



# **ST FLEX Green**

Energy-saving  
sliding door

# ST FLEX Green



## Slender profile with excellent thermal insulation

**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 CO<sup>2</sup>-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.

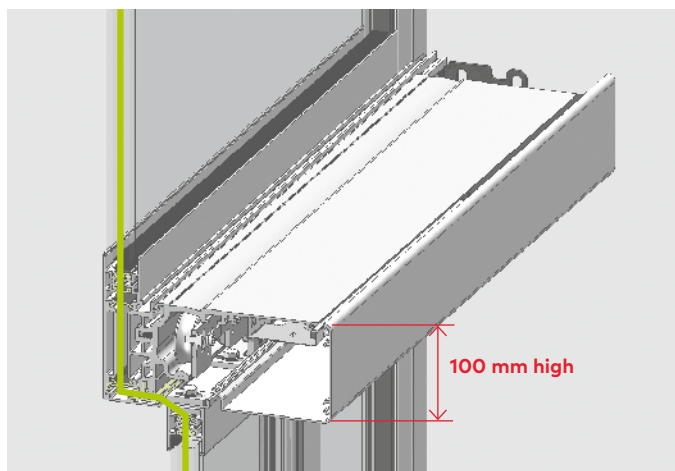
### Type-approved systems for emergency exits and escape routes

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

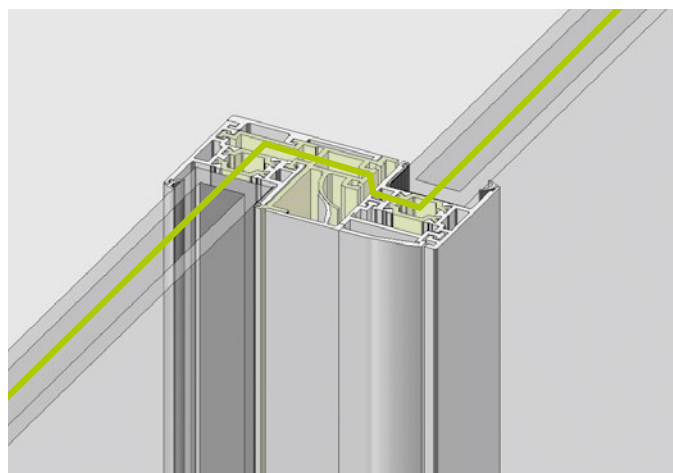
All operators are of redundant design and supplied with an auxiliary control unit and a radar motion detector with self-monitoring function. Furthermore, the systems are characterized by an additional F in their name and type-approved as "automatic sliding door without break-out unit for application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

Auftraggeber	<b>DORMA GmbH + Co. KG</b> 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 <sup>2</sup> · K) Aufbau: 7VSG / 15 / 7VSG mm Gasfüllung: Argon 90 % Beschichtungsebene: Pos 3, $\epsilon_n = 0,01$ (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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Notified Body No: CTS7  
Anerkanntes Prüflabor BAF 13  
DIN EN ISO 9001  
DIN EN ISO 14001  
DIN EN ISO 17025

**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 Rahmen

Prüfberichte  
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.

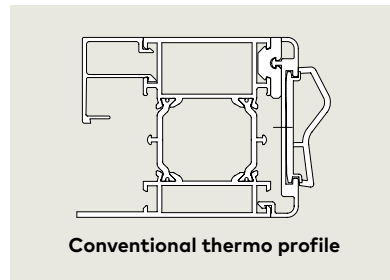
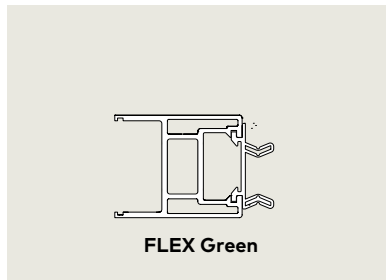
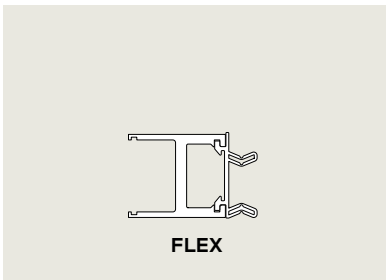
**Veröffentlichungshinweise**  
Es gilt das IFT-Merkblatt „Bedingungen und Hinweise zur Benutzung von IFT-Prüfdokumentationen“.

Das Deckblatt kann zusammen mit der Typenliste als Kurzfassung verwendet werden.

