

# Fiberseal

## Textile smoke protection closures

Fiberseal Evolution-Sm

Fiberseal Evolution-Sa

Fiberseal-H

Fiberseal-S

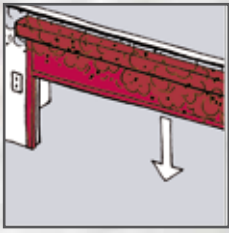


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**STÖBICH**  
FIRE PROTECTION

*Innovation for your Protection!*

# Protection concepts



## 1. For openings in walls



How can large openings in walls be sealed according to smoke protection requirements, although there is only less space available or architectural requirements need to be considered?



Smoke protection closure Fiberseal Evolution-Sm, Fiberseal Evolution-Sa

These automatic systems are very small and can be architecturally well integrated. Depending on the required smoke classification there can be chosen between the goals of the class Sa or Sm to DIN EN 13501-2. If additional requirements exist with regard to fire resistance class, by a modification of the fabric the protection class to E 120, EW 90 up to EI 120 in conjunction with a water impact can be achieved.



## 2. For openings in ceilings



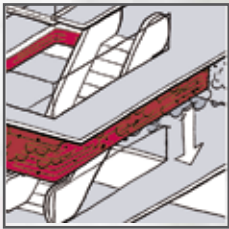
How can large openings in ceilings that built fire compartments be sealed according to protection targets when there is only limited space available or architectural have to be achieved?



Smoke protection closure Fiberseal-H



Due to its construction only little space is necessary for the installation of these automatic systems and they can also be perfectly adapted to the architecture. Depending on the fire classification the class Sm or Sa according to DIN EN 13501-2 can be used. If required a fire protection target of E90 can be reached by modifying the fabric



## 3. For compartmentation: a smoke protection closure that goes around the corner!



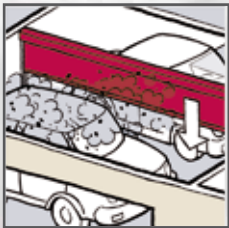
How can you create compartments with smoke protection closures that go around the corner and should not affect the architecture with side guides that are necessary in the corners? Is it possible that the corners of an enclosed polygon can be other than rectangular?



Smoke protection curtain Fiberseal-S



The smoke protection closure Fiberseal-S offers a polygonal smoke compartmentation without the disturbing side guides to reach the desired tightness. The flat casing of the systems can be well integrated in the ceiling. The system can run polygonal whereupon the angles can be between 30 ° and 150 °. The systems have the characteristic protection target of the class Sm and Sa according to DIN EN 13501-2.



## 4. Smoke compartmentation in underground parkings



How can large passing openings be sealed – e.g. subdivision of large zones or gateways in consideration of the available space in the lintel and lateral area of the opening?



Smoke protection closure Fiberseal Evolution-Sm, Fiberseal Evolution-Sa



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## 5. Automatic smoke protection closures in front of elevators



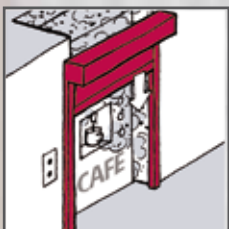
How can be secured that smoke won't be transmitted through elevator shafts from one storey to the next or through large openings from one room to another? Or how can large openings be sealed smoke tight according to DIN 18095 or EN 1634-3?



Rauchschutzabschluss Fiberseal Evolution-Sm, Fiberseal Evolution-Sa



These automatic systems are very small and can be architecturally well integrated. Depending on the required smoke protection classification you can chose between the target Sa or SM according to DIN 13501-2. If there are additional requirements concerning the fire protection class, the targets of E120 and EW90 can be reached by a modification of the fabric as well as the target EI120 in combination with water discharge. If the systems are free standing the sealing can also be done by the Fiberseal-S (see 3.).



## 6. Smoke protection closures for drinks and snacks dispenser



How can security be provided in case of fire when drinks or snacks dispenser are placed in corridor niches and by this are an additional fire load? Do I have to create a separate room for this?



Smoke protection closure Fiberseal Evolution-Sm, Fiberseal Evolution-Sa



These automatic systems are very small and can be architecturally well integrated. Depending on the required smoke protection classification you can chose between the target Sa or SM according to DIN 13501-2. If there are additional requirements concerning the fire protection class, the targets of E120 and EW90 can be reached by a modification of the fabric as well as the target EI120 in combination with water discharge. If the systems are free standing the sealing can also be done by the Fiberseal-S (see 3.).



## 7. Smoke protection closures for nurse's stations or receptions



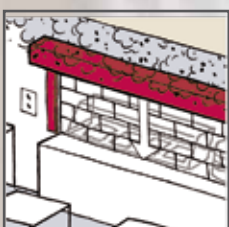
How can sealed partitions in these areas be achieved without disturbing the communications by walls?



Smoke protection closure Fiberseal Evolution-Sm, Fiberseal Evolution-Sa



These automatic systems are very small and can be architecturally well integrated. Depending on the required smoke protection classification you can chose between the target Sa or SM according to DIN 13501-2. If there are additional requirements concerning the fire protection class, the targets of E120 and EW90 can be reached by a modification of the fabric as well as the target EI120 in combination with water discharge.



## 8. Separation of endangered zones between kitchen and canteen



Is it possible to seal the connection between these areas without high restrictions?



