



ST FLEX Green

ST FLEX Green

Slender profile with excellent thermal insulation

Think

Green

Energy-saving products for buildings are the trend of the future. With the ST FLEX Green sliding door dormakaba underlines their contribution to increase energy efficiency and thus to improve the sustainability of buildings.

This automatic sliding door system is excelled by its slender profile with improved thermal separation on the basis of the FLEX profile system. Despite its lean design, ST FLEX Green convinces with outstanding thermal insulation, which is also approved by the German testing, surveillance and certification body ift Rosenheim. Furthermore, it fulfils the requirements of the latest German

energy-saving regulation (EnEV 2016) and harmonizes perfectly with the existing dormakaba sliding door range. Even the smallest ST FLEX Green door system meets the requirements of the German EnEV 2016, which stipulates a certain U_D -value (thermal transmission co-efficient) for complete door systems. In addition, dormakaba provides a certificate with the respective U_D -value for each door system.

The bigger the door system, the considerably lower the U_D -value compared to the respective reference value. Despite its slender profile system with improved thermal insulation, the ST FLEX GREEN is extremely solid.

Very energy-efficient

ST FLEX Green considerably reduces running energy and heating expenses and cuts CO²-emission. Despite the improved thermal separation, the profiles almost look like standard ST FLEX systems so that they harmonize perfectly with the façade's overall design.

ES 200 operator technology sets new trends

The ES 200 system provides three different operator versions (ES 200 Easy, ES 200 and ES 200-2D) in order to meet all requirements. Doors with ES 200 Easy are suitable for door weights of 2 x 100 kg while the ES 200 may handle doors of 2 x 160 kg. The ES 200-2D escape route version is designed for door panel weights of 2 x 130 kg. In addition, passage widths of up to 3000 mm may easily be realized.

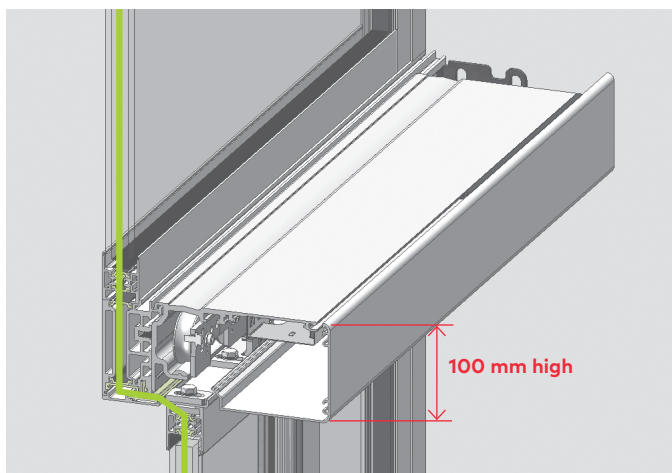
Type-approved systems for emergency exits and escape routes

With their established Dual Drive technology (ES 200-2D) dormakaba sliding doors are convincing and reliable applications for emergency exits and escape routes.

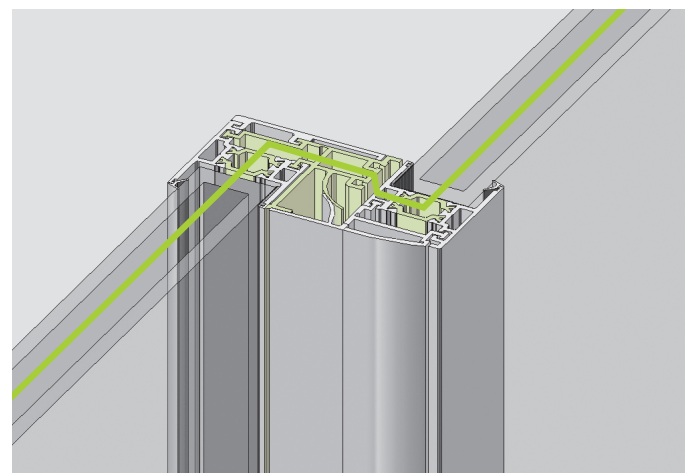
All operators are of redundant design and supplied with an auxiliary control unit and a radar motion detector with self-monitoring function. Furthermore, the systems are characterized by an additional F in their name and type-approved as "automatic sliding door without break-out unit for application in escape routes".