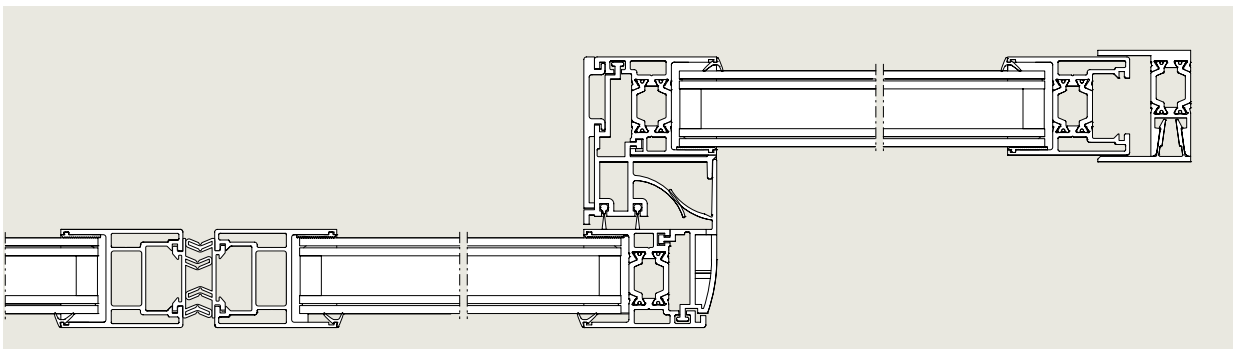
**Inhalt**  
Der Nachweis umfasst insgesamt 12 Seiten:  
1. Gegenstand  
2. Durchführung  
3. Einzelergebnisse

**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

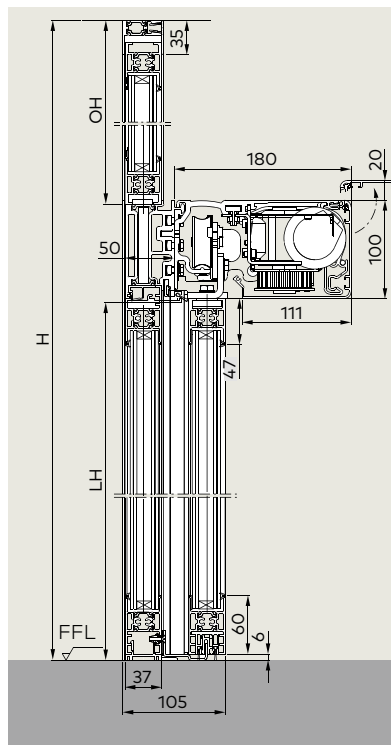
Operator	Single-panel version*			Double-panel version		
	Min. system width (B) =	LW	Max. door-panel weight	Min. system width (B) =	LW	Max. door-panel weight
<b>ES 200 Easy</b> without side screens with side screens	2 x LW + 60 mm 2 x LW + 80 mm	700 – 3000	1 x 120 kg	2 x LW + 120 mm	800 – 3000	2 x 100 kg
<b>ES 200</b> without side screens with side screens	2 x LW + 60 mm 2 x LW + 80 mm	700 – 3000	1 x 200 kg	2 x LW + 120 mm	800 – 3000	2 x 160 kg
<b>ES 200-2D</b> without side screens with side screens	2 x LW + 60 mm 2 x LW + 80 mm	900 – 1800	1 x 150 kg	2 x LW + 120 mm	900 – 3000	2 x 130 kg