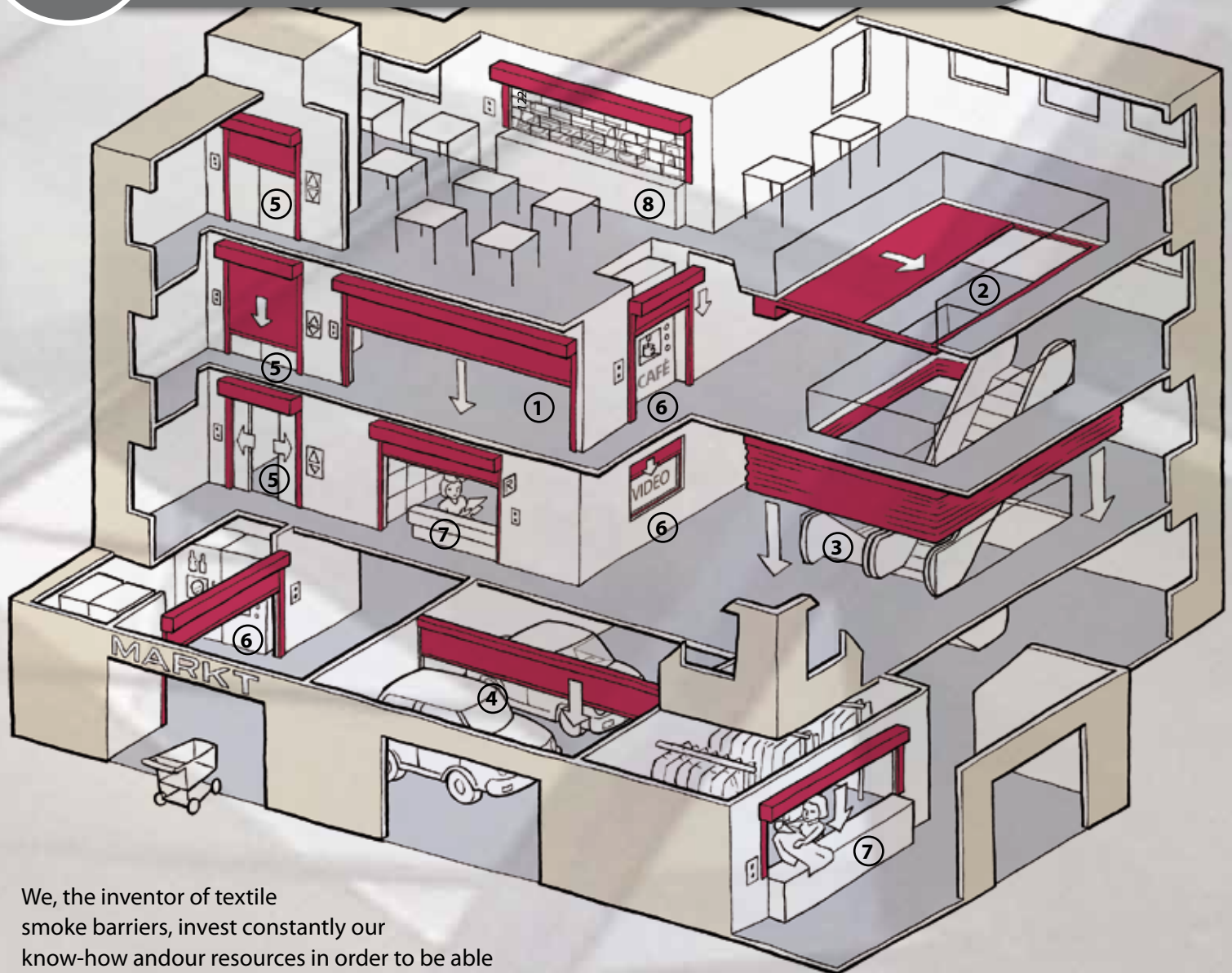
Smoke protection closure Fiberseal Evolution-Sm, Fiberseal Evolution-Sa



These automatic systems are very small and can be architecturally well integrated. Depending on the required smoke protection classification you can chose between the target Sa or SM according to DIN 13501-2. If there are additional requirements concerning the fire protection class, the targets of E120 and EW90 can be reached by a modification of the fabric as well as the target EI120 in combination with water discharge.

# Invisible smoke protection closures!

*Building activities in the future  
with innovative textile closure systems*



We, the inventor of textile smoke barriers, invest constantly our know-how and our resources in order to be able to always offer innovative solutions to realize your protection goal of fire protection plans. The result of our work is that now eight world novelties, have been successfully introduced into the international market.

One of it is the textile smoke protection closure in different designs and classifications that achieves numerous applications in preventive structural fire protection.

By this, modern protection concepts can be realized without having to accept restrictions on architectural design or building use. Our well-founded practical experience

with textile fire sealing was obtained in over 15 years and over 100 fire tests as well as in the about 10.000 completed projects in the following sectors:

Retirement homes, car dealerships, automotive industry, banks, office buildings, heritage buildings, shopping centers, airports, hotels, industrial facilities, cafeterias, day care centers, cinemas, hospitals, furniture stores, museums, food industry, public buildings, parks, town halls, schools, training centers, supermarkets, theaters, parking garages, universities, insurance, hospitality, residential and commercial buildings, ...

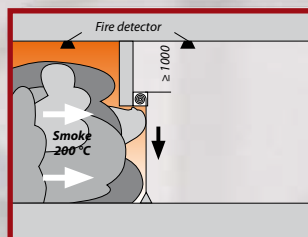
# Protection targets

**Characteristic performance features according to DIN EN 13501-2**

**Definition/ classification:**

**Achieved protection targets within the smoke protection classes resp. fire protection classes**

**Approvals**  
(Tests according to DIN EN 1363-1, DIN-EN 1634-1/-3 and DIN EN 14600, cycle test)

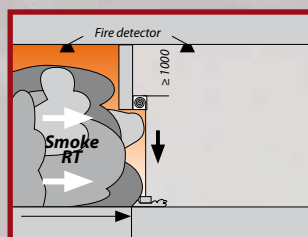


**Sm**

**Smoke tight closure tested according to DIN EN 1634-3**  
**Max. Leakage: 50 m<sup>3</sup>/h for the whole system at room ambient temperature and up to 200°C, at 50 Pa under- or overpressure**

**Sm**

AbP: P-3359/128/08  
AbP: P-3286-0926

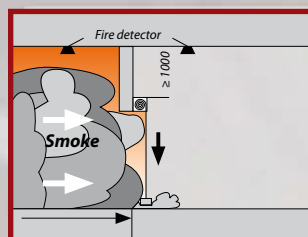


**Sa**

**Smoke tight closure tested according to DIN EN 1634-3**  
**Max. Leakage: 3 m<sup>3</sup>/h for each running meter joint length (without floor sealing) at room ambient temperature; at 25 Pa under- or overpressure**

**Sa**

AbP: P-3359/128/08  
AbP: P-3286-0926



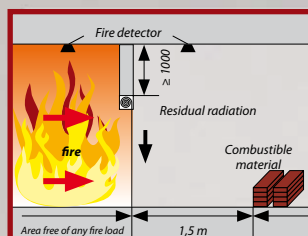
**tight closing**

(non-standardized term)

