7 1/2" x 7 1/2" headbox
- Creates open space for your building design
- Various finishing options available
- Battery back-up system standard
- Multiple egress options

"The thing that surprised me most is that they are so concealing and you would never know they were there. This is important to landlords and architects looking to use a system that works yet blends in with the surroundings."

Philip Hernandez, Operations Manager
The Swig Company

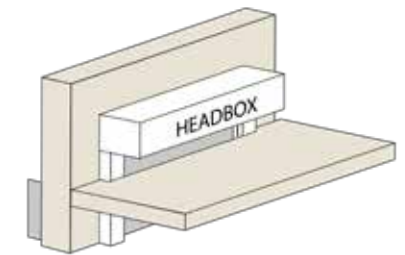
HEADBOX FINISHING OPTIONS



Flush to Ceiling (OPTION#1)

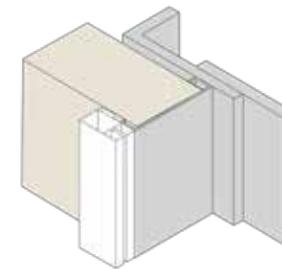


Exposed Mount (OPTION#2)

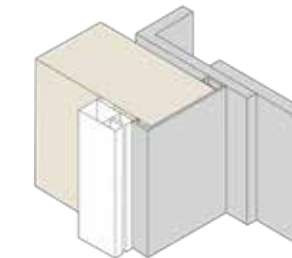


Shadow Gap (OPTION#3)

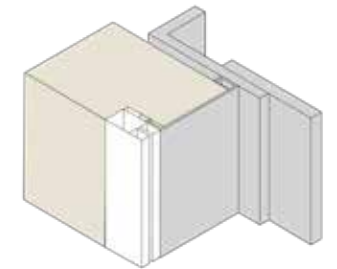
SIDE GUIDE MOUNTING and FINISHING OPTIONS



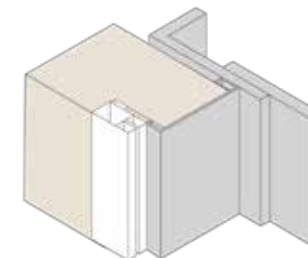
Exposed Flush (OPTION#1)



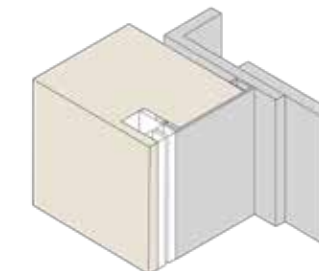
Exposed Setback (OPTION#2)



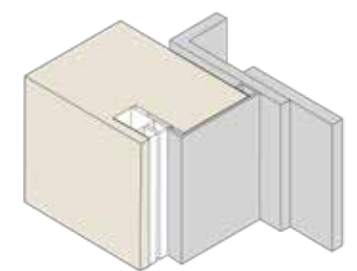
Butt to Wall Flush (OPTION#3)



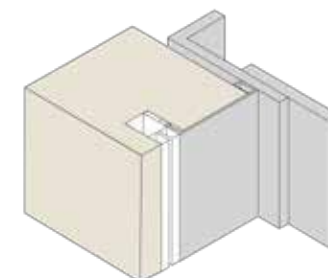
Butt to Wall Setback (OPTION#3a)



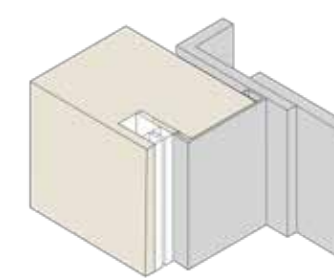
Inset in Drywall Flush (OPTION#4)



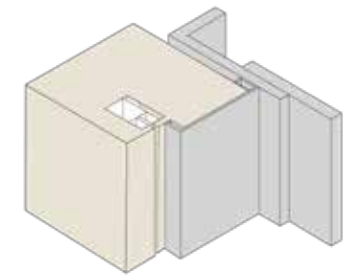
Inset in Drywall Setback (OPTION#4a)



Inset in Wall Flush (OPTION#4b)



Inset in Wall Setback (OPTION#4c)



Shadow Gap (OPTION#5)

MODEL DSI-C1HR & DSI-C3HR

Smoke and Fire Curtains

The DSI Smoke and Fire Curtain Model DSI-C1HRSS single barrel configuration for widths under 16 feet and Model DSI-C1HRSM multi barrel configurations for widths over 16 feet create a one hour opening protective smoke and fire barrier.

The assembly comprises a fire-rated fiberglass fabric wrapped around a roller which encases a compact head box that is typically installed above the ceiling with side guides that are buried in the wall. This makes the system virtually invisible until activated.