ST FLEX Green with an operator height of only 100 mm



ST FLEX Green, horizontal section



Our commitment to a sustainable future

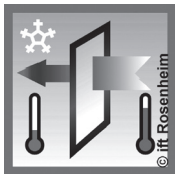
We are committed to sustainable development as one of our business maxims. dormakaba's aim is to ensure energy-saving and resource-conserving production, a high recycling ratio and the longevity of our quality products.

Environmental Product Declarations (EPD), based on a holistic life cycle assessment, are used for the calculation of the sustainability of buildings.

EPD certificates are available on www.dormakaba.com

Important customer benefits at a glance


- Very low U_D -values from 1.4 to max. 1.8 (thermal transmission co-efficient)
- Tested quality with ift Rosenheim approval
- Compliant with the German energy-saving regulation (EnEV 2016)
- Sustainable, reliable and energy-saving system
- Interior and entrance doors in the same design to harmonize with the building's overall look
- Individual U_D -value certificates for each ST FLEX Green door system
- Glass panes with rugged but elegant frames




Nachweis

Wärmedurchgangskoeffizient


Prüfbericht 10-001011-PB09-A01-06-de-01



Grundlagen
 EN ISO 10077-1 : 2006
 Wärmetechnisches Verhalten von Fenstern, Türen und Abschlüssen - Berechnung des Wärmedurchgangskoeffizienten - Teil 1: Vereinfachtes Verfahren
 EN ISO 10077-2 : 2003
 Wärmetechnisches Verhalten von Fenstern, Türen und Abschlüssen - Berechnung des Wärmedurchgangskoeffizienten - Teil 2: Numerisches Verfahren für Rahmenprüfberichte
 10-001011-PB01-K20-06-de-01 vom 21.12.2010 bis 10-001011-PB07-K20-06-de-01 vom 21.12.2010
Darstellung

Verwendungshinweise
 Dieser Prüfbericht dient zum Nachweis des Wärmedurchgangskoeffizienten U_D .
Gültigkeit
 Die genannten Daten und Ergebnisse beziehen sich ausschließlich auf den geprüften und beschriebenen Gegenstand.
 Die Prüfung des Wärmedurchgangskoeffizienten ermöglicht keine Aussage über weitere leistungs- und qualitätsbestimmende Eigenschaften der vorliegenden Konstruktion.
Veröffentlichungshinweise
 Es gilt das IFT-Merkblatt „Bedingungen und Hinweise zur Benutzung von IFT-Prüfdokumentationen“.
 Das Deckblatt kann zusammen mit der Typenliste als Kurzfassung verwendet werden.
Inhalt
 Der Nachweis umfasst insgesamt 12 Seiten
 1. Gegenstand
 2. Durchführung
 3. Einzelergebnisse

Auftraggeber	DORMA GmbH + Co. KG DORMA Platz 1 58256 Ennepetal
Produkt	automatische Schiebetür, zweiflügelig
Bezeichnung	ST FLEX Green
Außenmaß (B x H)	6250 mm x 3305 mm oben: 147 mm seitlich: 69 mm mitte: 50 mm / 104 mm unten: 66 mm
Ansichtsbreite	
Material	Aluminiumprofil mit thermischer Trennung
Oberfläche	pulverbeschichtet, eloxiert Art: Stege durchgehend Material: Polyamid 6.6 verstärkt mit 25 % Glasfaser Einlage: Polyurethan-Hartschaum in den oberen Profilen Metalloberflächen im Dämmzonenbereich: leicht oxidierte Oberflächen, z. B. Hohlräume nach Oberflächenbehandlungen im Tauchverfahren
Öffnungsart	Parallel verschiebbare Flügelrahmen Mehrscheiben-Isolierglas: U_g -Wert von 1,0 W/(m ² · K) Aufbau: 7VSG / 15 / 7VSG mm Gasfüllung: Argon 90 % Beschichtungsebene: Pos 3. $\epsilon_i = 0,01$ (Nennwert)
Füllung	Abstandhalter: TGI-Spacer
Besonderheiten	-


Wärmedurchgangskoeffizient



$U_D = 1,4 \text{ W/(m}^2 \cdot \text{K)}$

ift Rosenheim
21. Dezember 2010

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Bauphysik



ibmmergestützte Simulation

Thiel

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ift Rosenheim GmbH
Geschäftsführer
Dipl.-Ing. (FH) Ulrich Sieberath
Dr. Jochen Pfechtl