**Tight closing closure**

Constructional characteristic:  
Sealing on three sides (without floor sealing)

**No standard testing for tight closing systems**



**E**

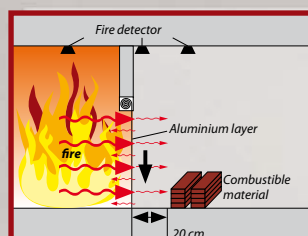
**Integrity according to DIN 1634-1**

is the ability to resist the fire and prevent the passage of flames and hot gases

(the protection target EI can be reached by a zone free of any fire load)

**E 90**  
**W 120**

UB III/B-05-020  
UB III/B-06-15  
08062415 IBS



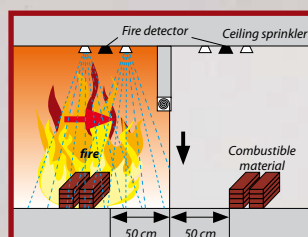
**EW**

**Integrity with reduced heat radiation tested according to DIN 1634-1**

The reduction of radiation is the attribute, that limits the fire spread by radiated heat to adjoining materials

**EW 30**  
**EW 90**

UB III/B-08-012  
UB III/B-06-15



**E with sprinkler**

**Insulation under the effect of fire tested with compressed sprinkler lines according to DIN 1634-1**

Heat insulation is the capability that prevents the transmission of fire through heat. The transmission has to be limited in certain way so that neither the opposite surfaces to the fire nor the materials near the surface are lit and people are protected.

**EI 90**  
**EI 120**

UB III/B-08-016  
08062416 IBS

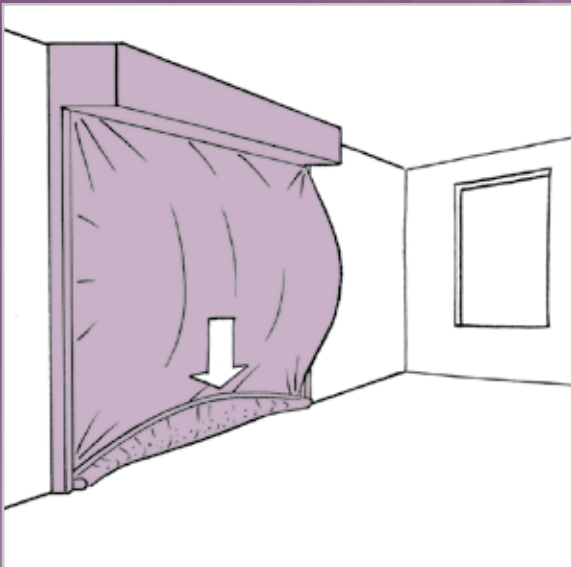
# Fiberseal-Sm

The tight smoke protection closure with the classification "Sm" for high pressures and a smoke temperature of 200 °C

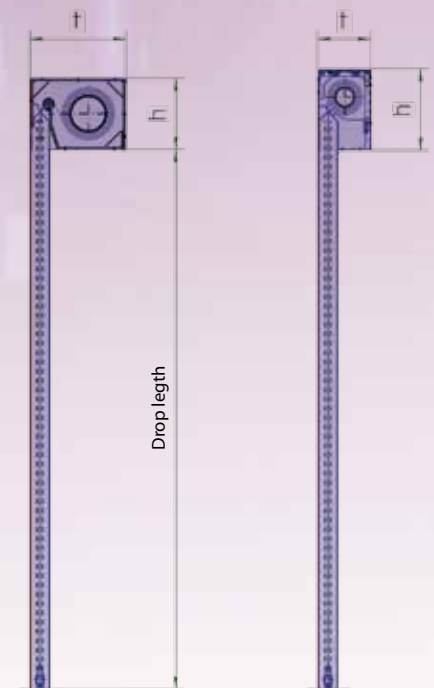
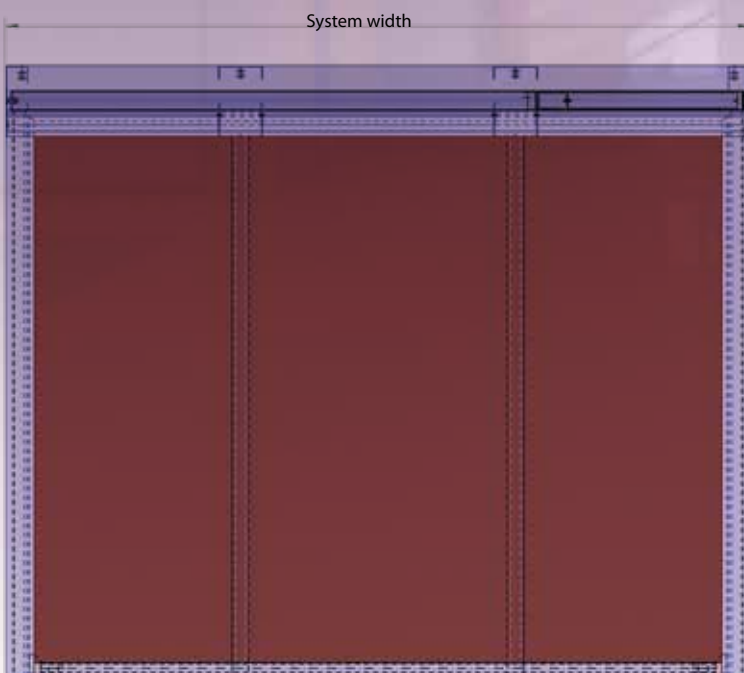
Sm

## Characteristics of the Fiberseal Evoultion-Sm

- Tested according to DIN EN 1634-3 resp. DIN 18095-3 with a classification according to DIN EN 13501-2 of the class Sm
- Max. approved dimensions according to the AbP 7m x 4,5m
- Technically feasible are dimensions of 10m x 6m
- Cycle test according to class C2 = 10.000 cycles
- Elastic floor sealing to seal bigger unevennesses (e.g. to 30 mm within 1 m)
- versatile mounting options
- passive sealing system for closing, so that no compressors and wear parts are necessary. By this also the possibility of using it as a fire protection closure is given, as no sealing parts are combustible
- additional protection targets through special fabrics for fire resistance classes of E 120 and also up to EW90
- high quality fabric with silicone coating, optionally with PU coating
- patented tubular motor drive system with Gravigen technology
- integrated safety edge as an option



