

# *Flexible Smoke Curtains*

## Automatic smoke curtains

- Supercoil
- Moducoil
- Stripecoil
- Smokeshield-S
- Smokeshield-C

## Fixed smoke curtains

- Supercoil fix
- Moducoil fix

## Temporary smoke barrier

- Apericoil



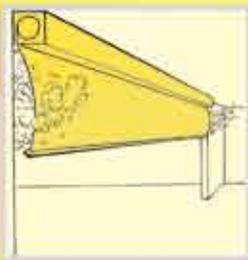
@ [www.stoebich.com](http://www.stoebich.com)  
[info@stoebich.com](mailto:info@stoebich.com)

**STÖBICH**  
FIRE PROTECTION

*Innovation for your Protection!*

# Overview

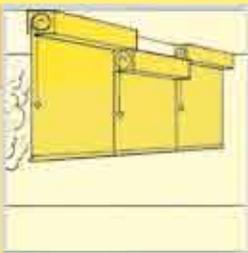
## Supercoil



4/5

Classical, first class, automatic smoke curtains

## Moducoil



6/7

Modular automatic smoke curtain

## Stripecoil



8/9

Automatic smoke curtain with the feasibility to pass through

## Smokeshield-S



10/11

Automatic smoke curtain to create rooms

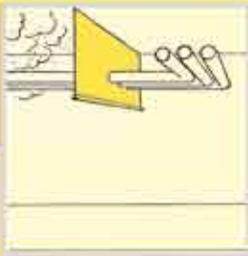
## Smokeshield-C



12/13

The curved smoke curtain with a leakage of 0 %

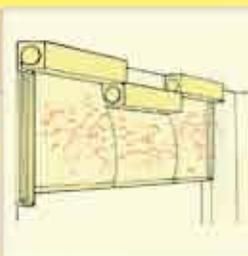
## Supercoil/Moducoil fix



14/15

Static smoke curtain

## Apericoil



16/17

Self-opening smoke curtain

## Certificate for the usability

### CE-label:

A certificate for the usability according to EN 12101-1 is required.

### Classical, first class, automatic smoke curtain:

Approval according to the Building Supervision for the characteristics of the complete smoke curtain in case of fire: Provided that basic demands from the valid product standards are missing, additional certificates become necessary. Smoke curtains always need an official approval document.

**According to the test standard EN 12101-1** the following tests are necessary: Fire test, cycle test and a tests for the tightness of the fabric.

### Classification according to EN 12101-1: Temperature/time-classifications

Class	Temp.(°C)	Time (minutes)	Class	Temp.(°C)	Time (minutes)
D 30	600	30	DH 30	STTC	30
D 60	600	60	DH 60	STTC	60
D 90	600	90	DH 90	STTC	90
D 120	600	120	DH 120	STTC	120
DA	600	>120 achieved time	DHA	STTC	> 120 achieved time

Application with higher temperature

STTC = Standard-Time-Temperature-Curve according to EN 12101-11

### Different drive units for a secure closing:

Type	Gravity Fail System	Motorized closing (with batteries and fire resistant cables)	Alarm position > 2,5 m from floor. V = 0,06-0,15 m/sec.	Alarm position > 2,5 m from floor V = 0,06-0,3m/sec.
ASB 1				
ASB 2				
ASB 3				
ASB 4				

### Required quality surveillance to achieve the "CE"-label according to the product standard EN 12101-1:

Internal surveillance of the production according to the standard.  
External surveillance by the MPA-BS (certificate ÜZ-3/358/97)  
9001:2000 by the VdS (certificate S 896002)

### Additional performance features due to 30 years of experience by Stöbich:

#### Innovation leader:

- Many patents, e.g. Gravigen drive unit
- Many awards, e.g. Award of Architectural Product Innovation
- Large variety for control units

#### Long time experience:

- More than 1500 projects have been successfully completed

#### Premium quality:

- ISO 9001 - certification since 1996
- Highest expertise for the fabrics
- In-house development, in-house production of the fabrics, In-house coating and handling of the fabrics

# Challenges & protection targets

- 90% of all victims die from smoke
- 70% of physical damages are caused by smoke
- The source of the fire as well as further sources of danger can not be detected by the fire brigade



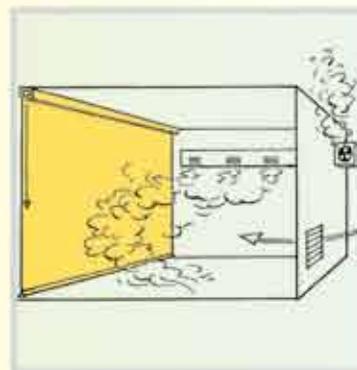
**Safe escape** routes due to adapted smoke protection classifications according to leakages, temperature loads and time classifications.



Extinction of the fire by the fire brigade becomes easier as they can detect the origin of the fire. This is possible due to the smoke compartments avoid a **spread of smoke** to the complete room.



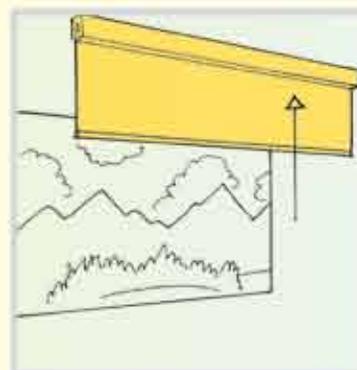
**Smoke curtains** can increase the effectiveness of SHEV systems, i.e. the higher the smoke layer, the smaller the openings for exhaust air as well as for the fresh air intake openings.



Smoke curtains serve to **separate rooms for the mechanical smoke exhaust**. Therefore the rating and the linked investment for exhaust fans can be reduced.



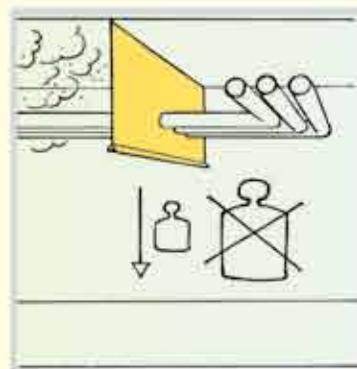
A **controlled flow** of the smoke can be achieved by smoke curtains even with cross streams which may have a negative influence on the entrainment of the smoke - especially in high rooms.



Invisible smoke curtains not only comply with the highest architectural demands, but also do **not restrict limit the view**.



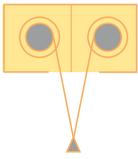
The Stripecoil system offers the following solutions to buildings with an unfavourable structure when the **escape routes** have to be combined with smoke curtains. Even a large number of persons (depending on the width of the system up to approx. 200 persons) can pass through the system.



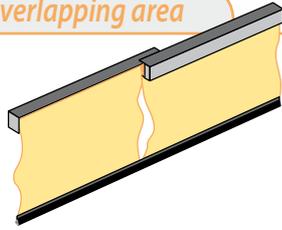
Fixed smoke curtains have the advantage of being **extremely light weight** - approx 1 kg/m<sup>2</sup> and offer an easy sealing of continuing pipes, ducts or cable trays.

# Definition of the smoke exhaust concept and the associated requirements to the smoke curtains can be done according to the DIN 18232-2 and -5, calculation or a small scale test

## Remaining opening within the overlapping area

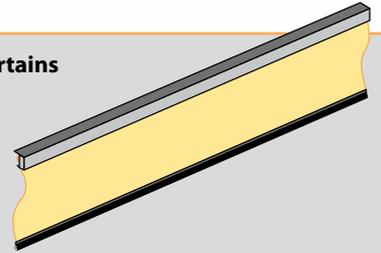


Do you have to avoid any openings remaining?



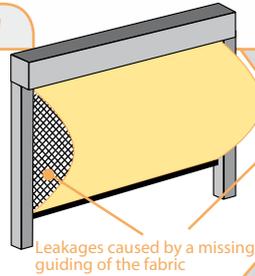
**Supercoil offers smoke curtains with a width of 50 metres in one piece - therefore**

**0%** leakage within the overlapping area .



## Remaining opening within the boundary area

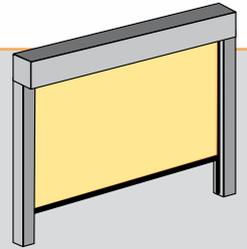
Do you have to avoid openings remaining caused by pressure load in boundary areas?



Leakages caused by a missing guiding of the fabric

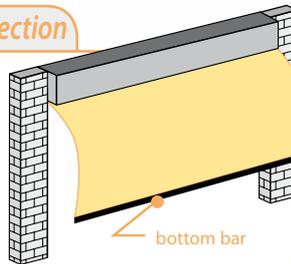
Special side guides with rods guarantee for a positive fitting in the boundary area for the complete height - therefore

**0%** leakage in the boundary area even in the case of a pressure load.

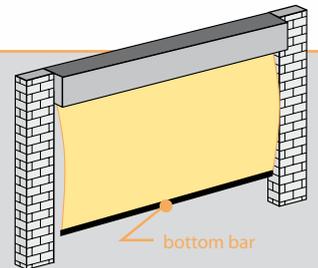


## Remaining opening caused by deflection

Is the deflection and the involved leakage a problem? (a weight of the bottom bar of approximately 2 kg/m is common).

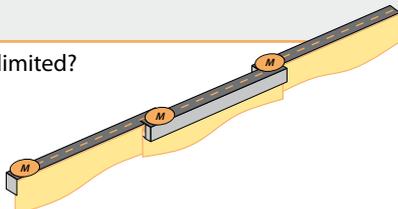
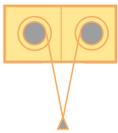


**Stöbich Supercoil system** offers a remarkably lower deflection due to the high weight of the bottom bars (between 4,6 and 13,5 kg).



## Demand for space

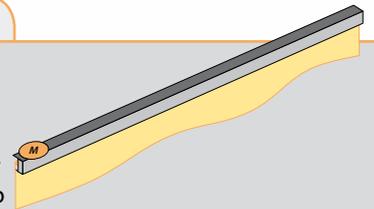
Is the available space limited?



Provided you do not want to have a drive unit for each element ...

## + number of drive units

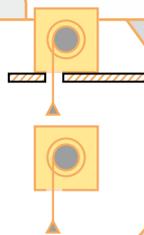
... chose the **Stöbich Supercoil system** with corresponding control unit and large drive capacity - independent from the drop length and up to 30 metres in width.



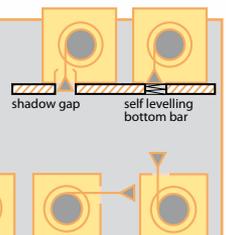
## Closing of a ceiling and closing direction

Do you require a clean sealing of a ceiling even for large dimensions?

Do you have a fire protection concept which can not be achieved by using vertical smoke curtains?



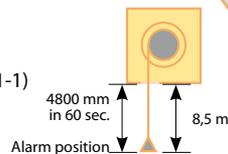
**Stöbich Supercoil system** offers an optical more significant design e.g. by the self levelling bottom bar. Supercoil offers various closing directions and adjusts to your protection concept.



## Reaction time and drop length

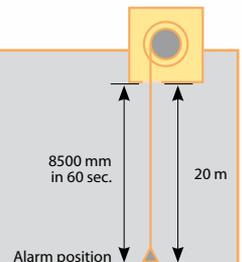
Which drop length has to be achieved within 60 seconds? (standard is 4800 mm/60 sec. according to EN12101-1)

Do you require an extreme drop length? (standard is 8,5 metres)



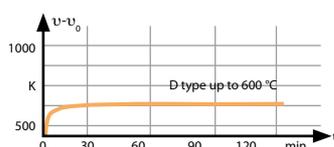
**Stöbich Supercoil system** offers closing velocities to achieve a drop length of 8500 mm within 60 seconds.