\* not considering the width of the door post

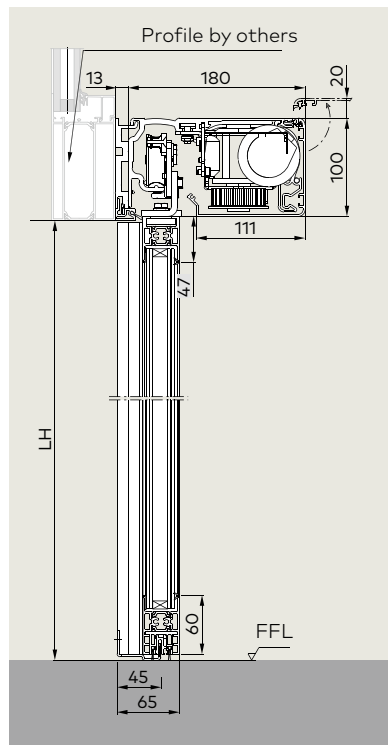
## Characteristics

- 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

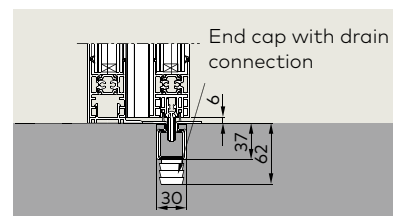
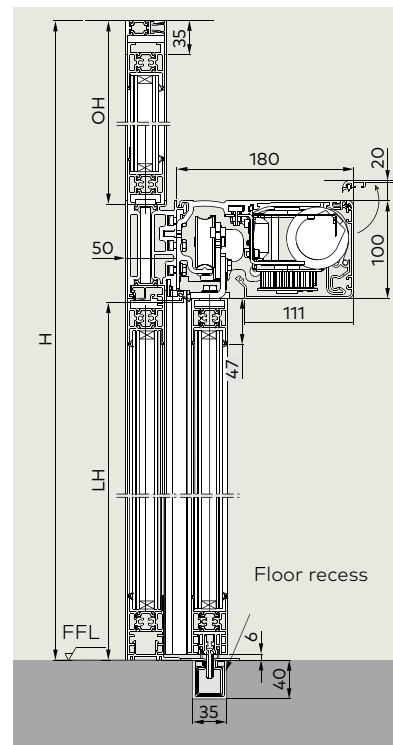
### Corridor-mounted version with side screen and fanlight



### Lintel-mounted version installed on façade by others

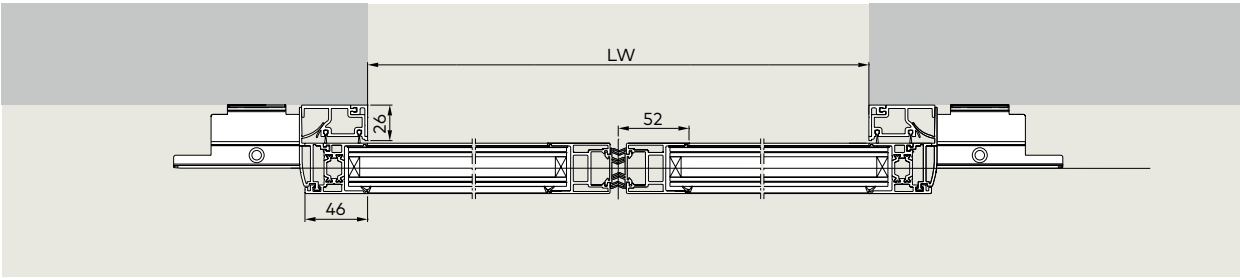


### Corridor-mounted version with floor-integrated guide rail

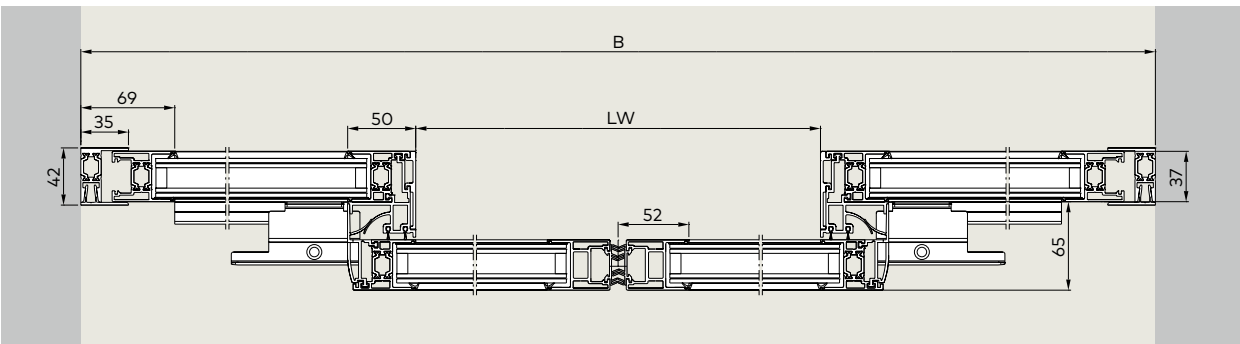


<b>OH</b>	Height of fanlight	<b>B</b>	System width
<b>LH</b>	Clear passage height	<b>LW</b>	Clear passage width
<b>H</b>	System height	<b>OFF</b>	Finished Floor Level