Fabric	System width	Drop length	t (mm)	h (mm)	Fabric
Protex 600 S / Ecotex 1100 2S	< 10 m	≤ 6 m	350	260	Standard
Protex 600 S / Ecotex 1100 2S	< 5 m	≤ 4,5 m	285	200	Standard
Protex 600 S / Ecotex 1100 2S	< 3,5 m	≤ 3,5 m	190	290	Special
Protex 600 S / Ecotex 1100 2S	< 7 m	≤ 5 m	290	360	Special
Heliotex EW 90	< 10 m	≤ 5 m	350	260	Standard
Heliotex EW 90	< 5 m	≤ 2,5 m	285	200	Standard
Heliotex EW 90	< 3,5 m	≤ 2 m	190	290	Special
Heliotex EW 90	< 7 m	≤ 3 m	290	360	Special

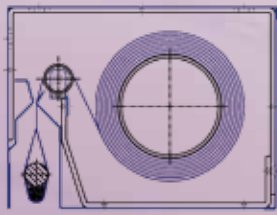


Standard casing

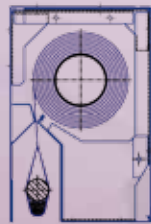
Special design



## Choice of casings

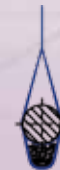


Standard casing



Special construction

## Bottom bars

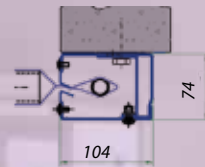


Standard

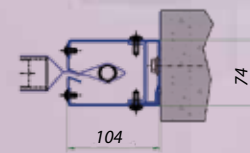


With safety edge

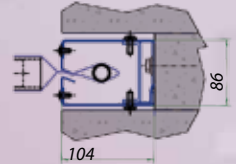
## Installation of the side guides



Installation to the wall

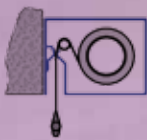


Installation in the embrasure

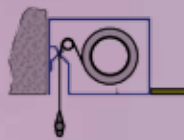


Installation in the niche

## Installation options



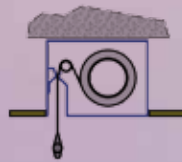
Installation of the casing to the wall



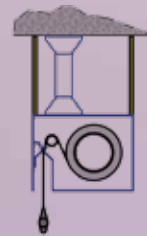
Installation of the casing to the wall; false ceiling is unilaterally connected to the casing



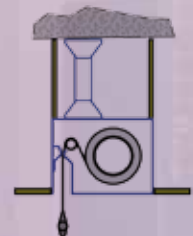
Installation of the casing directly to the ceiling



Installation of the casing directly to the ceiling, false ceiling is connected to the casing on both sides



Installation of the casing over a suspension to the ceiling



Installation of the casing over a suspension to the ceiling; false ceiling is connected to the casing on both sides, without fire protection

## Protection targets

Smoke protection closure tested according to DIN EN 1634-1/3, classified according to DIN EN 13501-2

Protection target	No requirements for fire protection closure	Requirements up to E 120 (Integrity)	Requirements up to EW 90 (limitation of heat transmission)	Requirements up to EI 120 (characteristics: Insulation/ with water)
<b>Sm tested according to DIN EN 1634-3</b>				
	Max. dimensions according to AbP/ limited by the standard (w x h)	Max. dimensions according to AbP/ limited by the standard (w x h)	Max. dimensions according to AbP/ limited by the standard (w x h)	Max. dimensions according to AbP/ limited by the standard (w x h)
	7 m x 4,5 m	7 m x 4,5 m	7 m x 4,5 m	7 m x 4,5 m
	technically feasible per side	technically feasible per side	technically feasible per side	technically feasible per side
	10 m x 5 m	10 m x 5 m *	10 m x 5 m *	10 m x 5 m *
	Fabric	Fabric	Fabric	Fabric
	Protex 600 S	Ecotex 1100 2S	Ecotex 1100 2S Heliotex EW 90	Ecotex 1100 2S
	Certificate	Certificate	Certificate	Certificate
	AbP: P-3359/128/08 MPA Braunschweig	AbP: P-3286-0926 MPA Braunschweig, UB III/B-06-15 (E 120)	AbP: P-3286-0926 MPA Braunschweig, UB III/B-08-012 (EW 90) UB III/B-06-15 (EW 30)	AbP: P-3286-0926 MPA Braunschweig, UB III/B-08-016 (EI 120)