**Stöbich Supercoil system** offers drop lengths of up to 20 metres.

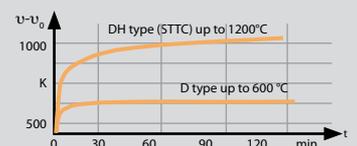


## Temperature classification

Is your protection concept demanding for a higher temperature classification?



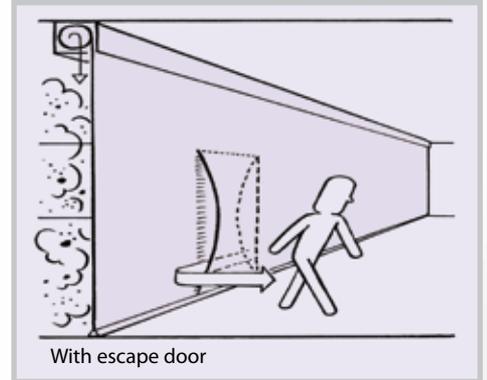
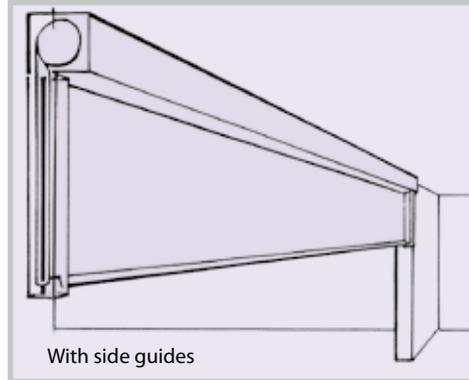
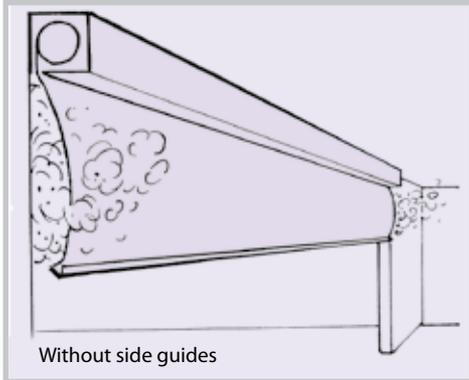
**Stöbich Supercoil system** can be supplied in different temperature classifications.



# Supercoil No. 0761 - CPD 0060

Characteristics of the complete smoke curtain during a fire are according to the approval no. Z-PA-III 4.935

The traditional automatic smoke curtain to match highest demands and large dimensions

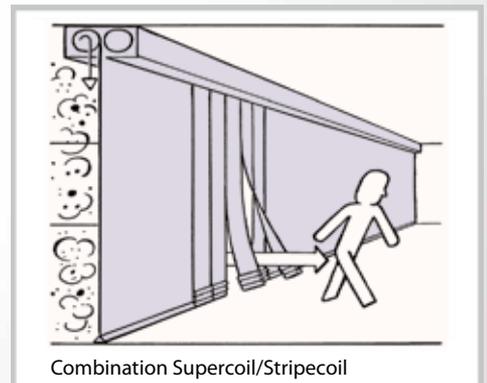


## System Description

- Made of one piece up to 50 metres in width and 9,5 metres drop
- For highest time classifications in case of fire load D = up to 600°C and DH (ETK curve)
- No openings remaining within the casing area
- Only one drive unit is necessary, therefore reduced complexity for the installation

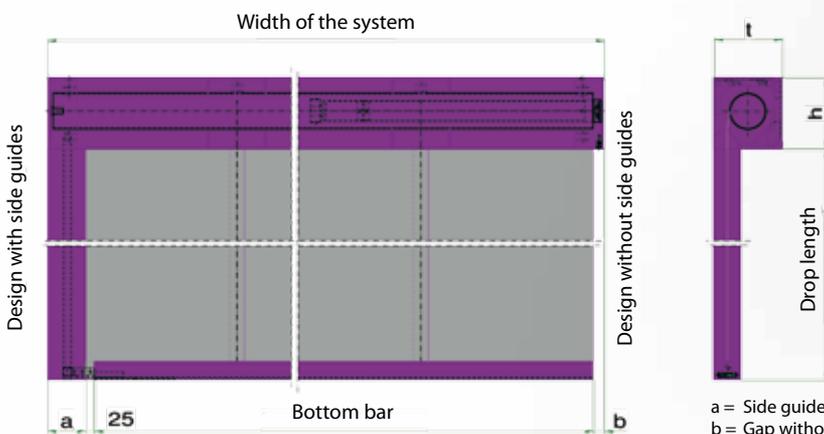
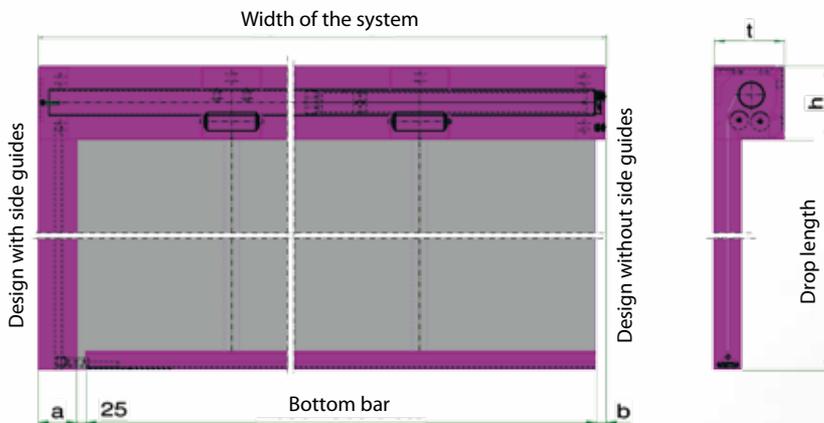
- Using side guides achieves 0% leakage in reference to the whole smoke curtain
- Highest variability concerning engineering and design
- Standard drive system „Gravigen“, closing without auxiliary power, no fire resistant cables are necessary
- For smoke curtains closing down to the floor level an escape door can be equipped as an option

- The system has a weight between 20 and 30 kg/m system width
- Also suitable (and approved) as smoke curtain that is flush with the floor



- Combination Stripecoil with technology of Supercoil for person passage in restricted areas

## Dimensions



System table (without side guides)

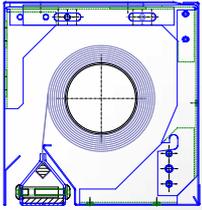
Fabric	Width of the system	Drop length	t (mm)	h (mm)
Protex 600.1 A2 / 1100.1 A2	>0,9m - ≤ 1,4 m	≤ 3,5 m	190	250
Protex 600.1 A2 / 1100.1 A2	>1,4m - ≤ 50 m	≤ 3,5 m	190	200
Protex 600.1 A2 / 1100.1 A2	≤ 50 m	> 3,5 m - ≤ 6 m	190	250
Protex 600.1 A2 / 1100.1 A2	≤ 50 m	> 6 m - ≤ 9 m	235	290

System table (with side guides)

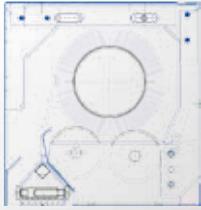
Fabric	Width of the system	Drop length	t (mm)	h (mm)
Protex 600.1 A2 / 1100.1 A2	>0,9m - ≤ 1,4 m	≤ 3,5 m	190	250
Protex 600.1 A2 / 1100.1 A2	>1,4m - ≤ 30 m	≤ 3,5 m	190	200
Protex 600.1 A2 / 1100.1 A2	≤ 30 m	> 3,5 m - ≤ 6 m	190	250
Protex 600.1 A2 / 1100.1 A2	≤ 20 m	> 6 m - ≤ 9 m	235	290



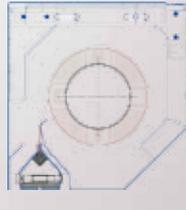
## Range of casings



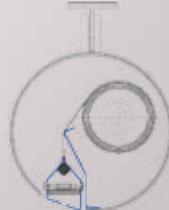
Standard - fixed bearing



Standard - floating bearing



Range of special constructions



## Bottom bars

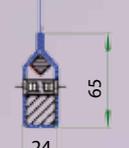
Standard for small widths



4,6 type

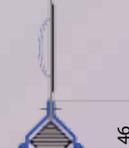


Heavy type 9,6



Narrow type 5,61

Standard for large widths



3,84 F type



3,84 FK type



Self levelling bottom bar without safety edge, under the ceiling

Self levelling bottom bar without safety edge

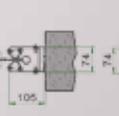
Self levelling, as an option with safety edge

## Range of side guides

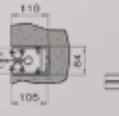
Type	Drop Length	Size
80 E	≤ 3,5 m	≤ 18 m <sup>2</sup>
105 E	≤ 6 m	≤ 50 m <sup>2</sup>
105 V	≤ 6 m	≤ 70 m <sup>2</sup>
160 E	≤ 9 m	≤ 120 m <sup>2</sup>



Type 105 E  
Installation to the wall



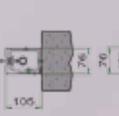
Type 105 E  
Installation in the embrasure



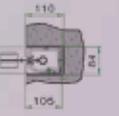
Type 105 E  
Installation in the niche



Type 105 V  
Installation to the wall



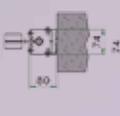
Type 105 V  
Installation in the embrasure



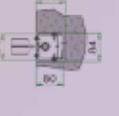
Type 105 V  
Installation in the niche



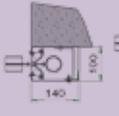
Type 80 E  
Installation to the wall



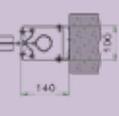
Type 80 E  
Installation in the embrasure



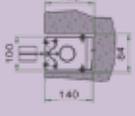
Type 80 E  
Installation in the niche



Type 140 E  
Installation to the wall



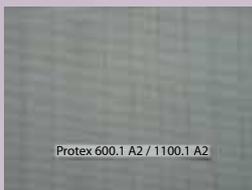
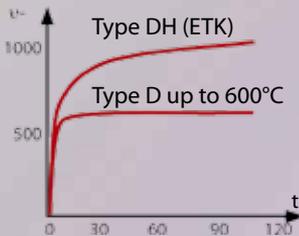
Type 140 E  
Installation in the embrasure



Type 140 E  
Installation in the niche

## CE-classification

Patented tubular motor with Gravity Fail Safe technology

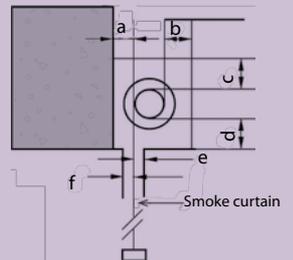


Protex 600.1 A2 / 1100.1 A2

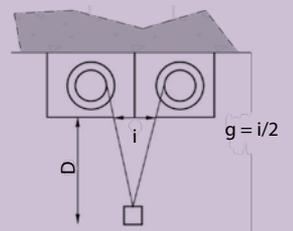
Labelling EN 12101-1	Stöbich Supercoil system
Automatic smoke curtain	ASB 1 / ASB 3 type closing without electric power
Temperature / Time class	D60 (600°C/60 min.) DH120 (1.100°C/120 min.)
Closing speed (depends on the drive)	From 0,15 m/sec. to 0,30 m/sec. e.g. drop length 9 m = within 60 s in the closed position
Gap - casing (a-f)	0 mm
Gap - edges (g) embrasure	g = 0 mm with side guide g = 15 mm + 30 mm for fixed bearing without side guide g = 30 mm + 30 mm for floating bearing without side guide
Gap - joint (h)	0 mm (standard ceiling installation)
Max. permeability of the smoke barrier fabric (max. 25 m <sup>3</sup> /m <sup>2</sup> /h)	< 1 m <sup>3</sup> /m <sup>2</sup> /h
Test temperature	At ambient temperature and at 200°C
Free area - casing	= Length of the casing x gap casing = L x 0 = 0 mm <sup>2</sup>
Free area - edges	= D x gap edges
Free area - joints	= D x gap - joint x number of joints
CE-Certificate of Conformity according to DIN EN 12101-1	0761 - CPD - 0060
Approval for fire behaviour of the fabric/ of the complete smoke curtain	Z - 56.429 - 916 / Z - PA - 56.412 - 935