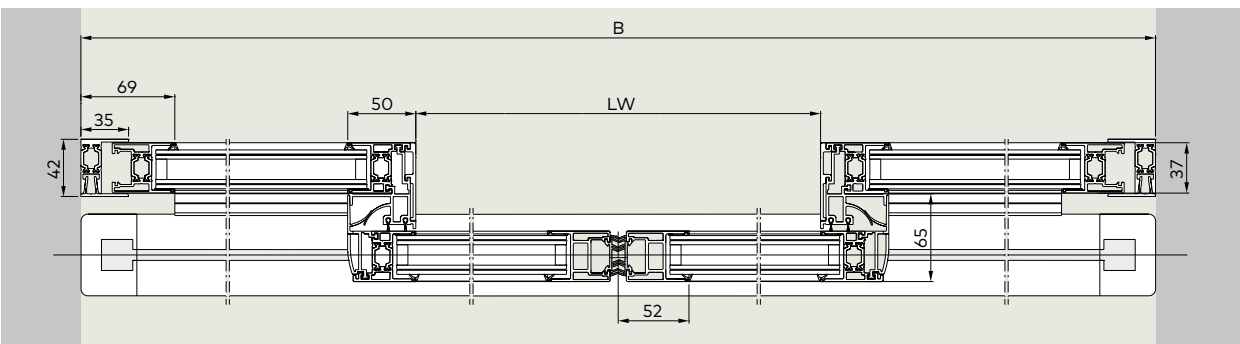
Horizontal section of lintel-mounted double-panel version



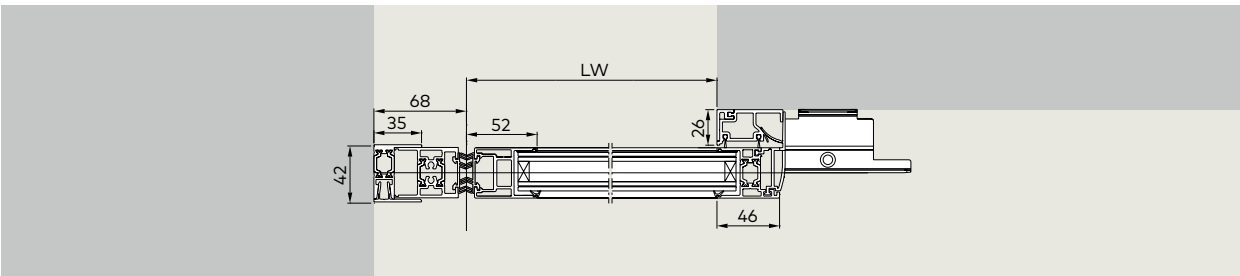
Horizontal section of double-panel version with side screens, corridor-mounting



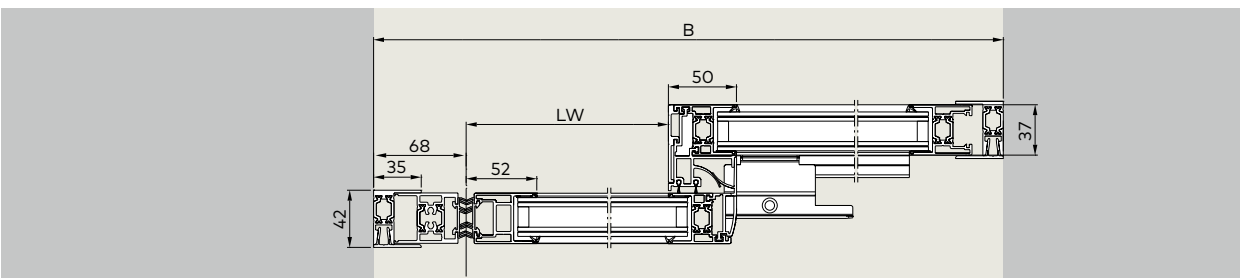
Horizontal section of double-panel version with floor-integrated guide rail, corridor-mounting



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	ES 200-2D
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	900 – 1800 mm 1 x 150 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	900 – 3000 mm 2 x 130 kg
Clear passage height*		2100 – 3000 mm	2100 – 3000 mm	2100 – 3000 mm

\*Other dimensions on request.

Technical specifications		ES 200 Easy	ES 200	ES 200-2D
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	10 – 75 cm/s
Closing speed (incremental setting)		10 – 40 cm/s	10 – 50 cm/s	10 – 50 cm/s
Hold-open time		0.5 – 30 s	0 – 180 s	0 – 180 s
Supply voltage, frequency		230 V, 50/60 Hz	230 V, 50/60 Hz	230 V, 50/60 Hz
Power consumption		180 W	250 W	250 W
Class of protection		IP 20	IP 20	IP 20
Admissible temperature		- 20 – + 60 °C	- 20 – + 60 °C	- 20 – + 60 °C
Admissible humidity (relative)		max. 93 % (non-condensing)	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	ES 200-2D
Modular design		Basic Module (BM)	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)		● / ●	● / ●	● / – (rechargeable battery pack as standard)
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	ES 200-2D
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	ES 200-2D
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	-	●	● (from 80% opening width)