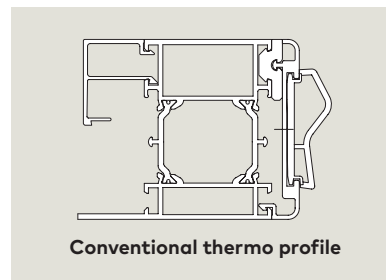
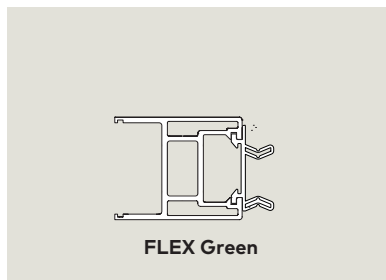
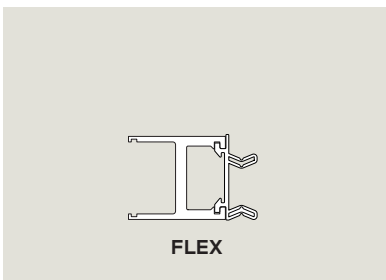
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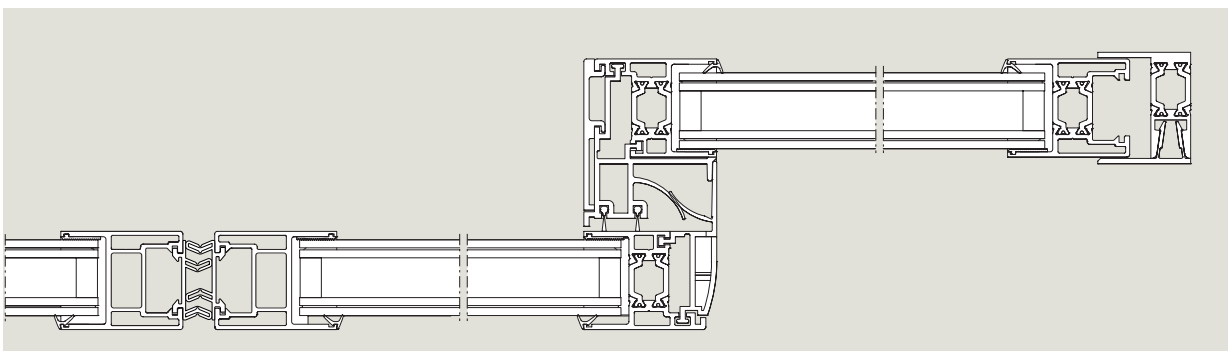
Notified Body No: 0757
Anerkannter Prüf-Stelle: BAY 18
ift-rosenheim.de
Tel: +49 931 281 0
Fax: +49 931 281 280
E-Mail: info@ift-ro.de

The certificate only exists in German.

Profile comparison



Double-panel version with side screen



ST FLEX Green – Energy efficiency in elegant design

System dimensions and max. door-panel weight

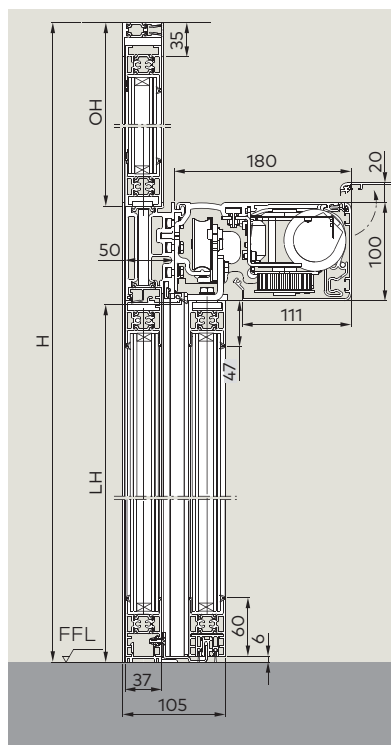
Operator	Single-panel version*			Double-panel version		
	Min. system width (B) =	LW	Max. door-panel weight	Min. system width (B) =	LW	Max. door-panel weight
ES 200 Easy						
without side screens	2 x LW + 60 mm	700 – 3000	1 x 120 kg	2 x LW + 120 mm	800 – 3000	2 x 100 kg
with side screens	2 x LW + 80 mm					
ES 200						
without side screens	2 x LW + 60 mm	700 – 3000	1 x 200 kg	2 x LW + 120 mm	800 – 3000	2 x 160 kg
with side screens	2 x LW + 80 mm					