\*) Limitations through country-specific extrapolations are possible

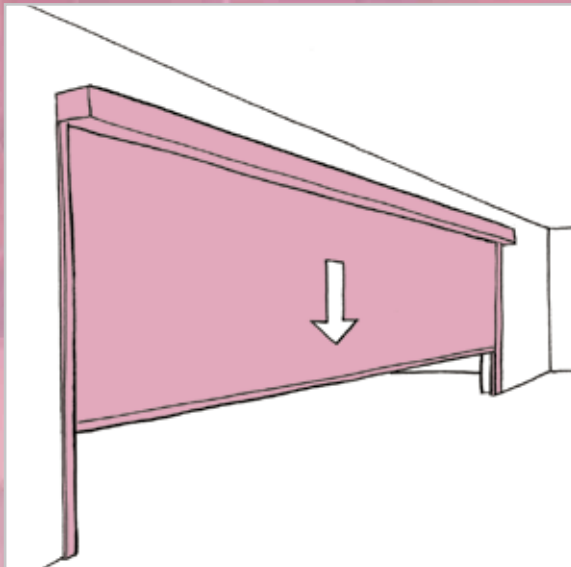


# Fiberseal-Sa

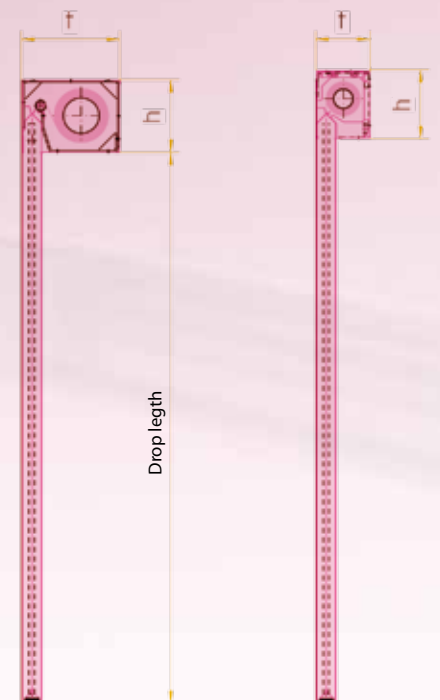
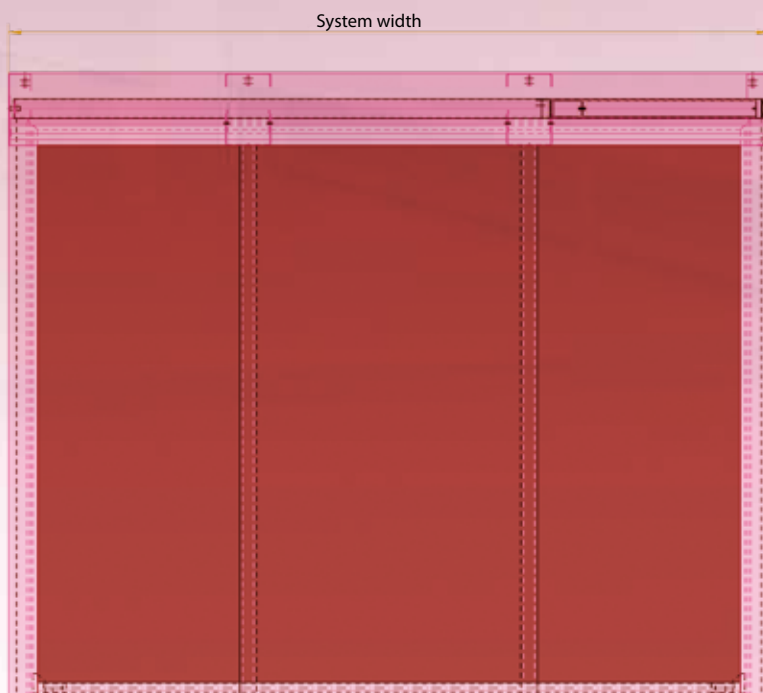
The tight smoke protection closure with the classification **Sa** tested for large openings

## Characteristics of the Fiberseal Evolution-Sa

- Tested according to DIN EN 1634-3 resp. DIN 18095-3 with a classification according to DIN EN 13501-2 of the class Sa
- Max. approved dimensions according to the AbP 10m x 6m (for EW90 requirements 10 x 5 m)
- Cycle test according to class C2 = 10.000 cycles
- versatile mounting options
- passive sealing system for closing, so that no compressors and wear parts are necessary. By this also the possibility of using it as a fire protection closure is given, as no sealing parts are combustible
- additional protection targets through special fabrics for fire resistance classes of E 120 and also up to EW90
- high quality fabric with silicone coating, optionally with PU coating
- patented tubular motor drive system with Gravigen technology
- integrated safety edge as an option



Fabric	System width	Drop length	t (mm)	h (mm)	Fabric
Protex 600 S / Ecotex 1100 2S	< 10 m	≤ 6 m	350	260	Standard
Protex 600 S / Ecotex 1100 2S	< 5 m	≤ 4,5 m	285	200	Standard
Protex 600 S / Ecotex 1100 2S	< 3,5 m	≤ 3,5 m	190	290	Special
Protex 600 S / Ecotex 1100 2S	< 7 m	≤ 5 m	290	360	Special
Heliotex EW 90	< 10 m	≤ 5 m	350	260	Standard
Heliotex EW 90	< 5 m	≤ 2,5 m	285	200	Standard
Heliotex EW 90	< 3,5 m	≤ 2 m	190	290	Special
Heliotex EW 90	< 7 m	≤ 3 m	290	360	Special

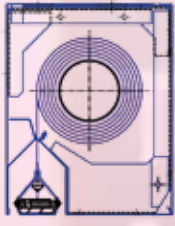


Standard casing

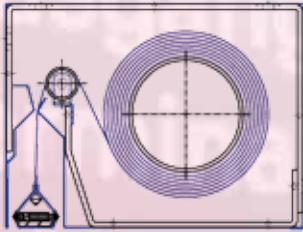
Special design



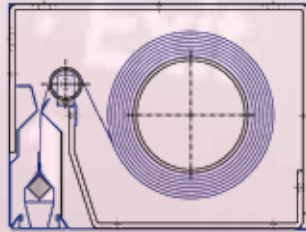
## Choice of casings



Standard casing



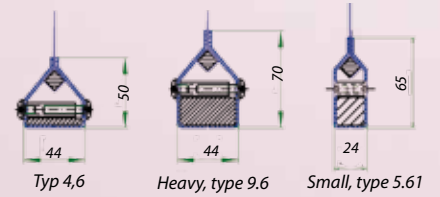
Special construction



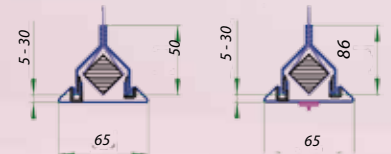
Special construction for self-levelling bottom bar

## Bottom bars

Standard for small widths



74



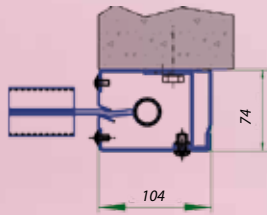
Typ 3,84 F

Self-levelling bottom bar without safety edge

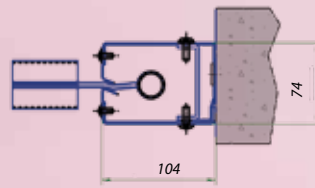
Typ 3,84 FK

Self-levelling, optional with safety edge

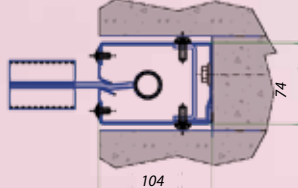
## Choice of side guides



Installation to the wall

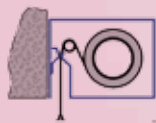


Installation in the embrasure

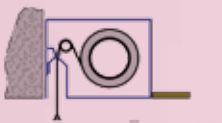


Installation in the niche

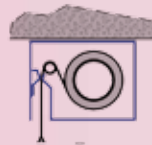
## Installation options



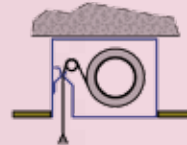
Installation of the casing to the wall



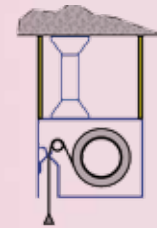
Installation of the casing to the wall; false ceiling is unilaterally connected to the casing