D = Drop length of the smoke curtain

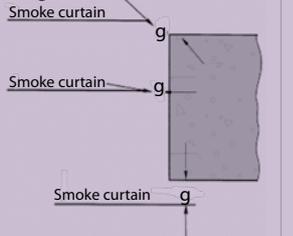
Joint



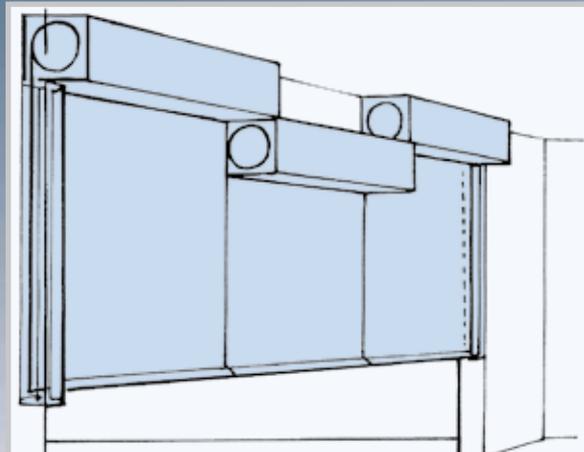
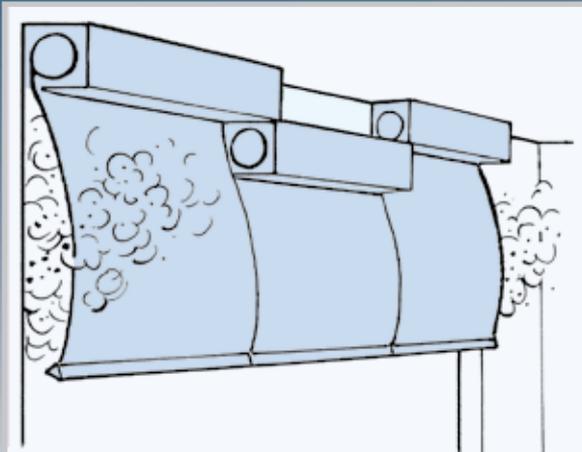
Casing



Edges



## The standard smoke curtain in a modular design

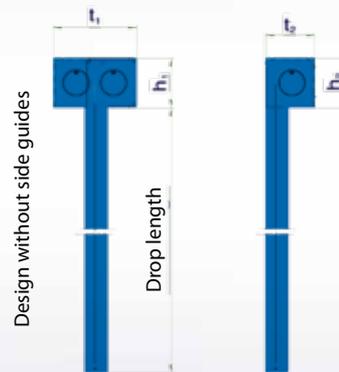
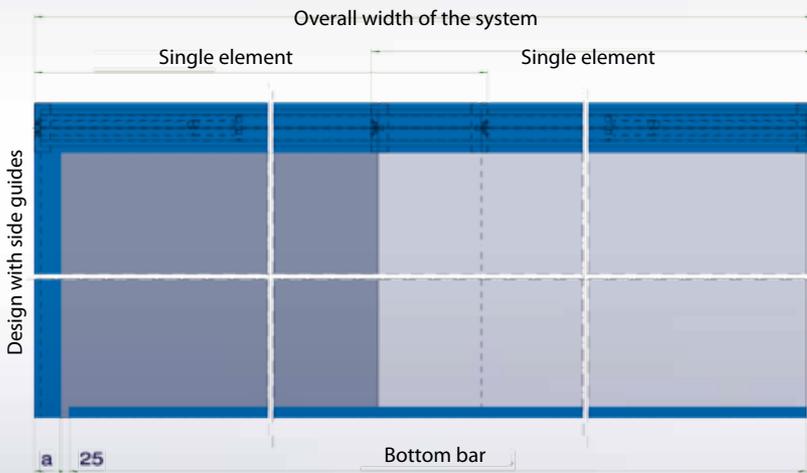


### System Description

- Pre-manufactured single elements will be assembled to create one complete unit up to any width standard drop length of up to 8.5 m
- Designed for the time classification and temperature load  $D = 600^{\circ}\text{C}$
- Standard drive system "Gravigen", closing without auxiliary power, therefore no fire resistant cables are necessary

- Robust drive unit, applicable for a high number of cycles (up to 10.000 cycles), with approved hold open unit
- Modular installation of the casings side by side or on top of each other
- Connected bottom bar across all elements
- Can be combined with a self levelling bottom bar
- Alternatively with side guides
- Also suitable (and approved) as smoke curtain that is flush with the floor

### Dimensions



#### Single module

Width of the system	Drop length	Casing (mm)
≤ 5 m	≤ 4,5 m	150 x 150
≤ 5 m	>4,5 m - ≤ 7 m	185 x 185
>5 m - ≤ 7 m	≤ 4,5 m	185 x 185

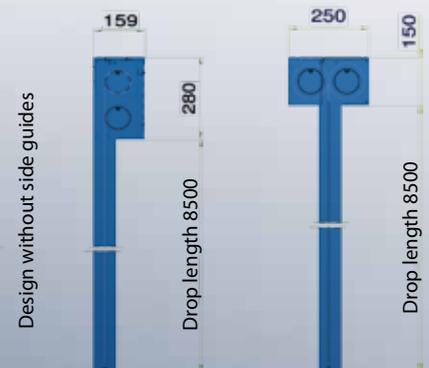
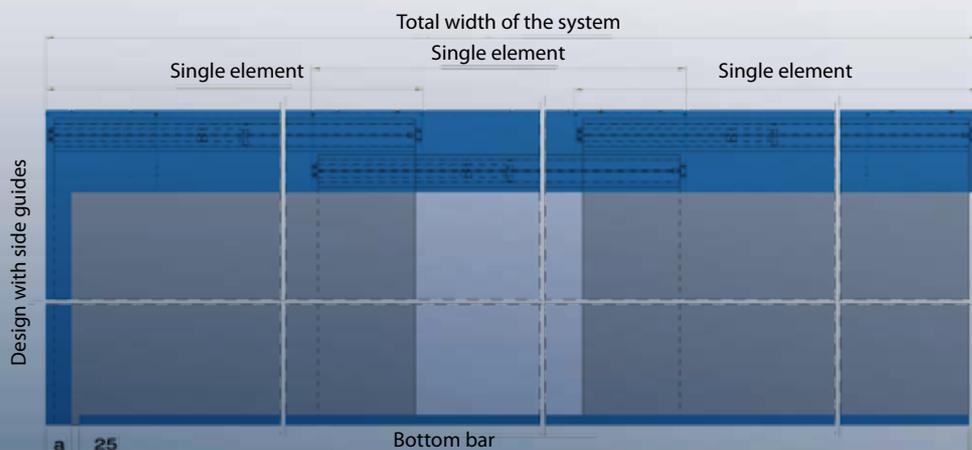
max. width of casing 7 m  
 (but: max. drop length 4,5 m)

#### Multiple module - parallel

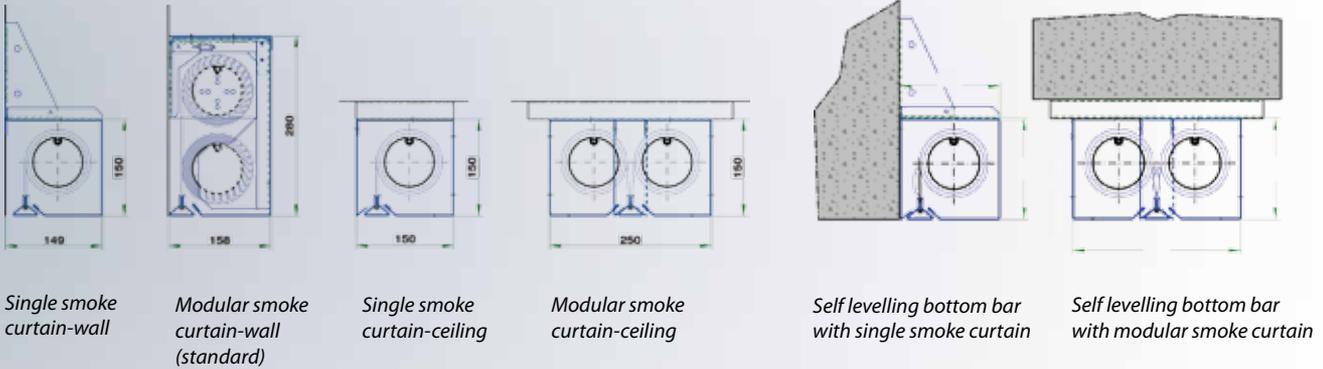
Width of the system	Drop length	Casing (mm)
> 7 m	≤ 4,5 m	250 x 150
> 7 m	>4,5 m - ≤ 7 m	320 x 185

#### Multiple module - one upon the other

Width of the system	Drop length	Casing (mm)
> 7 m	≤ 4,5 m	160 x 280
> 7 m	>4,5 m - ≤ 7 m	195 x 350



## Range of casings



Single smoke curtain-wall

Modular smoke curtain-wall (standard)

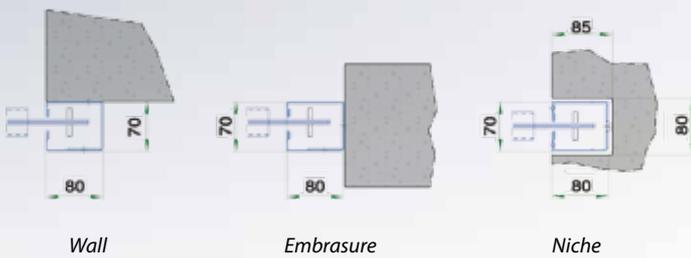
Single smoke curtain-ceiling

Modular smoke curtain-ceiling

Self levelling bottom bar with single smoke curtain

Self levelling bottom bar with modular smoke curtain

## Range of side guides

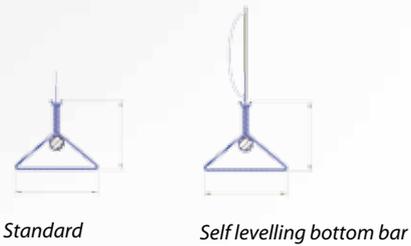


Wall

Embrasure

Niche

## Bottom bars

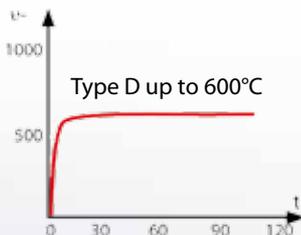


Standard

Self levelling bottom bar

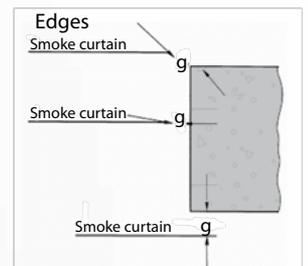
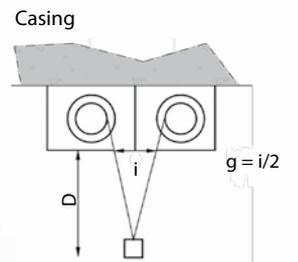
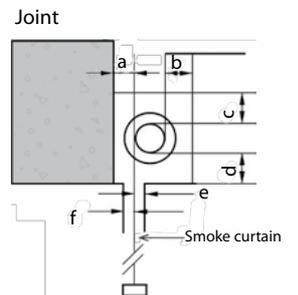
## CE-Classification