* not considering the width of the door post

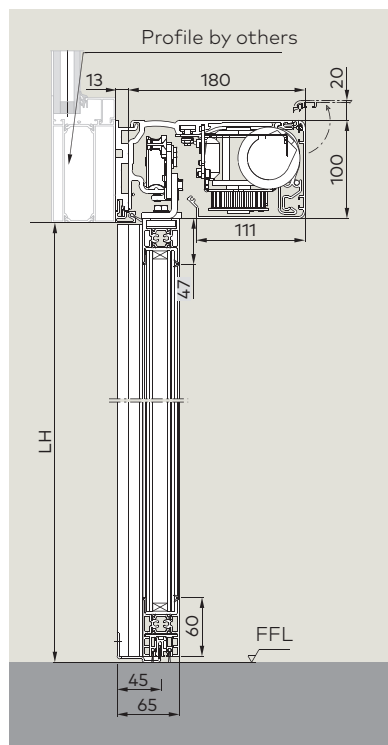
Characteristics

- Despite the slender profile system with improved thermal separation on the basis of the FLEX profile system, the ST FLEX Green satisfies with excellent energy-saving features
- Elegant fine-frame design
- High stability and rigidity
- Protection against draughts via circumferential seals

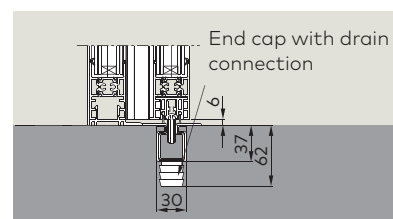
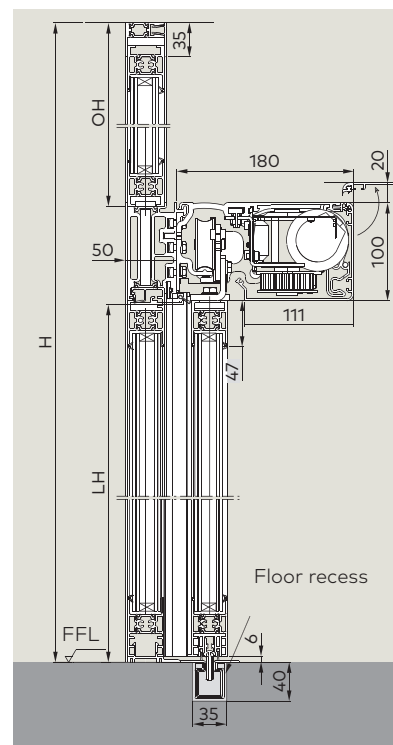
Corridor-mounted version with side screen and fanlight