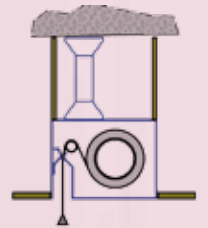
Installation of the casing directly to the ceiling



Installation of the casing directly to the ceiling, false ceiling is connected to the casing on both sides



Installation of the casing over a suspension to the ceiling



Installation of the casing over a suspension to the ceiling; false ceiling is connected to the casing on both sides, without fire protection

## Protection targets

Smoke protection closure tested according to DIN EN 1634-1/3, classified according to DIN EN 13501-2

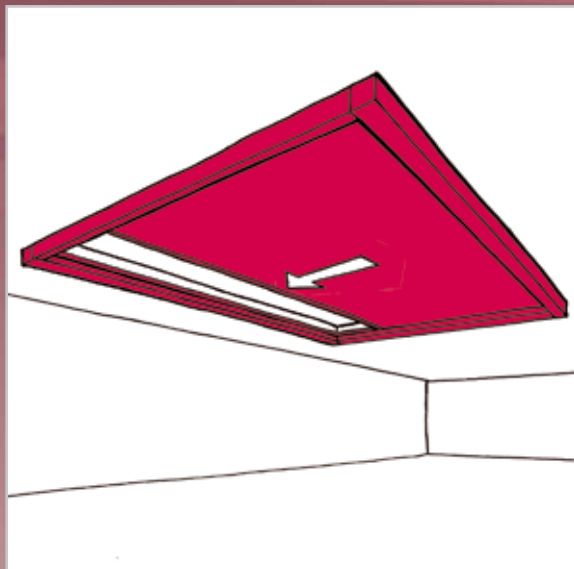
Protection target	No requirements for fire protection closure	Requirements up to E 120 (Integrity)	Requirements up to EW 90 (limitation of heat transmission)	Requirements up to EI 120 (characteristics: Insulation/ with water)
Sm tested according to DIN EN 1634-3				
	Max. dimensions according to AbP/ limited by the standard (w x h)	Max. dimensions according to AbP (w x h)	Max. dimensions according to AbP (w x h)	Max. dimensions according to AbP (w x h)
	10 m x 5 m	10 m x 5 m *	10 m x 5 m *	10 m x 5 m *
	Fabric	Fabric	Fabric EW 30 Fabric EW 90	Fabric
	Protex 600 S	Ecotex 1100 2S	Ecotex 1100 2S 11 Heliotex EW 90	Ecotex 1100 2S
	Certificate	Certificate	Certificate	Certificate
	AbP: P-3359/128/08 MPA Braunschweig	AbP: P-3286-0926 MPA Braunschweig, UB III/B-06-15 (E 120)	AbP: P-3286-0926 MPA Braunschweig, UB III/B-08-012 (EW 90) UB III/B-06-15 (EW 30)	AbP: P-3286-0926 MPA Braunschweig, UB III/B-08-016 (EI 120)

\*) Limitations through country-specific extrapolations are possible



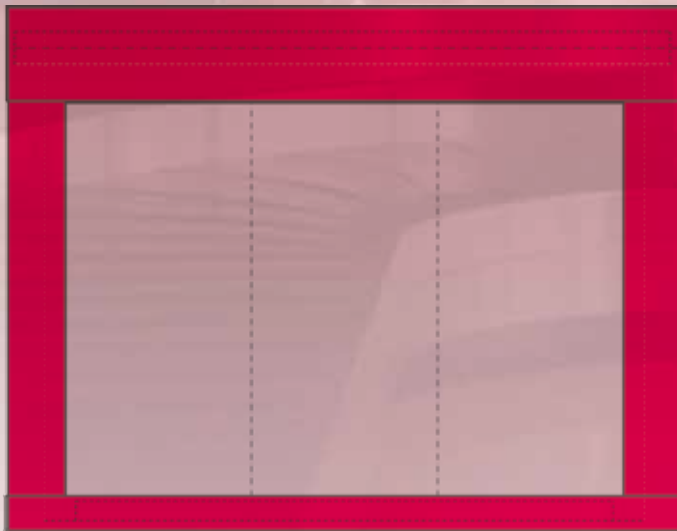
# Fiberseal-H

The **H**orizontal smoke protection closure for openings in the ceiling

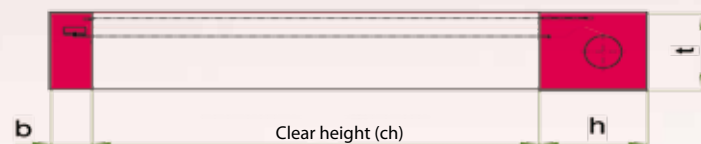
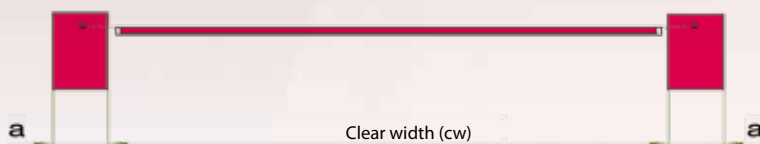