Patented tubular motor with Gravity Fail Safe technology

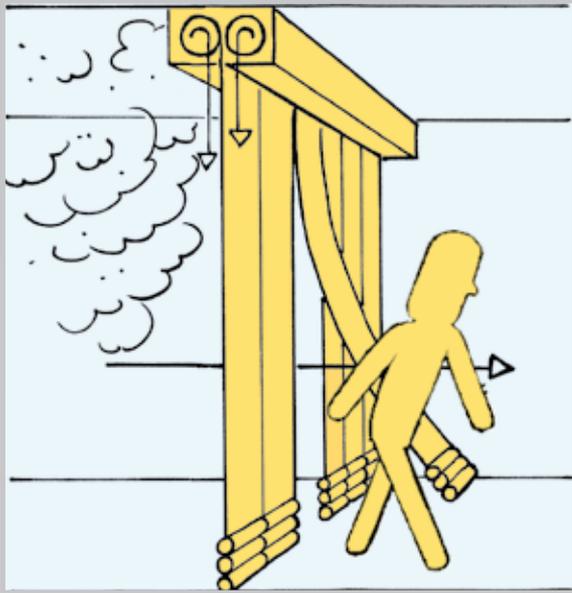


Labelling EN 12101-1	Stöbich Moducoil system
Automatic smoke curtain	ASB 1 / ASB 3 type Closing without electric power
Temperature/Time class	D120 (600°C/120 min.)
Closing speed (depends on the drive)	Approx 0,15 m/sec e.g. drop length 9 m = 60 s in the closed position
Gap - casing (a-f)	0 mm
Gap - edges (g) embrasure	g = 0 mm with side guide g = 20 mm + 20 mm without side guides
Gap - joint (h)	17 mm (standard ceiling installation) 0 mm (standard wall installation)
Max. permeability of the smoke barrier fabric (max. 25 m³/m²/h)	< 1 m³/m²/h
Test temperature	At ambient temperature and at 200°C
Free area - casing	= Length of the casing x gap casing = L x 0 = 0 mm²
Free area - edges	= D x gap - edges
Free area - joints	= D x gap - joint x number of joints
CE-Certificate of Conformity according to DIN EN 12101-1	0761 - CPD - 0076
Approval for fire behaviour of the fabric/of the complete smoke barrier	Z - 56.429 - 916 / Z - 56.412 - 936

D = Drop length of the smoke curtain



## Automatic smoke curtain Stripecoil



### System Description

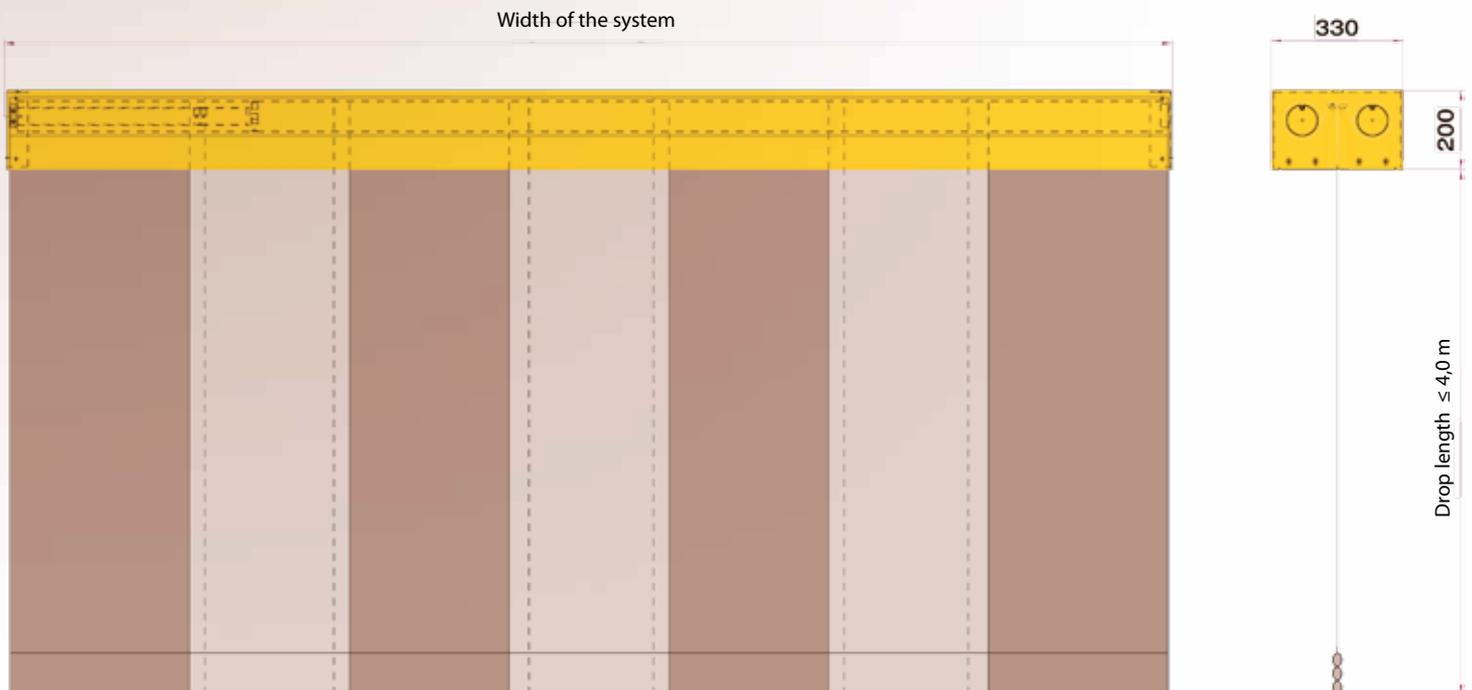
- Creation of smoke compartments in alleyways respectively in escape routes with a passage for people
- Double-coil system with unlimited width
- Drop length up to 3,5 m
- Designed for the time classification and temperature load D = 600°C up to 120 minutes
- Passage of up to 200 persons per minute at a width of 3 m is possible
- Standard drive system "Gravigen", closing without auxiliary power, no fire resistant cables are necessary
- Translucent fabric to optimize the visibility in the area of the passage
- Little demand for space for the casing, therefore no limitations in the height of the passage
- Soft, elastic and interrupted bottom bar to avoid any injuries
- Protected bottom bar against damages and vandalism
- Designed for the time classification and temperature load DH (ETKurve) = 842 °C up to 30 minutes (Test report UBII/B-07-012)

### Limitations to the system

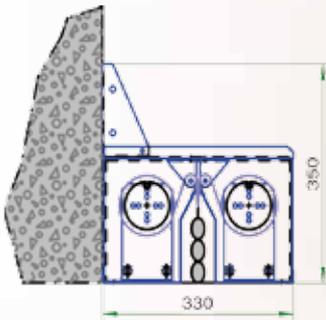
Fabric	Drop length	Width of the system	t (mm)	h (mm)
Modutex 600 A2	>1,4m - ≤ 2,7 m	≤ 3,5 m	330	270
Modutex 600 A2	>2,7m - ≤ 15 m	≤ 3,5 m	330	200

Please consult the manufacturer for smaller systems

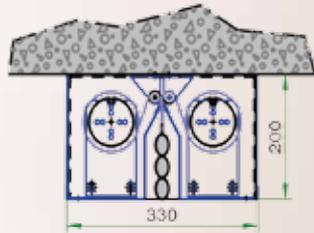
### Dimensions



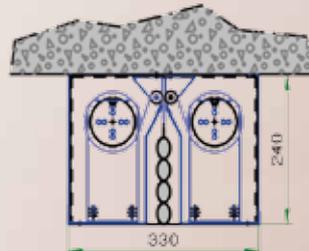
## Range of casings



Wall mounting

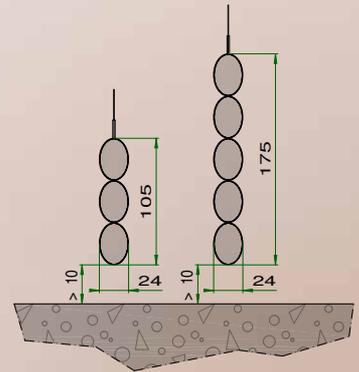


Ceiling mounting



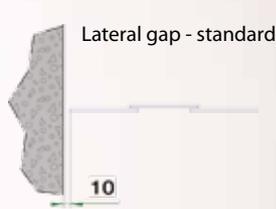
Ceiling mounting  
Special casing if width of system is < 2 m

## Bottom bar

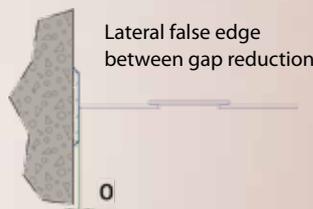


Elastic bottom bar with a tear proof fabric

## Lateral gap



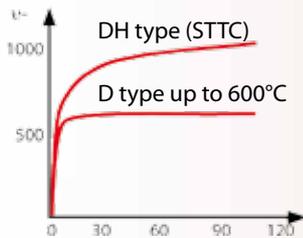
Lateral gap - standard



Lateral false edge between gap reduction

## CE-classification

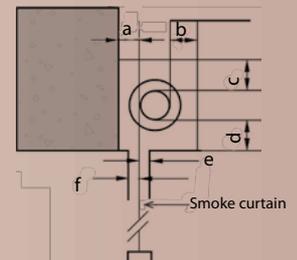
Patented tubular motor with Gravity Fail Safe technology



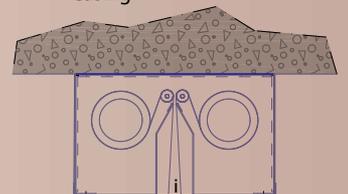
Labelling EN 12101-1	Stöbich Stripecoil system
Automatic smoke curtain	ASB 1 / ASB 3 type closing without electric power
Temperature / Time class	DH30 (ETK 842°C/30 min)      D120 (600°C/120 min)
Closing speed (depends on the drive)	Approx 0,15 m/sec - e.g. drop length 3,5 m = within 24 s in the closed position
Gap - casing (a-f)	0 mm
Gap - edges (g) embrasure	g = 10 mm + 10 mm
Gap - joint (h)	10 mm
Max. permeability of the smoke barrier fabric (max. 25 m <sup>3</sup> /m <sup>2</sup> /h)	< 1 m <sup>3</sup> /m <sup>2</sup> /h
Test temperature	At ambient temperature and at 200°C
Free area - casing	= Length of the casing x gap casing = L x 0 = 0 mm <sup>2</sup>
Free area - edges	= D x gap - edges
Free area - joints	= D x gap - joint x number of joints
CE-Certificate of Conformity according to DIN EN 12101-1	0761 - CPD - 0077
Approval for fire behaviour of the fabric/of the complete smoke barrier	Z - 56.429 - 916 / Z - 56412 - 937