Lintel-mounted version installed on façade by others

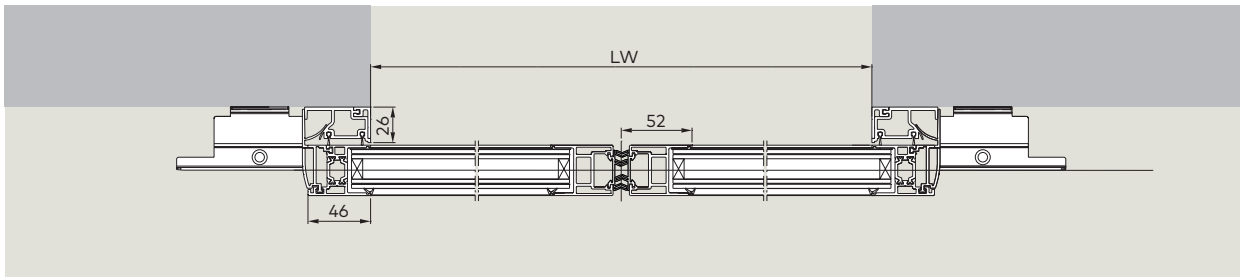


Corridor-mounted version with floor-integrated guide rail

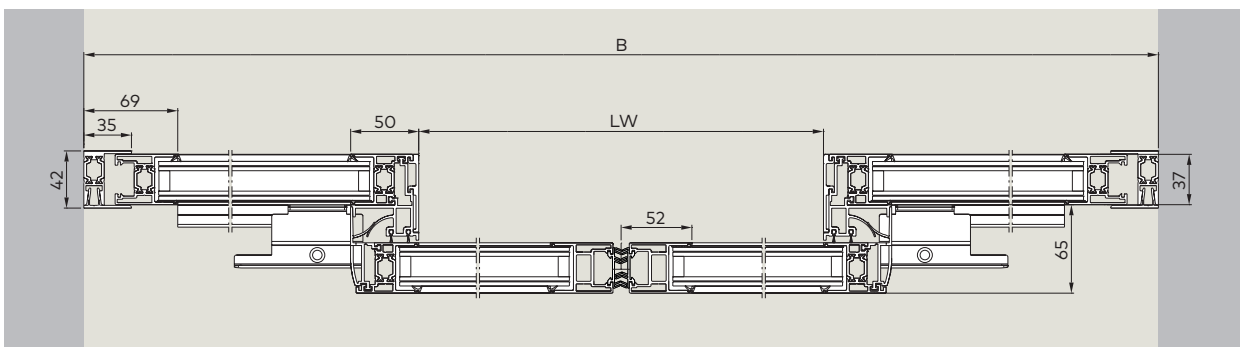


OH	Height of fanlight	B	System width
LH	Clear passage height	LW	Clear passage width
H	System height	OFF	Finished Floor Level

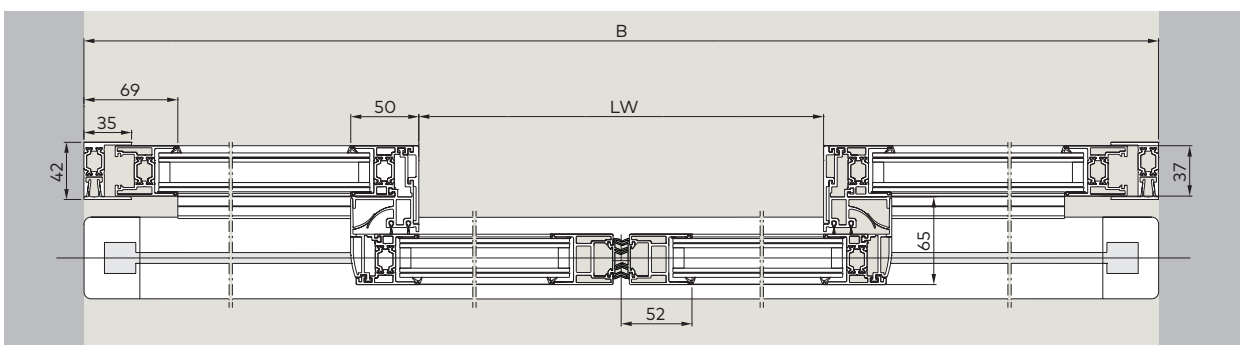
Horizontal section of lintel-mounted double-panel version



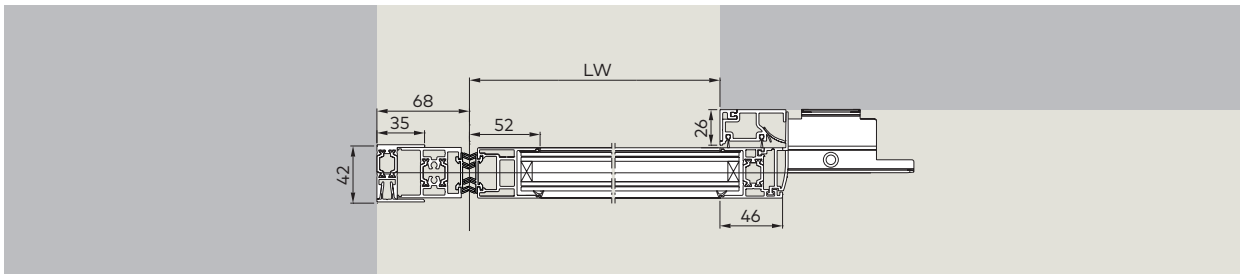
Horizontal section of double-panel version with side screens, corridor-mounting