The DSI-C1HR and C3HR Smoke and Fire Curtains are completely Gravity Fail Safe, resets automatically, and incorporates the latest in electronic technology. As a result, these curtains are one of the most advanced, yet cost-effective systems on the market.

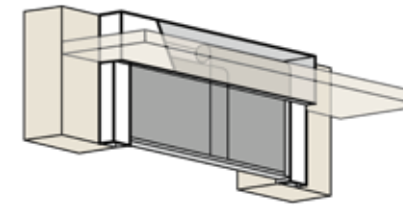
ADVANTAGES:

- Cost-effective
- Creates open space for your building design
- Compact design , low headroom requirements
- Virtually invisible design
- Lightweight, requires little to no structural support
- Unlimited width, custom sizes
- Code compliant
- Multiple egress options
- Battery backup system standard
- Fail safe system with automatic reset

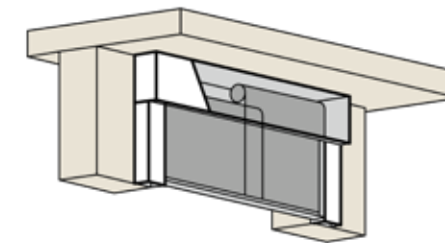
Compliant with...

Code	Description
UL 10 D	C1HR: Fire protective Smoke Curtains – 60 minutes
UL 10 D	C3HR: Fire protective Smoke Curtains – 180 minutes
UL 1784	Air leakage test of door assemblies
UL 10 C	Without Hose Stream Test – 20 minutes
UL 10 B	Without Hose Stream – 20 minutes
UL 864	Control Units for Fire Protective Signaling Systems
	California State Fire Marshall Listed
	OSHPD Approved
	LAFD Approval for High Rise Applications

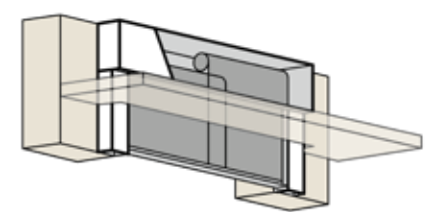
HEADBOX FINISHING OPTIONS



Flush to Ceiling (OPTION#1)

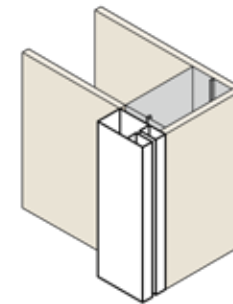


Exposed Mount (OPTION#2)

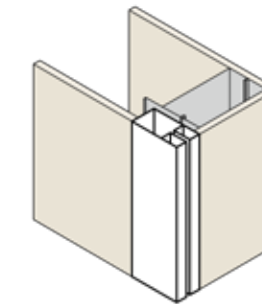


Shadow Gap (OPTION#3)

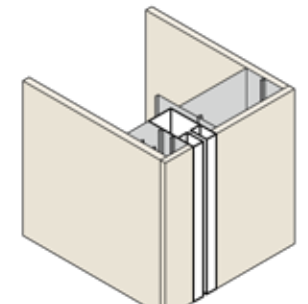
SIDE GUIDE MOUNTING OPTIONS



Exposed Flush (SGMEF)



Butt to Wall Flush (SGMBWF)



Inset in Wall Flush (SGMIWF)

SINGLE ROLLER MOUNTING OPTIONS



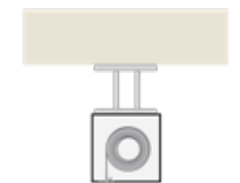
Fixed Mount (SRMFM)

Fixed directly to the lintel above an opening.



Soffit Fixed Mount (SRMSFM)

Fixed directly to the underside of the soffit slab.



Suspended Soffit Mount (SRMSSM)

Suspend from soffit via unistruts and all thread.

MULTIPLE ROLLER MOUNTING OPTIONS



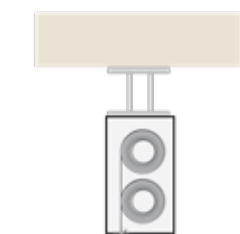
Over/Under Arrangement (MRMOU)

Fixed directly to the lintel above an opening.



Side by Side Arrangement (MRMSS)

Fixed directly to the underside of the soffit slab.



Suspended Over/Under Arrangement (MRMSOU)

Suspend from soffit via unistruts and all thread.