D = Drop length of the smoke curtain

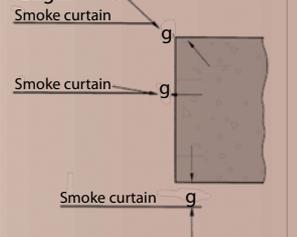
Joint



Casing



Edges



# Smokeshield-S

## Automatic smoke curtain Smokeshield-S

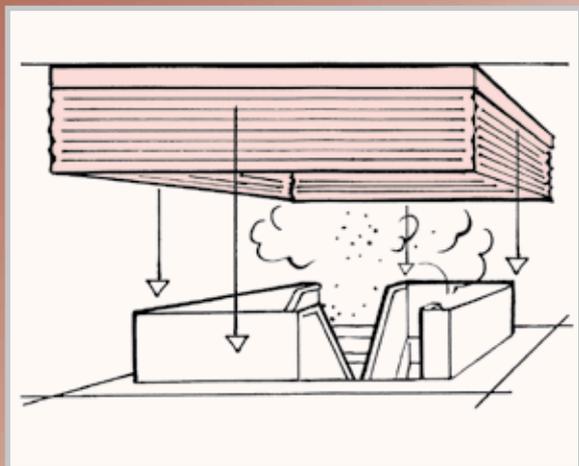


No. 0761 - CPD - 0191

Fire performance of complete smoke curtain  
Approval applied

### System Description

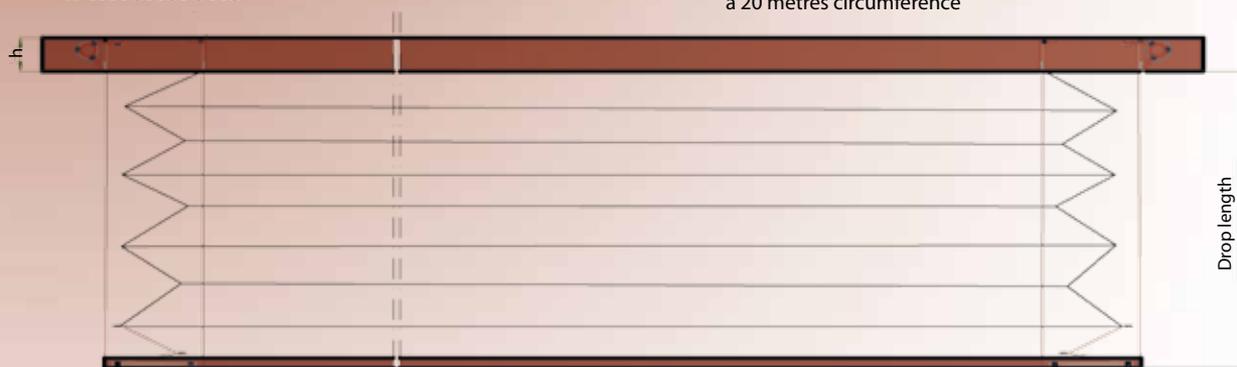
- Rectangular or polygon shaped base area of the smoke curtain
- Outer dimensions up to 16 metres and drop lengths of up to 6 metres
- Designed for a high time classification and temperature load  $D = 600^{\circ}\text{C}$  and DH (STTC) 120
- No openings remaining - neither in the upper area nor at the corners
- Pillars are not necessary, nevertheless complete tightness even in case of high pressure
- Small height of the casing - approx. 150 mm at a drop length  $< 3\text{ m}$
- Standard drive system „Gravigen“ that is closing without auxiliary power, no fire resistant cables are necessary
- Redundant drive system as crash protection
- Also suitable (and approved) as smoke curtain that is flush with the floor



Circumference of the system	Drop length	t (mm)	h (mm)
$< 50\text{ m}$	$\leq 3,0\text{ m}$	490	125
$< 50\text{ m}$	$> 3,0\text{ m} - < 6\text{ m}$	490	225

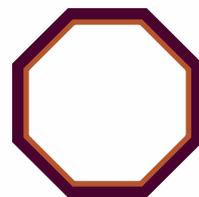
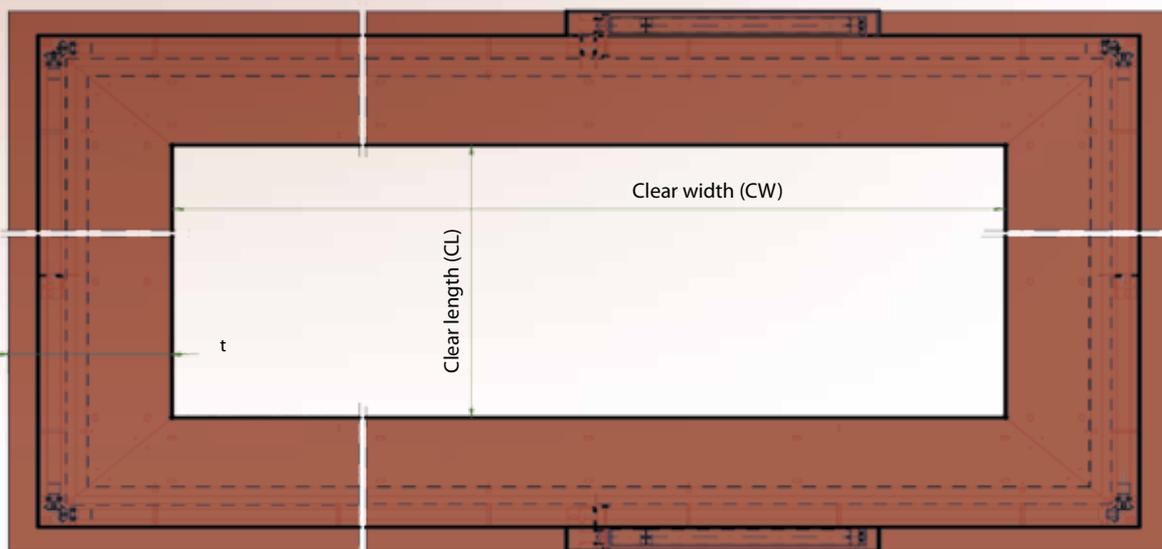
### Dimensions

At least 2 drive units and one additional drive unit for each 10 metres over a 20 metres circumference



Drop length

Range of different runs of the smoke curtain

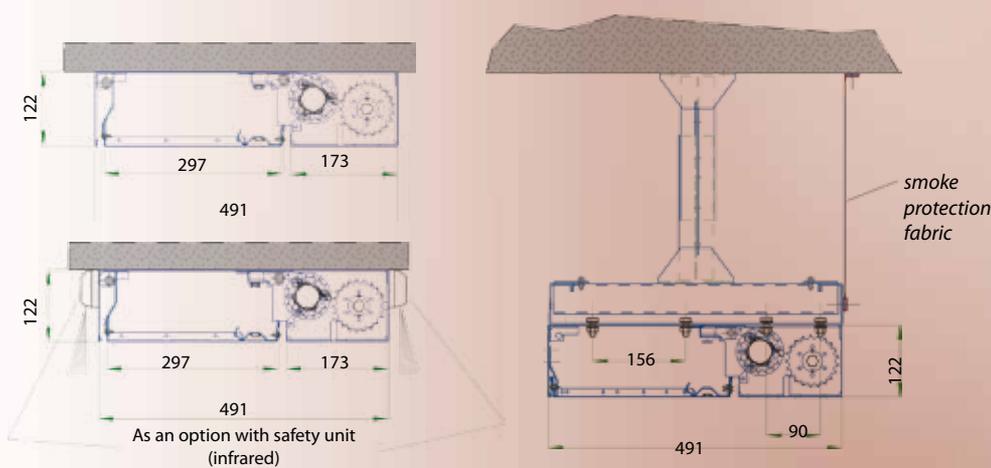


10

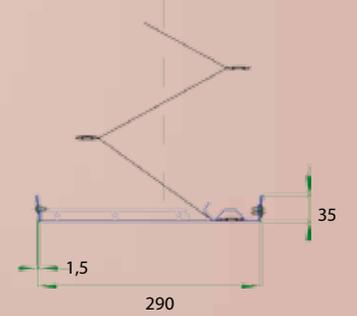
**STÖBIG**  
FIRE PROTECTION



## Range of casings



## Bottom tray

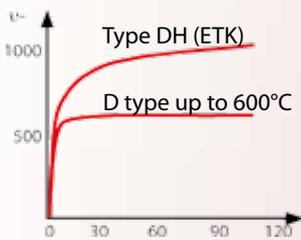


optional with spots or light strip  
(possibly raise of construction height)



## CE-Classification

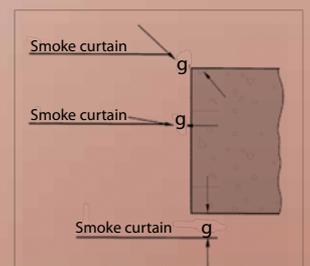
Patented tubular motor with Gravity Fail Safe technology



Labelling EN 12101-1	Stöbich Smokeshield-S system
Automatic smoke curtain	ASB 1 / ASB 3 type Closing without electric power
Temperature/Time class	D60 (600°C/60 min.)      DH120 (1100°C/120 min.)
Closing speed (depends on the drive)	From 0,15 m/sec. up to approx 0,30 m/sec. e.g. drop length 9 m = 60s in the closed position
Gap - casing (a-f)	0 mm
Gap - edges (g) embrasure	0 mm
Gap - joint (h)	0 mm
Max. permeability of the smoke barrier fabric (max. 25 m <sup>3</sup> /m <sup>2</sup> /h)	< 1 m <sup>3</sup> /m <sup>2</sup> /h
Test temperature	At ambient temperature and at 200°C
Free area - casing	= Length of the casing x gap casing = L x 0 = 0 mm <sup>2</sup>
Free area - edges	= D x gap - edges
Free area - joint	= D x gap - joint x number of joints
CE-Certificate of Conformity according to DIN EN 12101-1	Applied for
Approval for fire behaviour of the fabric/of the complete smoke barrier	D60 Z - 56.429 - 916 (fabric), DH 120 IBS 08062415 (test report for the complete system)