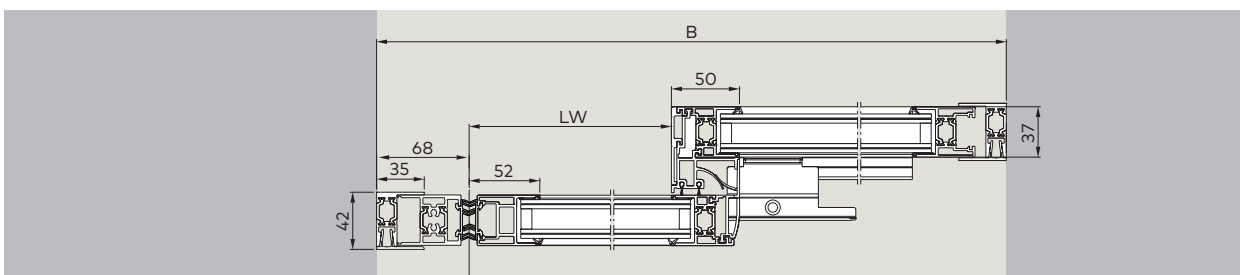
Horizontal section of double-panel version with floor-integrated guide rail, corridor-mounting



Horizontal section of lintel-mounted single-panel version



Horizontal section of single-panel version with side screen, corridor-mounting



Door parameters		ES 200 Easy	ES 200
Single-panel sliding door	- Clear passage width (LW)* - Max. door-panel weight	700 – 3000 mm 1 x 120 kg	700 – 3000 mm 1 x 200 kg
Double-panel sliding door	- Clear passage width (LW)* - Max. door-panel weight	800 – 3000 mm 2 x 100 kg	800 – 3000 mm 2 x 160 kg
Clear passage height*		2100 – 3000 mm	2100 – 3000 mm

*Other dimensions on request.

Technical specifications		ES 200 Easy	ES 200
Suitable for application in emergency exits and escape routes		-	-
Max. opening and closing force 150 N		●	●
Opening speed (incremental setting)		10 – 50 cm/s	10 – 75 cm/s
Closing speed (incremental setting)		10 – 40 cm/s	10 – 50 cm/s
Hold-open time		0.5 – 30 s	0 – 180 s
Supply voltage, frequency		230 V, 50/60 Hz	230 V, 50/60 Hz
Power consumption		180 W	250 W
Class of protection		IP 20	IP 20
Admissible temperature		- 20 – + 60 °C	- 20 – + 60 °C
Admissible humidity (relative)		max. 93 % (non-condensing)	max. 93 % (non-condensing)
Tested according to Low Voltage Directive		●	●
Manufactured to ISO 9001		●	●
Environmental product declaration in accordance with ISO 14025 Programme holder: Institute Construction and Environment e.V. Declaration number: EPD-DOR-20122231-E		●	●

Basic Module (BM)		ES 200 Easy	ES 200
Modular design		Basic Module (BM)	Basic Module (BM)
Microprocessor control		●	●
Function programs	- Off - Automatic - Permanent Open - Partial Open - Exit Only - Night-/Bank-Function	●	●
Automatic reversing		●	●
Connection for electromechanical locking device (bistable)		●	●
Connection for safeguarding of passage area (on both sides)		●	●
Equipped in accordance with DIN 18650 and EN 16005		●	●
Adjustment of all basic parameters via integrated display and keys		●	●
Parametrization via PDA		●	●
Emergency opening/closing (only with rechargeable battery pack)		● / ●	● / ●
Emergency operation via rechargeable battery pack (only with rechargeable battery pack)		○	●
Synchronous operation		○	●
24 V output for external accessories		●	●
Read-out error log with error codes		●	●
DCW® bus connection (Protocol DORMA Connect and Work)		○	●

● standard ○ optional - no

Function Module (FM) - optional	ES 200 Easy	ES 200
Pharmacy Function	○	●
Door status contact (3 x)	○	●
Safeguarding of main and secondary closing edge/s	● / ●	● / ●
Panic closing function (observe regulations!)	○	●
Bell contact	●	●
Airlock control	○	●

DIN 18650 and EN 16005 function module - optional	ES 200 Easy	ES 200
The DIN 18650 and EN 16005 function module provides tested monitoring of the secondary closing edges for compliance with the German Industrial Standard DIN 18650 and EN 16005	-	●