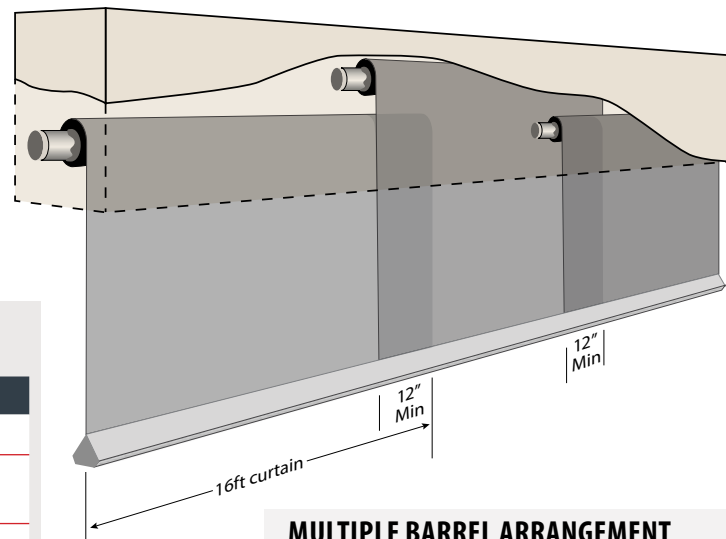
PASS-THROUGH SLOT EGRESS DOOR

Smoke and Fire Curtain

DSI Smoke and Fire Egress Curtains assist the management of cross corridor separation and mass egress to their specific requirements. The DSI Pass-Through Slot Door option facilitates emergency escape even in case of power failure situations. DSI egress curtain applications are used in the elevator shafts, elevator lobbies, cross corridors, staircase, and emergency exits.

ADVANTAGES:

- Fabric tested to BS 476 Pt 6 & Pt 7. Class 0
- Custom sizes available to fit any opening
- Multiple egress options
- Less than 15 pounds of opening force required to open



MULTIPLE BARREL ARRANGEMENT

- Allows the curtain to be built to virtually unlimited widths
- With proper stenciling creates the "Pass-Through Slot Egress Door"

Compliant with...

Code	Description
NFPA 101	Life Safety Code
NFPA 105	Standard for the installation, upkeep, and examination of smoke door assemblies
UL 10D	Fire Protective Curtain Assemblies
UL 10 B	Time Temperature Curve
ASTM- E84	Test Method for Surface Burning Characteristics of Building Material
BS 5234-2:1992	(Method of Test as set out within BS 8524-1 :2013) Double Severe Duty Impact Test
ICC-ESR #4761	Approved egress option for elevator smoke curtains

OTHER EGRESS OPTIONS



Push to Exit Buttons

- Not dependent on main power
- Powered by internal battery
- Protected by rated raceway



Delayed or 2-stage Descent

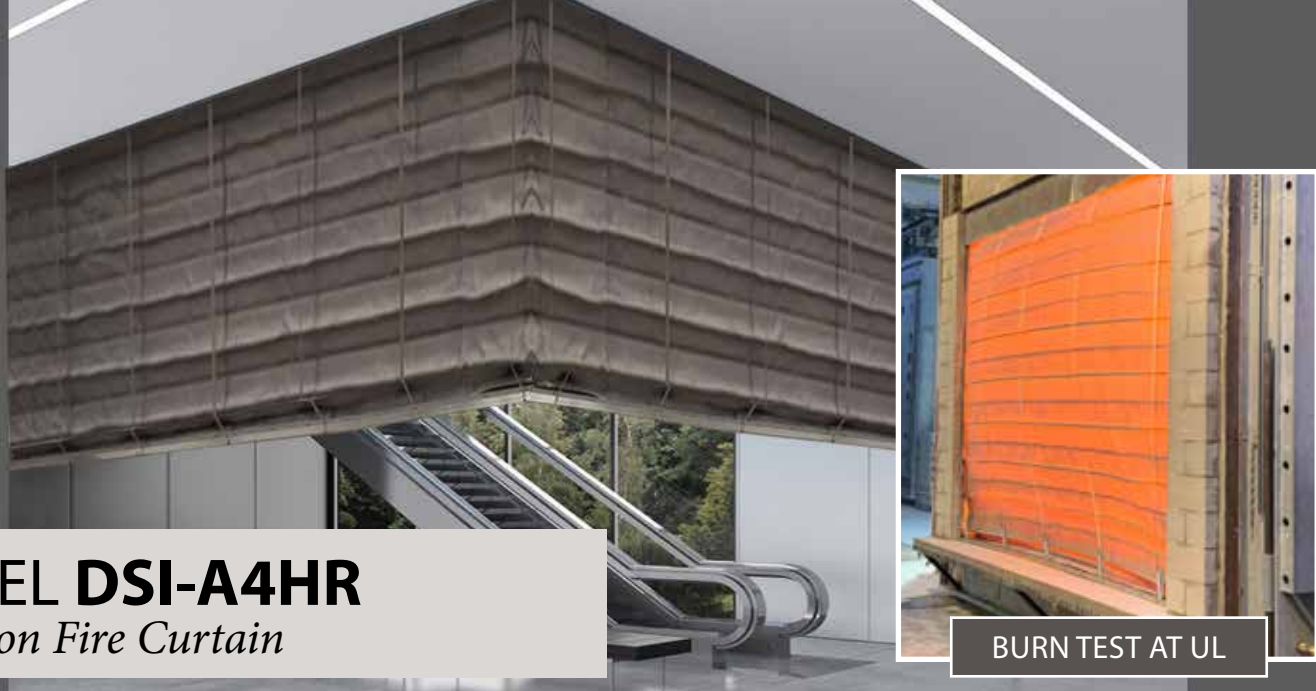
- Duration of delay (30 seconds up to 20 minutes)
- Height of delay adjustable
- Held in place by brake motor