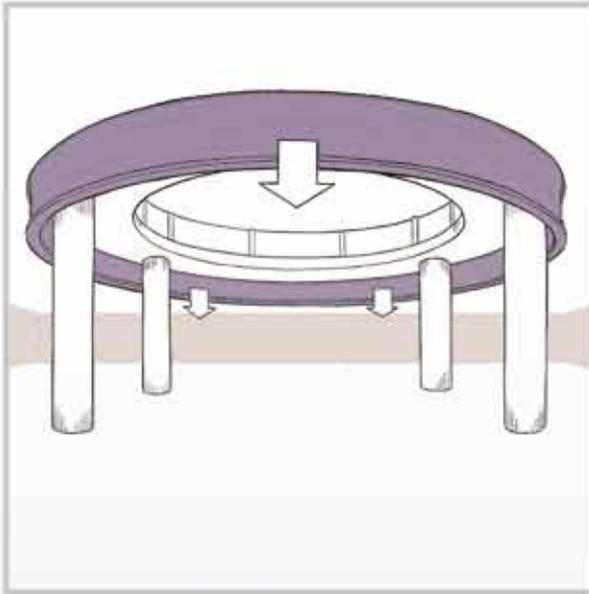
D = Drop length of the smoke curtain

Restspalt



# SmokeShield-C

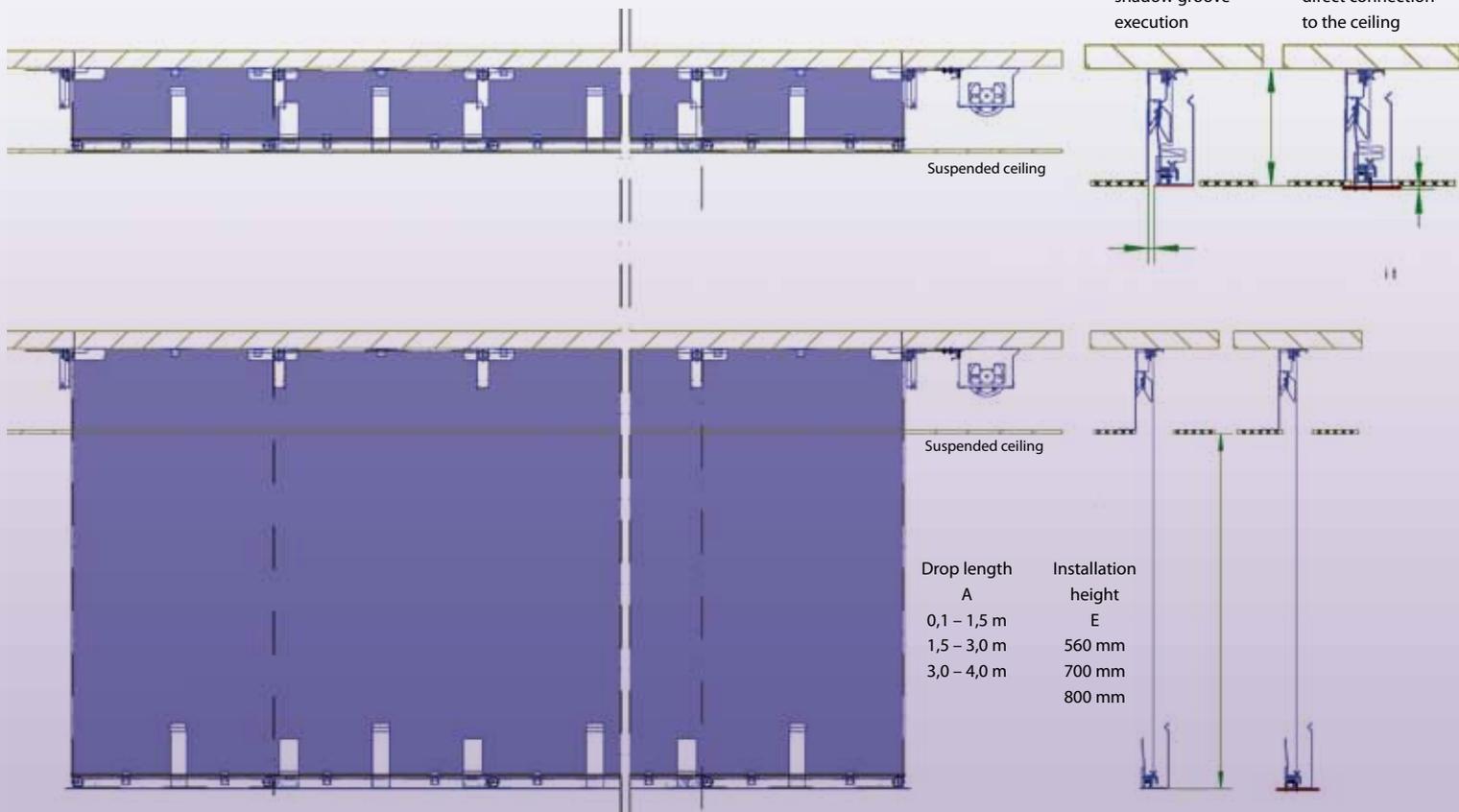
The curved smoke curtain with a leakage of 0 %



## System description

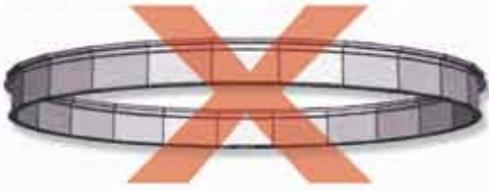
- The flexible smoke curtain with a closed, curved course is designed for an installation in circle- or ellipse-shape but also as an open, curved (serpentine) smoke curtain
- For the time and temperature-class D 60 resp. D 120 (600°C)
- Since the smoke curtains consists of one fabric panel there is no overlapping and no remaining openings
- Integrated in the suspended ceilings
- Connection to the ceiling panel with laser-cut bottom rail over self-levelling bearing elements
- Alternatively with direct connection to the false ceiling (hardly visible, only 2 mm mismatch) or by a shadow groove execution
- As standard the smoke curtain closes by the engine system gravigen, that means closing without auxiliary energy, hence no fire- resistant cables are needed
- Extreme widths of the smoke curtain up to 300 m and drop length up to 4 m (for curve shape radii > 4 m)
- The textile surfaces are piled stored on the completion modul under the ceiling
- Connected completion modul over the total length of the smoke curtain
- Optional: integrable ligthings in the completion modul

## Dimensions



## Previous solution:

Devided, overlapping smoke curtain elements

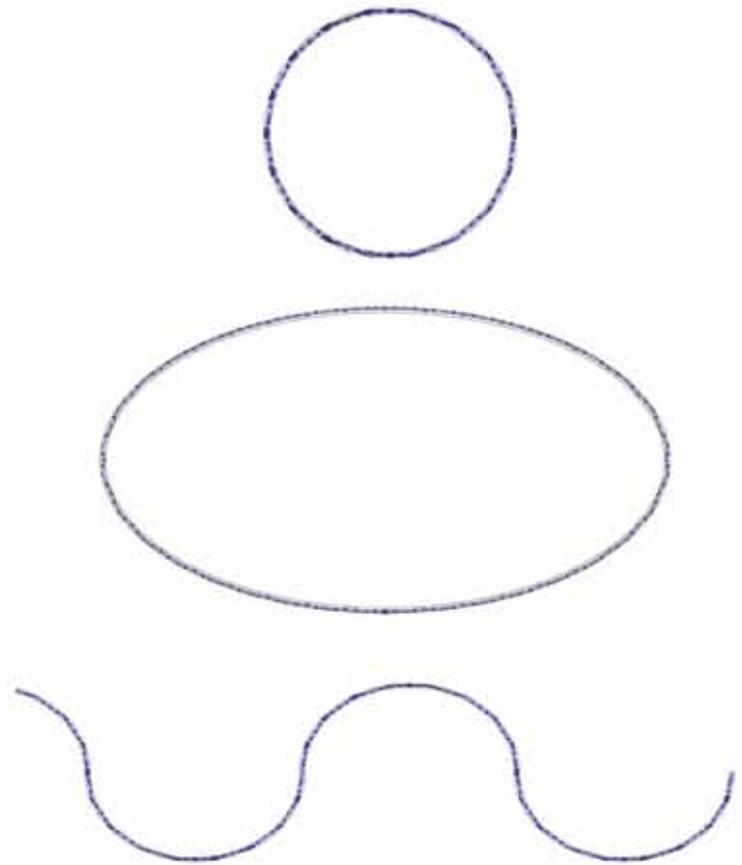


## STÖBICH-INNOVATION:

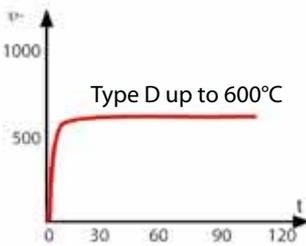
Continous smoke curtain



## Range of curve courses



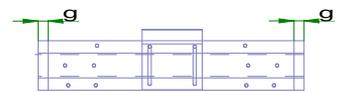
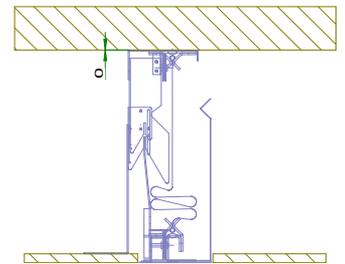
## Classification



Labelling EN 12101-1	Stöbich Smokeshield-C system
Automatic smoke curtain	Type ASB 1 / ASB 3 Closing without electric energy
Temperature/Time class	D120 (600°C/120 min.)
Closing Time (depending on the drive)	0,12 m/s e.g. drop length 4 m = 30s in fire alarm position
Gap – casing	0 mm
Gap edges embrasure	0 mm
Gap joint	0 mm
Max. permeability of the smoke curtain fabric with ambient temperature and 200 °C (max. 25 m³/m²/h)	< 1 m³/m²/h
Free area casing	= Casing length x gap casing = L x 0 = 0 mm²
Free area edges	= D x gap edges
Free area joint	= D x gap joint x number of joints
CE-Certificate of Conformity	Applied
Aproval for fire behaviour of the fabric	D120 Z-56.429-916

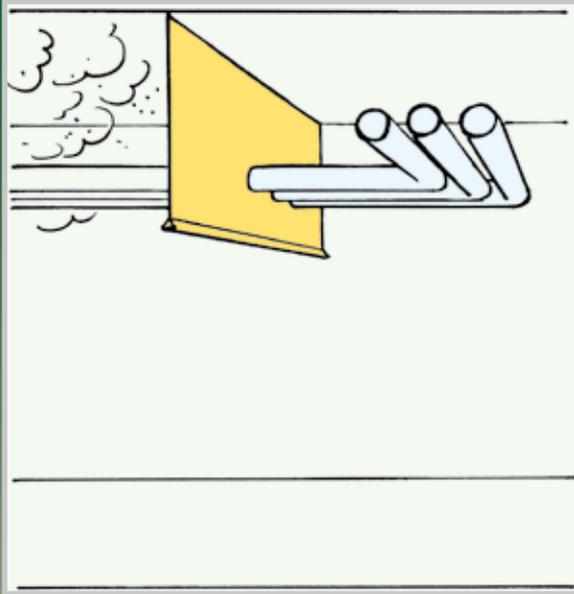
D = drop length of the smoke curtain

Joint



# Moducoil/Supercoil fix

## Fixed smoke curtains

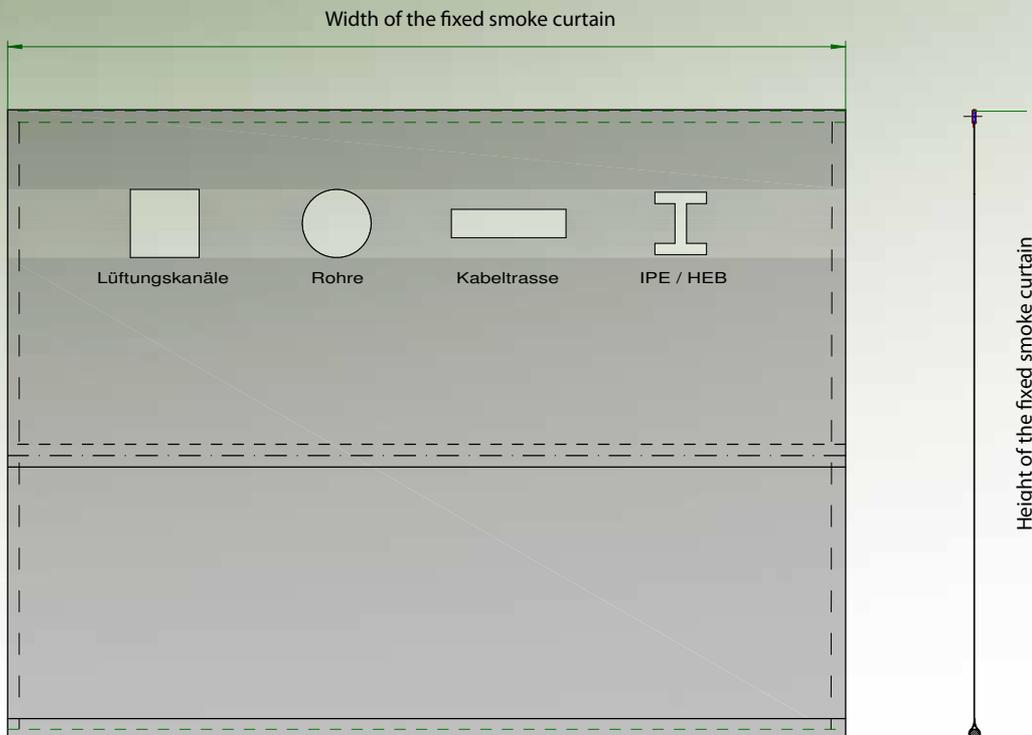


**CE** No. 0761 - CPD - 0076 / -0060  
Characteristics of the fabric during fire according to the approval Z-56.429 - 916

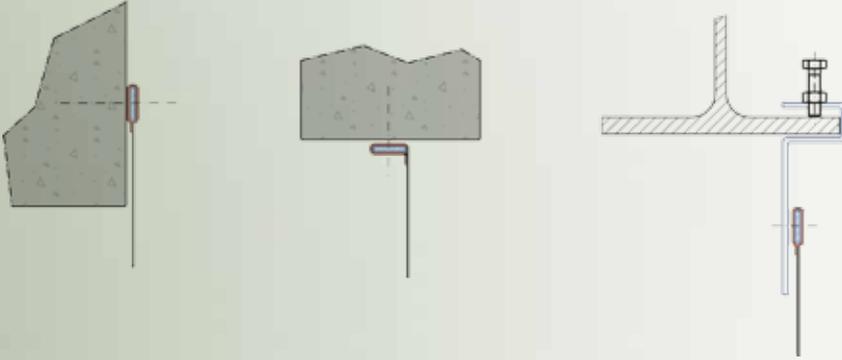
### System Description

- Large dimensions are possible, unlimited widths
- Height depend on the wind pressure which may occur
- Pending fixing on fixing at the lateral and lower area
- Designed for the time classification and temperature load D = 600°C and DH = ETK curve
- Extremely small static load to the building structure, weight of the fabric between 0,4 and 0,7 kg/m<sup>2</sup>
- Very easy sealing of systems which pass through the fixed barrier, e.g. pipes, ventilation lines, ducts, cable trays
- Also suitable (and approved) as smoke curtain that is flush with the floor