Additional equipment	ES 200 Easy	ES 200
Electromechanical locking device (bistable)	○	○
Manual lock release for electromechanical locking device	○	○
Light curtains	○	○
Rechargeable battery pack (emergency opening/closing)	○	○
USV emergency power supply unit (external)	○	○

● standard ○ optional - no

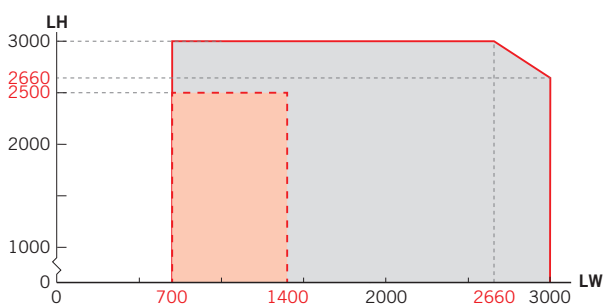
ST FLEX Green in conjunction with different door systems

Determining the door-panel size

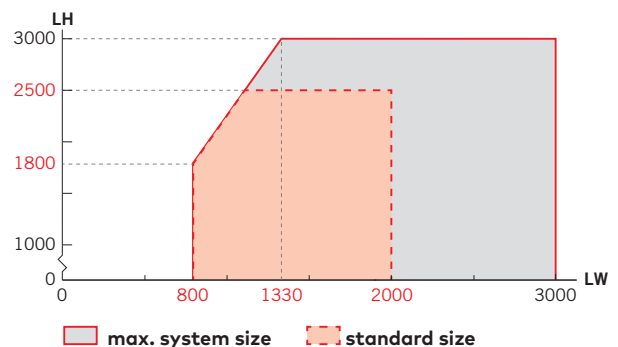
The diagrams below show how the clear passage height (LH) depends on the clear passage width (LW).

1. Do not exceed the maximum door panel weight for the respective operator.
2. Unfavorable wind conditions may require the installation of a smaller door or floor-integrated guide rail.
3. Observe height/length ratio of sliding panel (4.5 : 1).
Larger clear passage heights (LH) and clear passage widths