Manual Grab Strap Egress

- Curtain retraction not required
- Less than 15 pounds of opening force required to open

MODEL DSI-A4HR Accordion Fire Curtain



The DSI Accordion Fire Curtain Model DSI-A4HR creates a four-hour opening protective fire barrier for a variety of applications without the need for columns or corner posts. Applications include atriums, stairwells, escalators, and other custom applications.

The curtain assembly comprises fire-rated fiberglass fabric uniquely folded into a compact head box that is typically installed above the ceiling with a finished bottom tray. This makes the system virtually invisible until activated.

The DSI-A4HR Accordion Fire Curtain is completely Gravity Fail Safe, resets automatically, and incorporates the latest in electronic technology. As a result, DSI-A4HR Accordion Curtain is one of the most advanced, yet cost-effective systems on the market.

Compliant with...

Code	Description
UL 10 D	Fire protective Smoke Curtains – 4 hours
UL 1784	Listed Smoke Migration S Label
ASTM E84	Class A Surface Building Characteristics of Building Materials
UL 10 C	Without Hose Stream Test – 20 minutes
UL 10 B	Without Hose Stream – 20 minutes
UL 864	Control Units for Fire Protective Signaling Systems

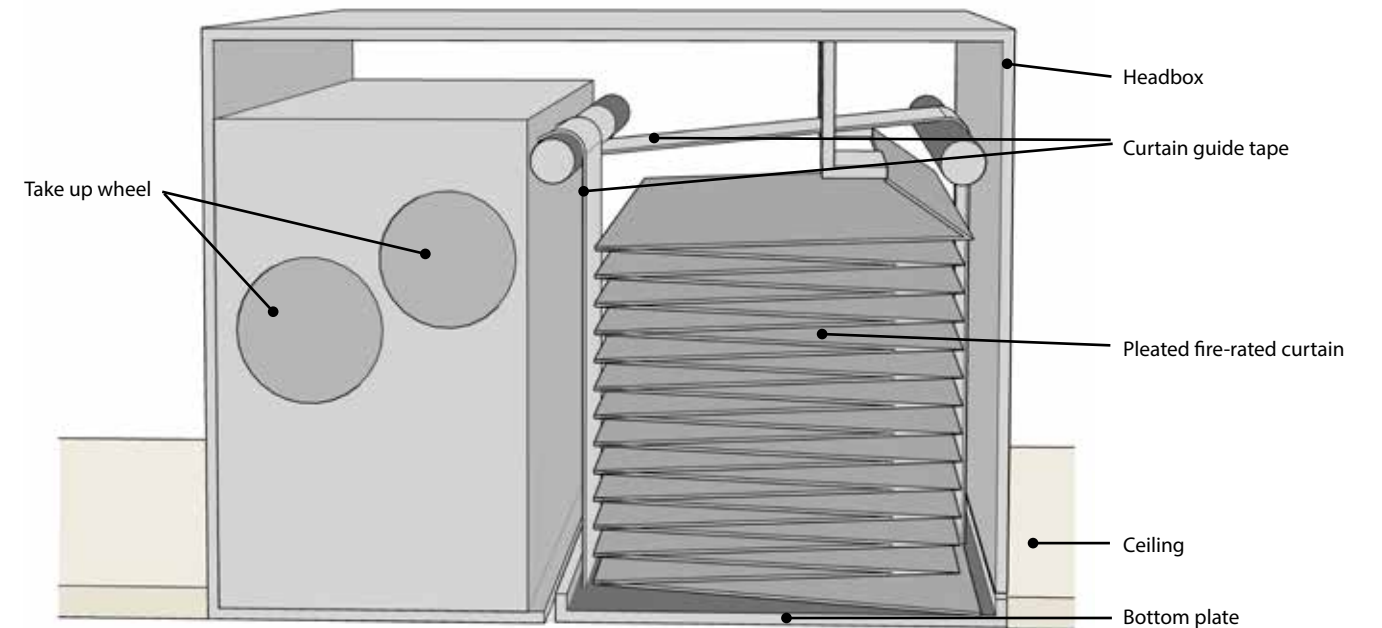
ADVANTAGES:

- Cost-effective
- Creates open space for your building design
- Compact design, low headroom requirements
- Virtually invisible design
- Lightweight, requires little to no structural support
- Unlimited width, custom sizes
- Code compliant
- Option for egress
- Battery backup system standard
- Fail-safe system with automatic reset

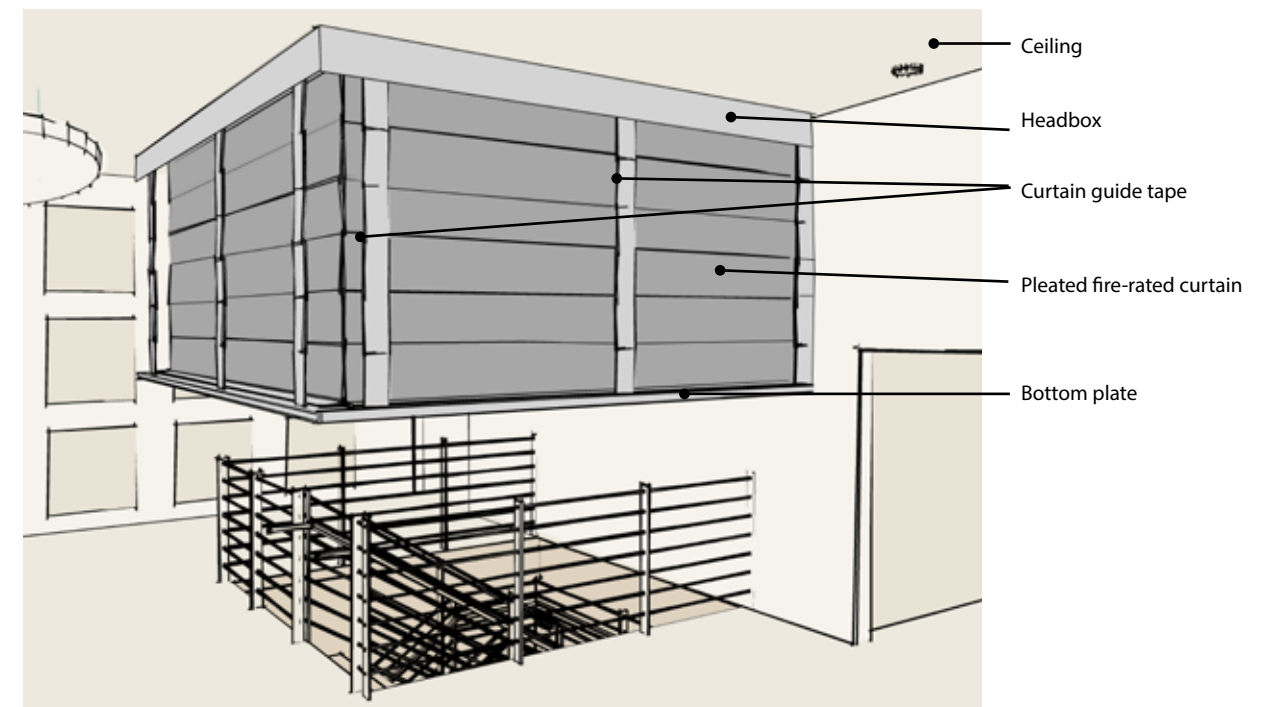
“Door Systems installed all the automatic fabric fire curtains on both sides of the clear story atrium as well as in front of all the elevators. Some of the DSI fire curtains are over 45 feet wide which is larger than any fire door I have ever worked with in my 35 years of construction experience.”

David Therault, Site Superintendent
W. L. Butler Construction

HEADBOX MECHANICS



3 SIDED CURTAIN FOR STAIRWELL PROTECTION APPLICATION





MODEL DSI-H 3HR

Horizontal Fire Curtain

The DSI Horizontal Fire Curtain Model DSI-H3HR allows architects to compartmentalize large floor openings and reduce or eliminate mechanical smoke evacuation systems. A solution to design challenges of preventing smoke and fire from spreading through the ceiling and atrium voids, stairwells, and skylights.

The DSI Horizontal Fire Curtain consists of a light gauge steel headbox that houses the roller, fabric, and motor within the casing to create a small compact package that remains virtually invisible. The curtain consists of woven fiberglass wire reinforced fabric. During deployment, the slim steel side guides prevent derailment of the fabric during operation ensuring integrity of the system when faced with negative or positive pressures of a fire.