### Dimensions



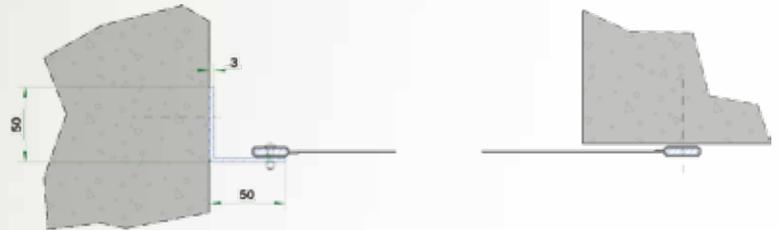
## Range of fixings



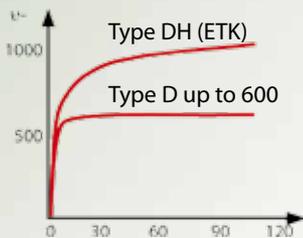
## Bottom bar



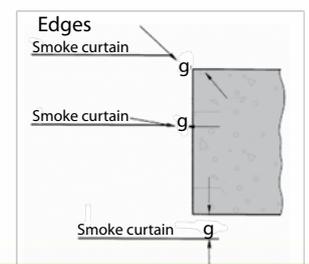
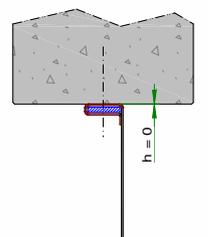
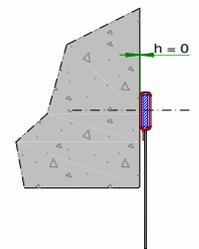
## Range of lateral fixings



## CE-classification

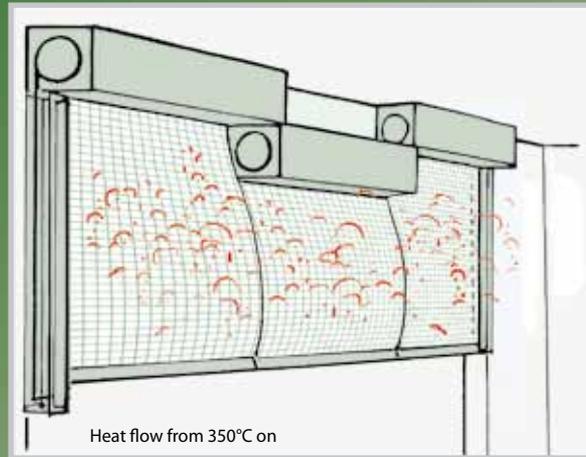
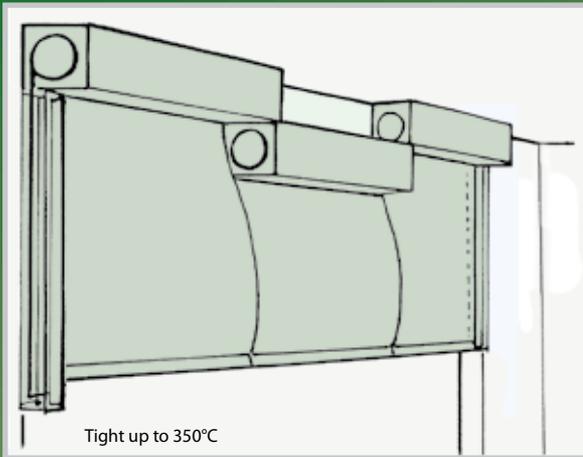


Labelling EN 12101-1	Stöbich Moducoil/Supercoil fix system
Fixed smoke curtain	Elastic material
Temperature / Time class	D60 (600°C/60 min.)    DH120 (1.100°C/120 min.)
Gap - edges (g) embrasure	0 mm
Gap - joint (h)	0 mm
Max. permeability of the smoke barrier fabric (max. 25 m <sup>3</sup> /m <sup>2</sup> /h)	< 1 m <sup>3</sup> /m <sup>2</sup> /h
Test temperature	At ambient temperature and at 200°C
Free area - edges	= D x gap - edges
Free area - joint	= D x gap - joint x number of joints
EC conformity certificate	0761 - CPD - 0076/ -0066
General approval from the Building Authority for the fabric	Z - 56.429 - 916 / Z - 56.412 - 936 / Z - 56.412 - 935
D = Drop length of the smoke curtain	



# Apericoil

The self-opening smoke barrier at a temperature influence  $> 350^{\circ}\text{C}$



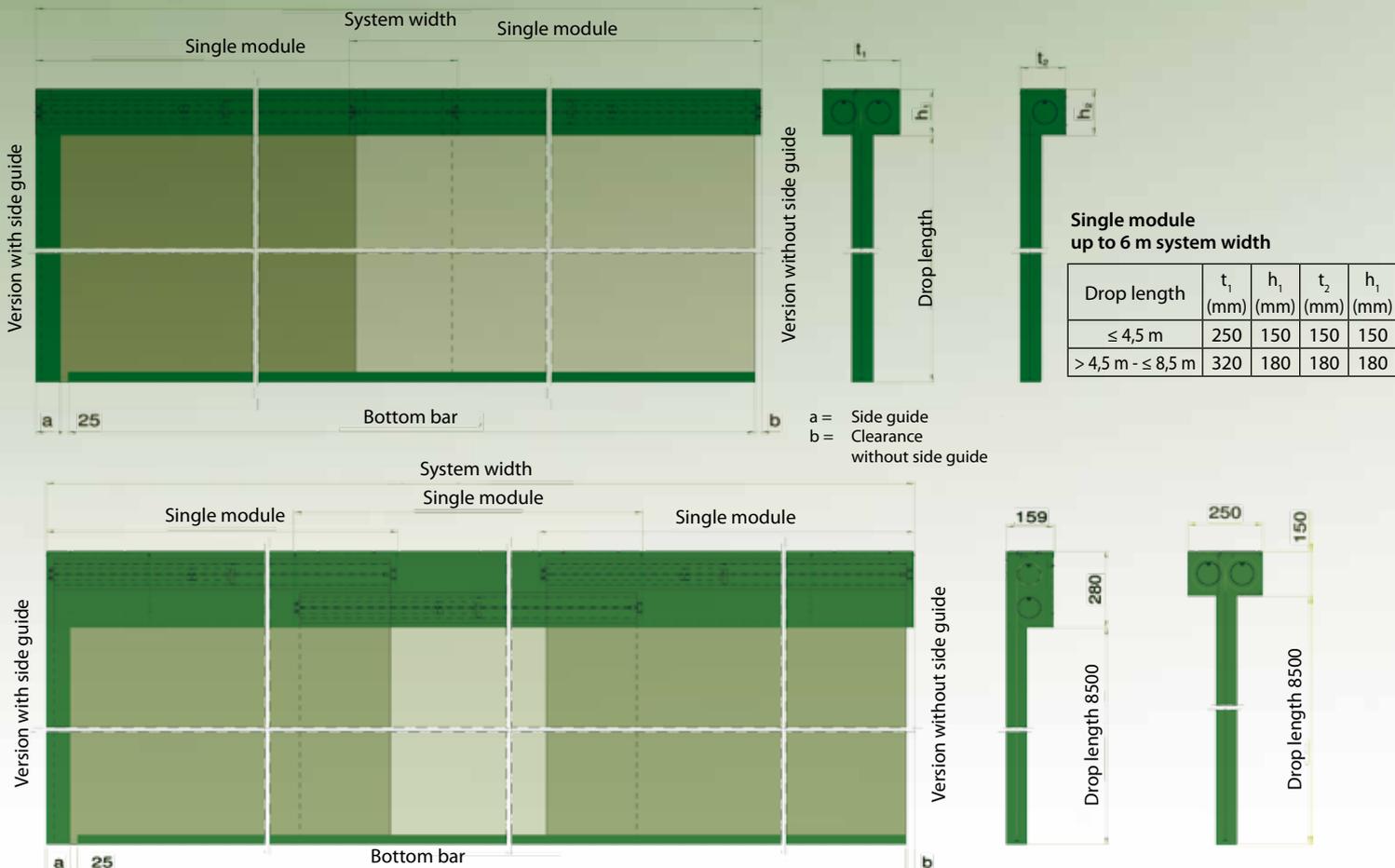
## System Description

- Patented fabric „Aperitex 400“
- Prefabricated single modules can be arranged next to each other as a complete unit up to desired length
- Drop lengths up to 4 m
- Designed for time classification and temperature load DL = 300°C
- Standard equipped with drive-unit 'Gravigen', that means closing without auxiliary energy; fire resistant cables are not necessary
- Connected bottom bar over all modules
- Optional with lateral side guides

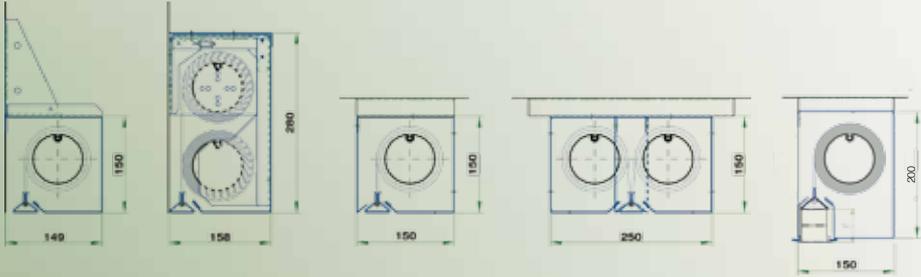
## Customer Benefit

- The discrepancy, to positively dissipate the smoke with temperatures from 300°C to 400°C and to avoid that higher temperatures have influence on the building structure
- The Aperitex-fabric opens at temperatures of 380°C and stays 80% open at 500°C (the rest are remaining lattice structures)
- The lattice structure has a heat resistance of approx. about over 600°C for 2 hours so that the system will not crash under this load
- The constructional designs (casing, side guides, bottom bar) correspond to the proven system Moducoil
- The classification according to ISO 21027-1 is the class DL 120, that means 300°C for 120 minutes
- The fabric is transparent therefore good observe possibilities

## Dimensions



## Range of casings



Single smoke barrier wall

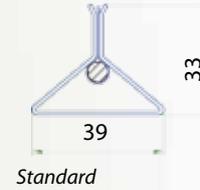
Modular smoke barrier wall (standard)

Single smoke barrier ceiling

Modular smoke barrier ceiling

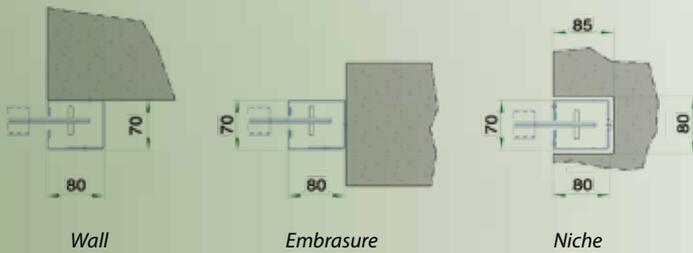
Smoke barrier with self-levelling bottom bar