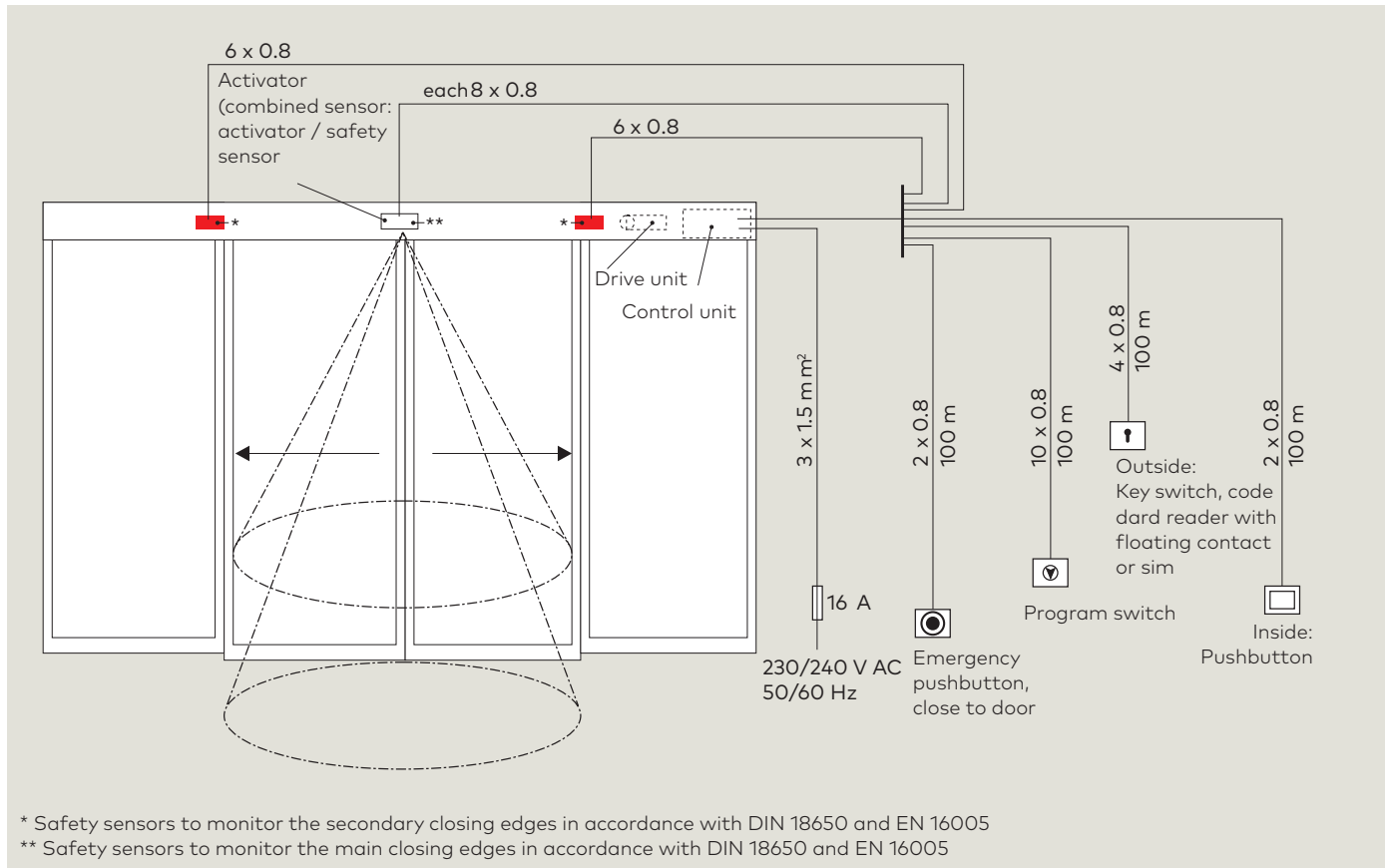
ST-ES 200, single-panel version



ST-ES 200, double-panel version



Connections



dormakaba has complemented their broad range of Automatic system accessories by further components to meet all kinds of safety-related requirements.

On the next pages you will find some products out of our extensive range of system accessories.

The complete solution

Automatic entrance systems require careful specification and installation to ensure safety and reliability in use. Commencing with a risk assessment survey, dormakaba will advise at all stages of design and installation so the correct methods of operation and user safety protection are adopted.

Risk Assessment

All automatic doors must be specified and installed following appropriate safety standards requiring risk assessment prior to installation and periodically during the life of the product. dormakaba are experienced with safety specification and can provide further details on request.

Professional and impartial advice from staff assessed and accredited by ADSA (Automatic Door Suppliers Association):

- Site surveys, escape routes, impaired user access.
- Risk assessment reports
- Consultation with leading safety bodies and equipment manufacturers.
- CPD delivery to specifiers and professional organisations



Protection

Automatic doors installed in the UK are subject to the highest safety demands in accordance with EN 16005:2012. To meet these requirements consideration must be given to the use of barriers, self-monitoring sensors and other protective devices. These are mandatory for each door and uniquely specific to its location.

Advanced, standards-compliant technologies for all door types:

- Compact sensors with microwave Doppler technology for motion detection
- Combination sensors with active infrared technology for simultaneous motion and passageway protection
- Active infrared motion detectors based on the triangulation principle for protection of users or obstructions located in the door panel travel path
- Laser sensors with precision monitoring and extended field of view over the door face
- Barriers, fingerguards and appropriate signage for increased risk users, children or failsafe situations



Activation

dormakaba automatic doors are designed and tested to meet a wide range of building entrance styles and user requirements. Access to the building can be controlled through a number of methods from simple switches and keylocks to intelligent access control readers.

Wide choice of access methods from dormakaba:

- Radar approach sensors, opening integrated with emergency escape systems
- Manual pushbuttons with high visibility and ease of use for disabled users.
- Access control readers using simple access fobs or fully integrated with a monitored access control system



Maintenance

Automatic doors must be maintained and periodically assessed to be safety compliant. dormakaba have the UK's largest service network of trained engineers experienced on all types of door system both dormakaba and from other manufacturers.

Qualified service engineers assessed and accredited by ADSA:

- Scheduled maintenance visits and emergency callout.
- Risk assessment reports
- Trained and accredited service engineers with national coverage and logistic support



For further advice on dormakaba products and accessories please contact:

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