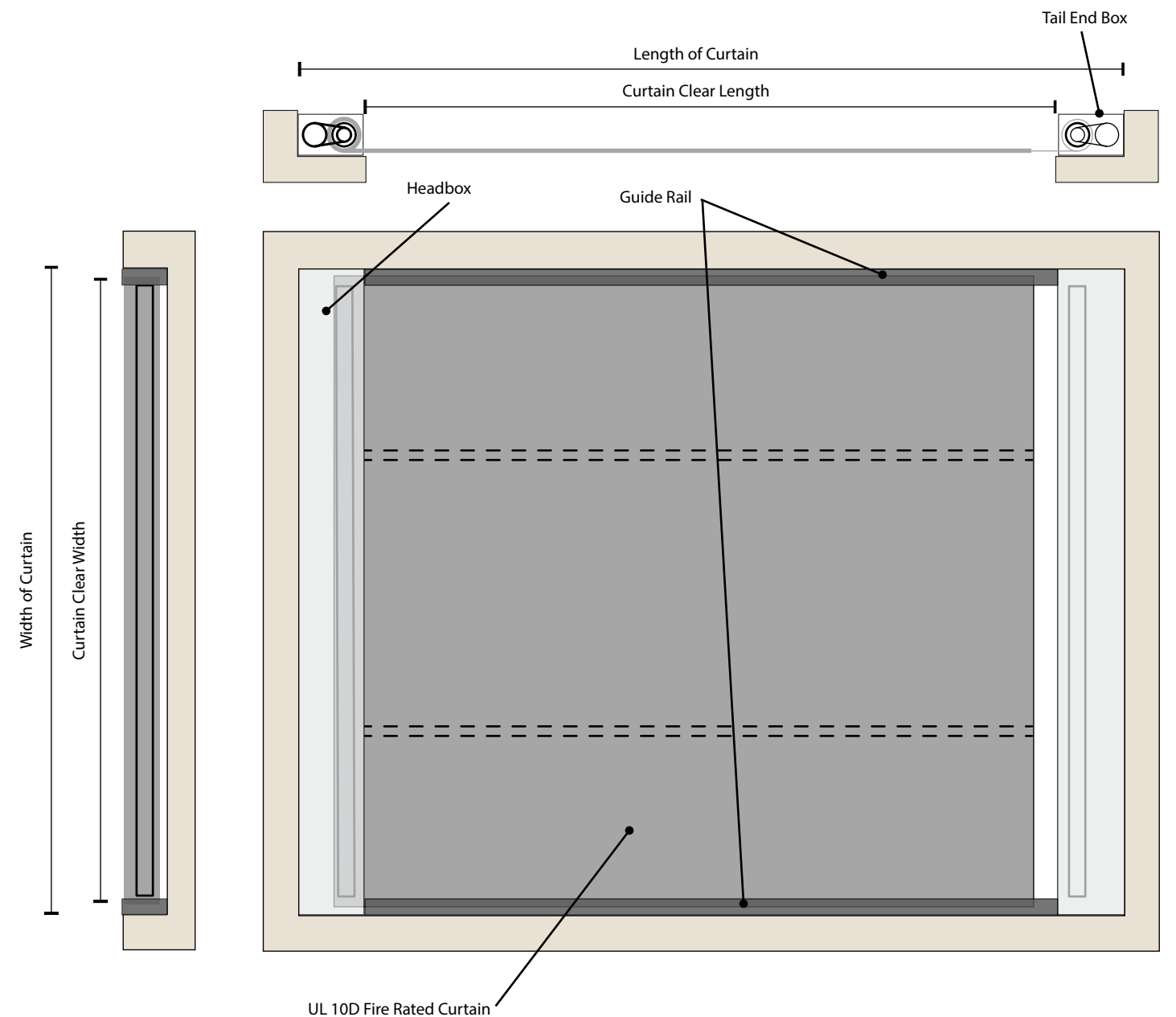
ADVANTAGES:

- Cost effective
- Creates open space for your building design
- Can achieve sizes up to 26 feet wide by 33 feet long
- Saves money by reducing or eliminating smoke evacuation systems
- Code compliant
- 3 hour fire rated
- Battery back-up system standard
- Fail-safe with automatic reset
- Virtually invisible design
- Lightweight, requires little to no structural support
- Multiple mounting options: Above slab mount or under slab mount

Compliant with...

Code	Description
UL 10 D	Fire protective Smoke Curtains – 3 hours
ASTM E84	Class A Surface Building Characteristics of Building Materials
UL 10B	Without Hose Stream Test – 20 minutes
UL 10C	Without Hose Stream Test – 20 minutes
UL 864	Control Units for Fire Protective Signaling Systems
BS 5234-2	Fabric Impact Test to double severe duty

HEADBOX MECHANICS





MODEL DSI-D1HR Automatic Smoke Curtain

DSI Automatic Smoke Curtains assist the management of smoke in a building, channeling the movement of smoke to smoke extraction points in the building or creating reservoirs to slow down the spreading of smoke. The curtains remain virtually invisible in their retracted position within the compact head-box.