## Characteristics of the Fiberseal-H

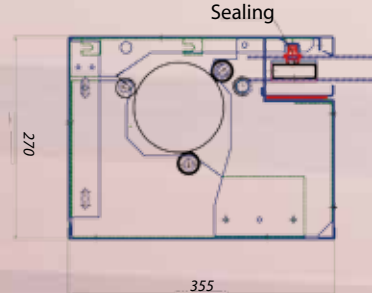
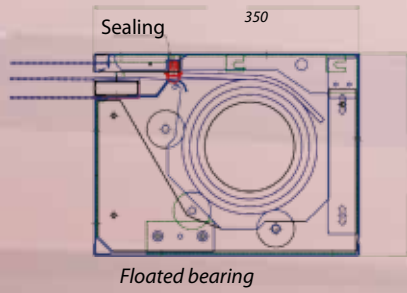
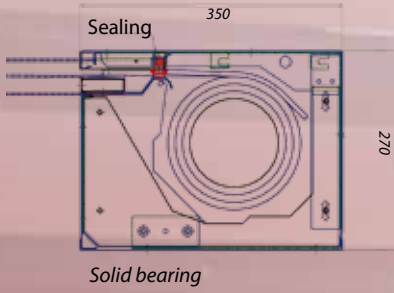
- tested according to DIN 18095-3 and DIN EN 1634-3 with a classification according to DIN EN 13501-2 Class Sm or SA
- for large ceiling openings as smoke protection closure up to 20m width and a drop length up to 8m in the class Sa DIN EN 13501-2
- ceiling openings of the Sm class
- tested for 1.000 cycles
- secure closing of the duplex-drive system with secured power supply
- active sealing system for compressed-air technologies
- high-quality fabric with silicone coating, optional - PU coating
- can be installed under the ceiling or in the embrasure
- tension cables at a distance of 1.5 m to support the tissue at large dimensions, as well as for pressure loads during a fire



Clear width	Drop length	a (mm)	b (mm)	t (mm)	h (mm)
< 20 m	< 8 m	270	355	270	350

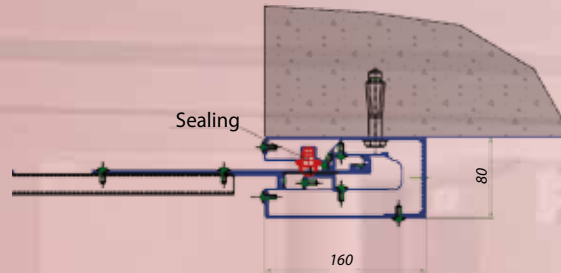


## Choice of casings

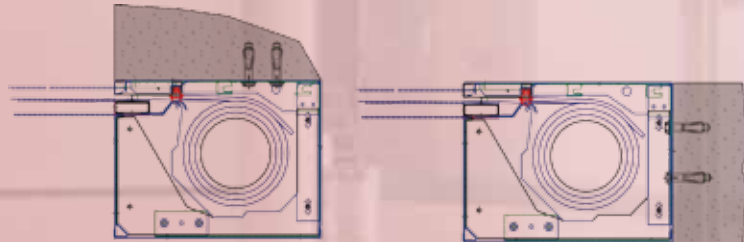


## Receiving box + bottom bar

## Side guide



## Installation options



Installation under the ceiling

Installation in the opening of the ceiling

## Protection targets

Protection target	No requirements for fire protection closure		Requirements E (Integrity)	
<b>Tested according to DIN EN 1634-3</b> <b>Characteristics according to DIN EN 13501-2</b>				
		Max. dimensions (w x l) Fabric Ecotex 1100 2S Certificate Smoke protection closure: AbP.P.:...	Max. dimensions (w x l) Fabric Protex 1100 2S Certificate Smoke protection closure AbP.P.:... (E...) Fire protection closure UB III/B-05-020 (E 120)	
	Max. dimensions (w x l) Fabric Ecotex 1100 2S Certificate Smoke protection closure: AbP.P.:...	20 m x 8 m	Max. dimensions (w x l) Fabric Ecotex 1100 2S Certificate Smoke protection closure: AbP.P.:...	20 m x 8 m * Fabric Protex 1100 2S Certificate Smoke protection closure: AbP.P.:... (E...) Fire protection closure UB III/B-05-020 (E 120)

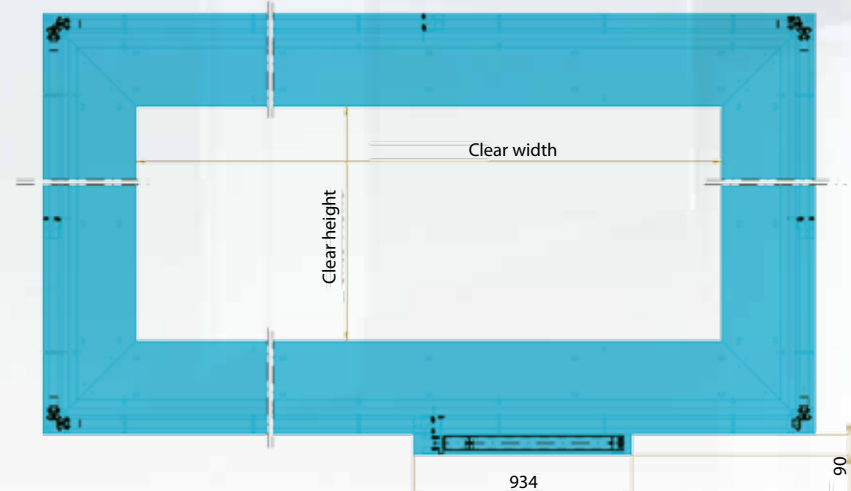
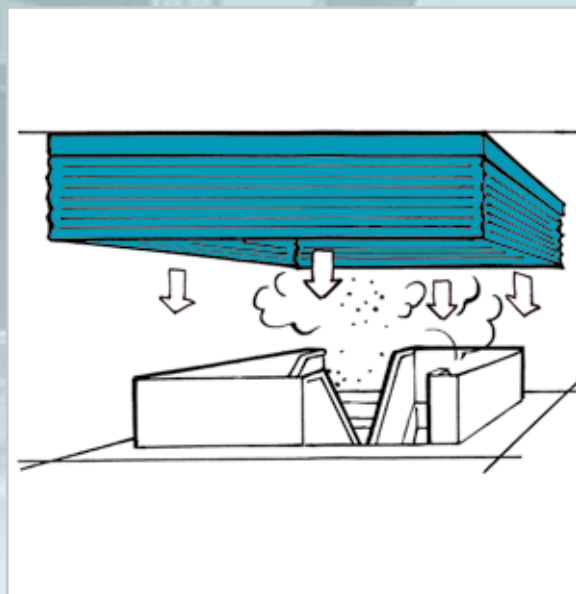
\*) Limitations through country-specific extrapolations are possible

# Fiberseal-S

The **S** ection building textile smoke protection closure/ the closure that goes around the corner