## Bottom bar



Standard

## Range of side guides



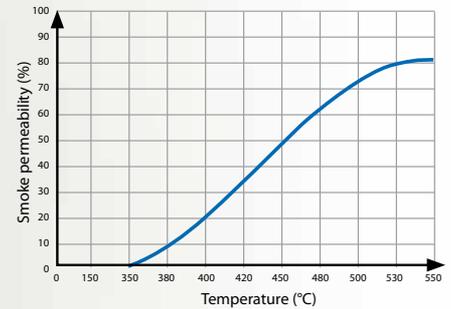
Wall

Embrasure

Niche

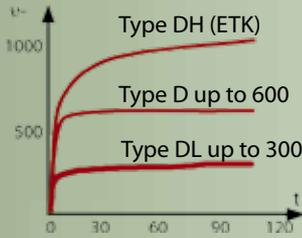
## Permeability

Diagram of the smoke permeability of the fabric depending on the temperature

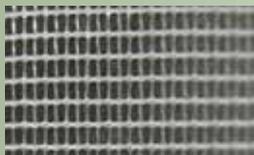


## CE-Classification

Patented tubular motor with gravity fail technology



Aperitex 400



Intact fabric structure retains smoke up to 350°C

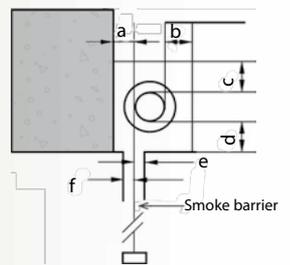


Fabric opens at a temperature from 350°C and let the smoke pass

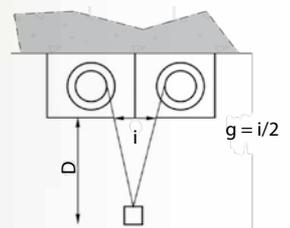
Label ISO 21927-1	Stöbich System Apericoil
Automatic smoke barrier	Type ASB 1 / ASB 3 Closing without electrical power
Temperature / Time Class	DL 120 (300°C/120 min.)
Opening time (depending on the drive)	0,15 m/s e.g. drop length 9 m = 60 s in fire alarm position
Gap casing (a-f)	0 mm
Gap edges (g) Embrasure	g = 0 mm with side guides (SG) g = 20 mm + 20 mm without SG
Gap joint (h)	17 mm (Standard ceiling installation) 0 mm (Standard wall installation)
Max. permeability of the smoke barrier fabric (max. 25 m³/m²/h)	< 1 m³/m²/h
Testing temperature	With RT and 200°C
Free surface casing	= Casing length x Gap casing = L x 0 = 0 mm²
Free surface edges	= D x Gap edges
Free surface joint	= D x Free surface joint

D = Drop length of the smoke curtain

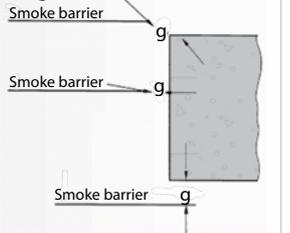
Joint



Casing

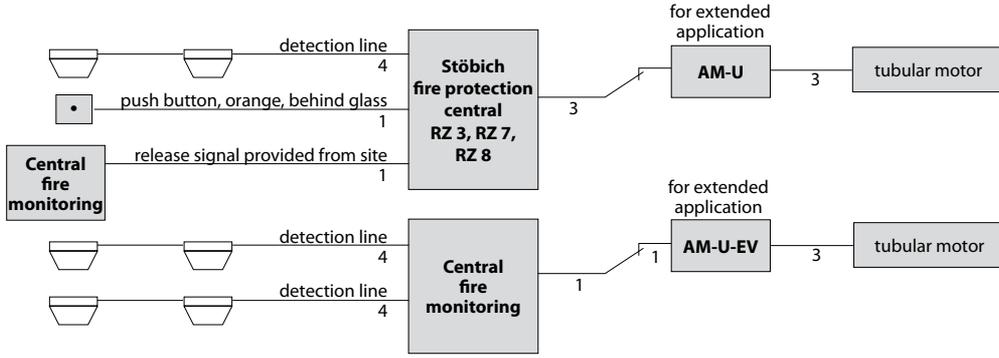


Edges



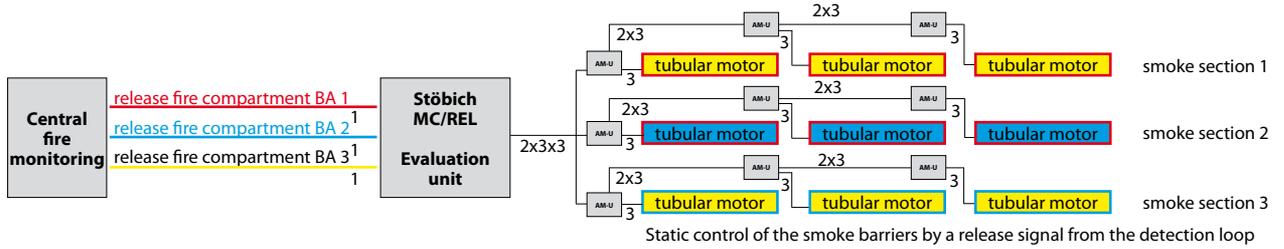
# Control units

## Static control of the smoke curtains by release of the detection loop

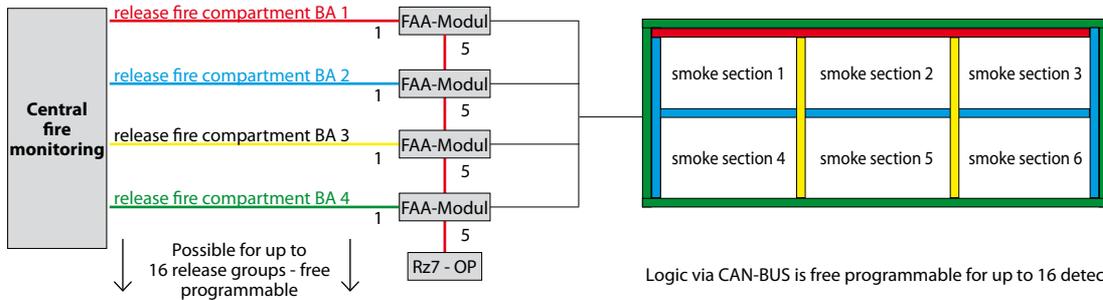


## Static control of the smoke curtains by release of the detection loop

Logic via hardware possible up to 3 detector groups

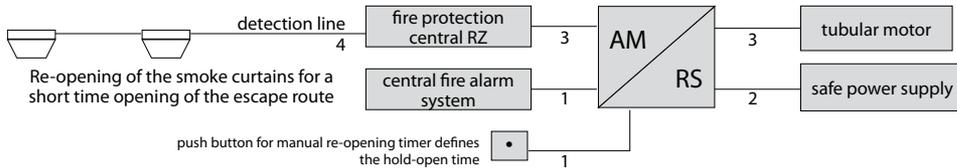
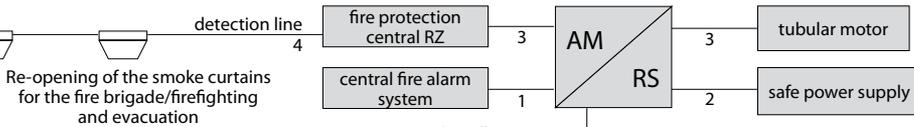
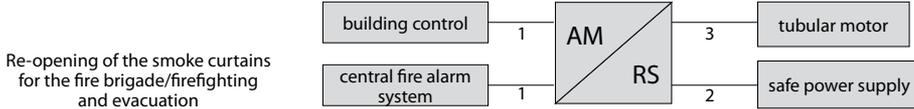


Static control of the smoke barriers by a release signal from the detection loop



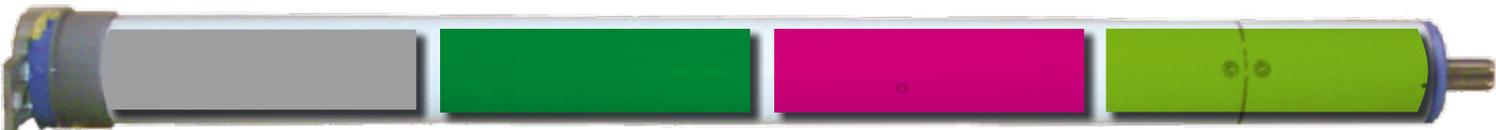
Logic via CAN-BUS is free programmable for up to 16 detector groups

## Controlled, motor-driven re-opening despite of fire alarm



caption:  
 1 = Ölflex 3G0,75mm<sup>2</sup>  
 2 = NHXH-J E90 3x1,5mm<sup>2</sup> RE with function preservation  
 3 = system cable, pluggable / Stöbich  
 4 = J-Y(St)Y-2x2x0,8mm<sup>2</sup>  
 5 = BUS cable J-Y(St)Y-2x2x0,8mm<sup>2</sup>

# Tubular motor Gravigen Stöbich



Intelligent electronic position sensor technology

Patented Fail-Safe - closing

Certified and VdS-controlled locking device

230 VAC drive motor with gear box

# Mechanical design for Supercoil



Temperature classification „DH“ = ETK curve

Temperature classification „D“ = 600 °C

**PROTEX 1100.1 A2**

**PROTEX 600.1 A2**

# Stöbich – Innovation for your protection

Since 1980, Stöbich Fire Protection is not only the worldwide leader for conveyor system closures but also an international trendsetter in the field of textile fire protection.

The grown know-how due to the immense number of executed projects and fire tests and the proven expertise in design makes Stöbich Fire Protection to a specialist with a broad product range and comprehensive services.

Eleven world novelties and numerous awards are an expression for innovative and customer-oriented product design and efficient process control.

Four branches and a large number of national and international agencies allow immediate presence and customer proximity in any state of the project.

## Tested Quality



Further information  
(Please see Video,  
CD or Internet)

[www.stoebich.de](http://www.stoebich.de)  
[info@stoebich.de](mailto:info@stoebich.de)



Branch North • Pracherstieg 6 • 38644 Goslar • Germany



Branch South • Gewerbehof 8 • 73441 Bopfingen • Germany



Branch East • Geltestraße 12 • 06188 Landsberg OT Queis • Germany



Branch West • Max-Planck-Straße 13 • 59423 Unna • Germany

## Honours and innovation awards



„Bauen im Bestand“  
from the Federal  
Ministry



MDR 1 award for  
the TV series  
„simply genius“



“Fire protection  
of the year 2011”  
by FeuerTRUTZ



“Encyclopedia of the  
German global market  
leader” 2011



German Award of Innovation

### Headquarters

Stöbich Brandschutz GmbH  
Pracherstieg 6  
38644 Goslar, Germany  
Phone +49-(0)5321-5708-0  
Fax +49-(0)5321-5708-991

### Branch South

Stöbich Brandschutz GmbH  
Gewerbehof 8  
73441 Bopfingen, Germany  
Phone +49-(0)7362-9614-0  
Fax +49-(0)7362-9614-50

### Branch East

Stöbich Brandschutz GmbH  
Geltestraße 12  
06188 Landsberg OT Queis, Germany  
Phone +49-(0)34602-552-0  
Fax +49-(0)34602-552-50

### Branch West

Stöbich Brandschutz GmbH  
Max-Planck-Straße 13  
59423 Unna, Germany  
Phone +49-(0)2303-98689-0  
Fax +49-(0)2303-98689-50

### International sales partners respectively subsidiaries

- Australia
- Finland
- Mexico
- Spain
- Austria
- France
- Netherlands
- Sweden
- Belgium
- Great Britain
- New Zealand
- Switzerland
- Bosnia and Herzegovina
- Greece
- Norway
- Turkey
- Bahrain
- Hong Kong
- Poland
- Ukraine
- Bulgaria
- Hungary
- Portugal
- Uruguay
- Brazil
- Iceland
- Qatar
- USA
- Ireland
- Romania
- Russia
- United Arab Emirates
- Canada
- Israel
- Serbia and Montenegro
- China
- Italy
- Saudi Arabia
- Croatia
- Latvia
- Singapore
- Cyprus
- Liechtenstein
- Lithuania
- Slovakia
- Czech
- Luxembourg
- Slovenia
- Denmark
- Macedonia
- Estonia