When signaled by a local detector or fire alarm system, the curtain descends to the operational level using the Gravity Fail Safe system.

The DSI Automatic Smoke Curtain Model DSI-D1HRS single barrel configuration for widths under 16 feet and Model DSI-D1HRM multi barrel configurations for widths over 16 feet create a one-hour opening protective smoke and fire barrier.

The assembly comprises a fire-rated fiberglass fabric wrapped around a roller which encases a compact head box that is typically installed above the ceiling. This makes the system virtually invisible until activated.

The DSI-D1HR Automatic Smoke Curtain is totally Gravity Fail Safe, resets automatically, and incorporates the latest in electronic technology. As a result, it is one of the most advanced, yet cost-effective systems on the market.

ADVANTAGES:

- Cost-effective
- Creates open space for your building design
- Compact design, low headroom requirements
- Virtually invisible design
- Lightweight, requires little to no structural support
- Unlimited width, custom sizes
- Code compliant
- Battery backup system standard
- Fail-safe system with automatic reset
- Three-hour option available

System tested in accordance with...

Description
BS EN 12101-1 Annex B (Reliability, Response time & Material Durability)
BS EN 12101-1 Annex C (Air Leakage)
BS EN 12101-1 Annex D (Fire Resistance Test)
UL 10 D, UL 1784, UL 864
Fabric Tested to BS 476 Pt 6 & Pt 7, Class 0
System tested in single & Multiple Barrel Orientation
Tested to ASTM E84 & UL 723 for VG455 Fabric



FIXED / STATIC DRAFT CURTAINS Smoke Curtain

DSI Static Draft Curtains are an effective product designed to provide protection against smoke in commercial and industrial structures. Secured to structural steel, Draft Curtains ensure that the smoke and hot gases arising from fire to remain buoyant within the smoke zone consistent to smoke management strategies. Used in both sprinklered and non-sprinklered buildings for automatic smoke removal.

Compliant with...

Code	Description
UL 10 D	Fire protective Smoke Curtains – 60 minutes
UL 723	Surface burning characteristics of building materials
ASTM E84	Surface burning characteristics of building materials
IBC 2009/2012	Requirements for high hazard, fire-resistance-rated construction

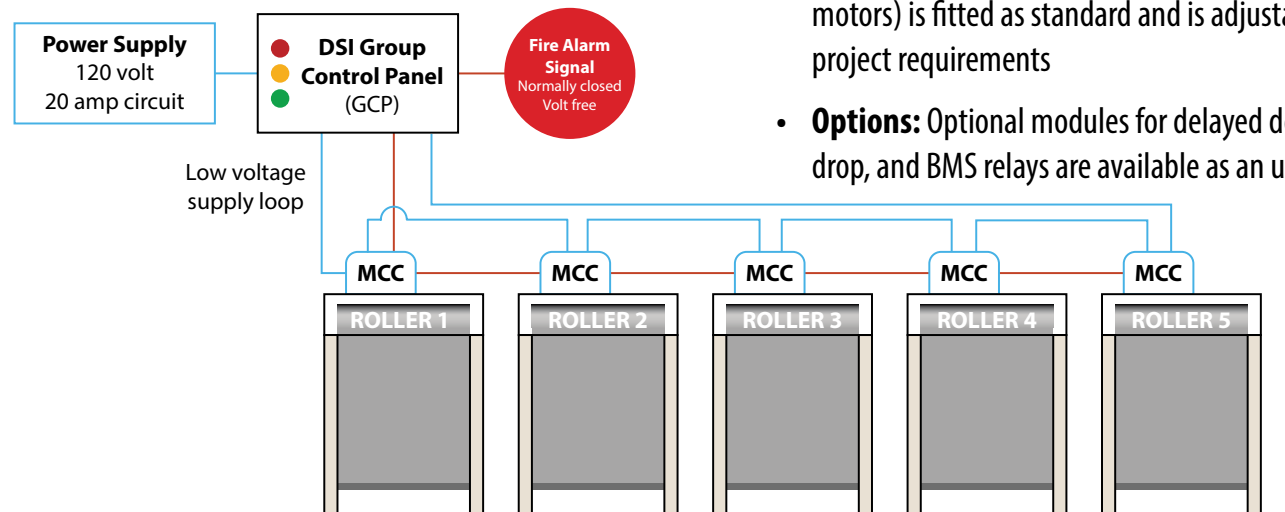
ADVANTAGES:

- Lightweight and reduces load bearing
- Custom sizes and configurations
- Unlimited widths
- Low maintenance



DSI CONTROL OPTIONS

The Group Control Panel (GCP) provides power to the Motor Control Circuit (MCC) units when the fire alarm status is normal (closed). If the fire alarm is activated, the MCC units are powered down, allowing the curtains to deploy via gravity to their operational fire position. When the alarm is reinstated, the MCC's are powered up retracting the curtains. If there is a main power failure, the back-up batteries provide power to the MCC's for up to 3 hours (subject to load) and prevent deployment until discharged, unless overridden by an alarm signal. Delayed descent and delayed reset functions are fitted as standard.