## Characteristics of the Fiberseal-S

- tested according to DIN EN 1634-3 resp. 18095-3 with a classification according to DIN EN 13501-2 Class Sm as well as Sa
- for large sections with a side length of max. 10 x 6 m
- Creation of corners without additional supports also different from a right angle (30°C to 150°)
- Self levelling bottom bar for a neat connection to the ceiling
- Standard drive unit Gravigen, that means closing without auxiliary energy, no fire resistant cables are necessary
- Cycle test according to class C2 = 10.000 cycles
- redundant drive units with safety catch device
- additional protection targets through special fabrics for fire resistance classes of E 120 and with sprinklers also characteristics up to EI 120



## Gradient of the smoke protection closure



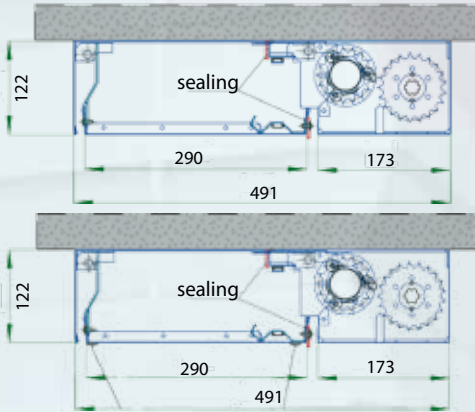
System circumference	Drop length	t (mm)	h (mm)
< 50 m	< 3 m	490	125
< 50 m	> 3 m - < 6 m	490	225

at least 2 motors and one more for each 10 m over 20 circumference

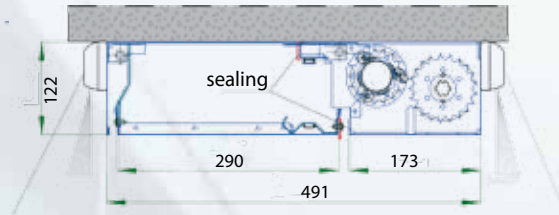


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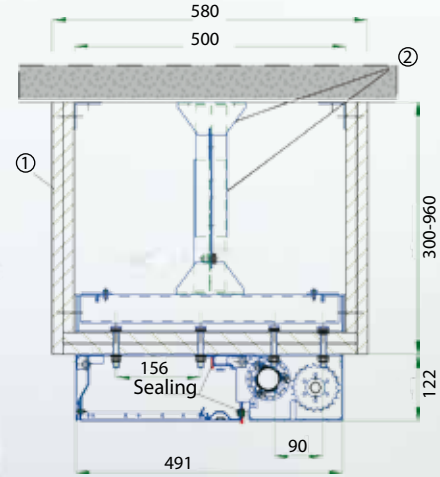
# Casing



optional with safety device (safety edge)



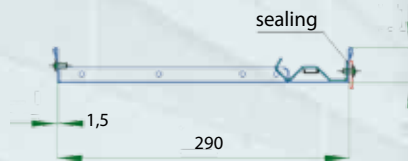
optional with safety device (Infrared)



① = Design is depending on the required protection class

② = fastening, suspensions

# Bottom bars



Optional with spots or light strip (if necessary increasing of the construction height)

# Protection targets

Smoke protection closure tested according to DIN EN 1634-1/3, classified according to DIN EN 13501-2

Protection target	No requirements for fire protection closure	Requirements up to E 120 (Integrity)	Requirements up to EI 120 (characteristics: Insulation/ with water)
<b>Tested according to DIN EN 1634-3</b> <b>Characteristics according to DIN EN 13501-2</b>			
	technically feasible per side	technically feasible per side	technically feasible per side
<b>Sm</b>	10 m x 6 m	10 m x 6 m *	10 m x 6 m *
Max. circumference	50 m	50 m	50 m
Fabric	Ecotex 1100 2S	Ecotex 1100 2S	Ecotex 1100 2S
	technically feasible per side	technically feasible per side	technically feasible per side
<b>Sa</b>	10 m x 6 m	10 m x 6 m	10 m x 6 m
Max. circumference	50 m	50 m	50 m
Fabric	Ecotex 1100 2S	Ecotex 1100 2S	Ecotex 1100 2S

\*) Limitations through country-specific extrapolations are possible



# Locking devices approved by the building authorities

**?** If the Fiberseal is used as an automatic partition, according to the standards for locking devices (ed. October 1988) it has to be powered by a locking device that is approved by the building authorities. Which components belong to a locking device approved by the building authorities?

**!** The Stöbich control units type RZ have **all required components** that are also included in the approval

Release device + power supply	Fire detection elements	Locking device	Push-button
 <p>RZ 7/BMZ 2/NT24 RZ 8</p>	 <p>Altogether 41 types of various manufacturers</p>	 <p>(see illustration below)</p> <p>Altogether 117 types of various manufacturers</p>	 <p>All types according to „guidelines for locking devices“</p>

**!** The VdS tested Stöbich control units are approved by the building authorities  
 RZ 8 FA: Z-6.5-1872  
 RZ 7 BT: Z-6.5-2011 with VdS-tested operator protection

# Tubular motor type Gravigen Stöbich

Standard				Optional to external modules			
<b>Junction cable</b>	<b>Position limit switch</b>	<b>Gravigen</b>	<b>Locking device 24VDC</b>	<b>Drive unit</b>	<b>Power pack</b>	<b>Power supply EV</b>	<b>Trigger unit AV</b>
• No functional endurance necessary	• Adjustable end position shutdown	• Wearless and patented regulation of the closing velocity	• Quality monitoring by the VdS	• Range of performance from <b>12 Nm</b> to <b>120 Nm</b>	• Complete functional endurance in case of power failure Hold-open time up to 10 min	• Power-saving switch-mode power supply 230/24V/12VA	• Triggering of the locking device

# Design for metal parts



powder coated  
 galvanized  
 stainless steel  
 coatless    circular matt finished    ground K240

Besides colour and surface finishing **Stöbich** offers individual designs for the **Fiberseal system**



## Honours and innovation awards Invisible fire protection



"Civil engineering in existing buildings" from the Federal Ministry



1st prize in the series "einfach genial"; MDR



Zertifikat mips April 2005, Moskau



Lower-Saxony Foreign Trade Award 2010



German Award of Innovation

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