Motor Control Circuit Specifications

Type	Description
Dimensions	6-1/2" H x 9-1/2" W x 2" D
Finish	White powder coated mild steel

FEATURES

- **Integral Battery Back up:** Up to 3-hour power supplied by two 7Ah rechargeable, sealed, lead acid cells
- **Testing:** Key switch control on panel
- **Status Indication:** LED series on panel: Green=main power healthy, Red=fire status, Bottom Green=battery failure
- **Compatibility:** The GCP runs up to 5 MCC units (5 motors) from the 24v ring output. Two stage descent (with brake motors) is fitted as standard and is adjustable to suit project requirements
- **Options:** Optional modules for delayed descent, split drop, and BMS relays are available as an upgrade



Group Control Panel Specifications

Type	Description
Dimensions	15-1/2" H x 13-1/2" W x 4" D
Finish	White powder coated mild steel
Power supply	120-130v 60Hz AC
Fire signal	Open on fire, normally closed volt free contacts

DSI VG455 FABRIC

Smoke and Fire Curtain 1-hour Option

VG455 is a specially formulated medium-weight fiberglass fabric, coated with aluminum pigmented polyurethane on both sides of the fabric which creates a reflective heat shield and enhances durability and flexibility of the fabric. It is tested to BS 476 Pt 6 (fire propagation) and Pt 7 (surface spread of flame), ASTM E84 & UL 723.

When tested to EN 12101-1 as part of the DSI Smoke and Fire Curtain, VG455 has successfully passed Annex B (material durability cycle test), Annex C (air leakage test) and Annex D (120 minutes fire resistance). The DSI Smoke and Fire Curtain using the VG455 fabric is approved for a CE D120 label. In addition, when tested in accordance with UL 10D, at 1800F, the material achieved a 1-hour fire rating.



DSI VWG690 FABRIC

Smoke and Fire Curtain 3-hour Option

VWG690 is a specially formulated heavyweight fiberglass fabric, reinforced with stainless steel wire and coated with fire retardant aluminum pigmented polyurethane on both sides of the fabric. It is tested to BS 476 Pt 6 (fire propagation) and Pt 7 (surface spread of flame) and has achieved the best result of Class 0 for both.

When tested to EN 1634-1 as the full DSI Smoke and Fire Curtain Assembly, the fabric achieved a fire resistance of 180 minutes. The finished curtain fabric is carefully sewn with stainless steel thread to achieve a factory produced hems at the top and the sides. In addition, when tested in accordance with UL 10D, at 1800F, the material achieved a 4-hour fire rating.



Fabric Specifications

For a full list of specifications of either fabric, visit our website (www.doorsysinc.com) or review our product cut sheets.



GUARANTEED QUALITY

Door Systems guarantee high quality products, tested to both UL and BS standards.

This is why we do what we do...



Currently, I have DSI 600 Elevator Smoke Curtains installed in one of my high-rise buildings in DTLA. In the future, I'll install them in others. Unlike other elevator smoke curtains we have used, the DSI 600 curtains all come down at the same time in a controlled rate of descent and require no effort to reset. Works every time!

The Door Systems staff does a great job and are very attentive. I recommend Door Systems and the DSI 600 Elevator smoke Containment Systems to any landlord or operations manager in need of a smoke and fire containment system.

Philip Hernandez, Operations Manager



I am very impressed with how well the DSI curtains function and operate as well as how Door Systems performs as a company.

The fire testing went off without a hitch with the fire department, which is truly impressive. Door Systems was great to deal with, easy to communicate with, responded in less than 24 hours whenever we contacted them, and were always very accommodating.

I would recommend Door Systems to any contractor.

David Therault, Site Superintendent



We have your DSI 600 Elevator Smoke Curtains installed on both our Maxfield Lofts and Garment Lofts high rise buildings in downtown Los Angeles. From the very beginning the curtains have been working wonderfully. We are very happy with the system and have had no issues. I don't think we could have done better with any other company or product.

I have and will continue recommending your company for future work on our properties.

Alex Hernandez, General Manager



Want to learn more?

(866) 534-DOOR (3667)
doorsysinc.com
contact@doorsysinc.com