Additional equipment	ES 200 Easy	ES 200	ES 200-2D
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

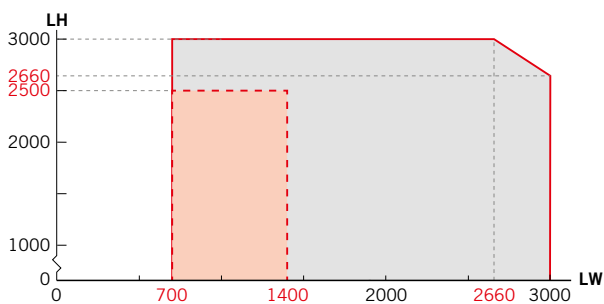
## ST FLEX Green in conjunction with different door systems

### Determining the door-panel size

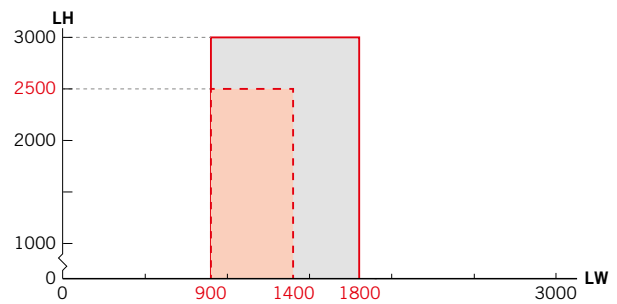
The diagrams below show how the clear passage height (LH) depends on the clear passage width (LW).

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

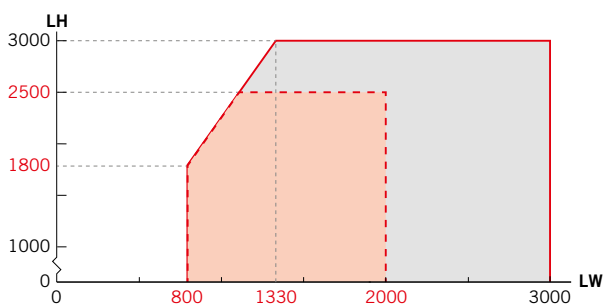
ST-ES 200, single-panel version



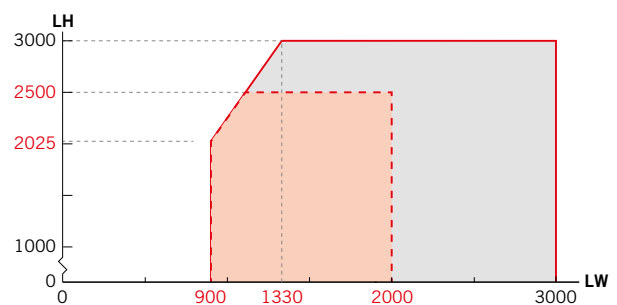
ST-ES 200-2D, single-panel version



ST-ES 200, double-panel version



ST-ES 200-2D, double-panel version



max. system size standard size







## Program switches

A program switch from dormakaba's broad range of accessories allows the automatic door system to meet individual requirements and provides easy handling.


The corresponding 3-position program switches are available in various designs and suitable for all kinds of applications.

They offer various options, from a mechanical to a full-electronic version, alternatively also lockable via profile half-cylinder or in a full-electronic way via code.


- Up to 5 different functions: Off, Automatic, Exit Only, Partial Open, Permanent Open
- Electronic program switches in System 55 design to meet the highest aesthetical demands

For sliding door operators	Designation	Specification	Installation system	Order No.
	<b>PG-S2</b>	5-position, lockable, aluminum, white, flush-mounted version, 80 x 80 x 40 mm	Gira S-Color	19135602150
	<b>EPS-S</b>	Full-electronic program switch in System 55 design, 5-position, lockable via code or additional TL-ST 555 key switch, membrane keypad aluminum-colored, white, flush-mounted version, 80 x 80 mm	System 55	16556901150


## Switches

	Designation	Specification	Installation system	Order No.
	<b>CleanSwitch</b>	contactless radar push-button, System 55, flush-mounted, detection zone adjustable 10 - 50 cm, dimensions: 80 x 80 x 40 mm, switch insert 55 x 55 mm, colour: white	neutral wheelchair door open	16737401170 16737501170 16737601170



## Pushbutton

Key switches	Designation	Specification	Installation system	Order No.
	<b>KT 8</b>	Lettering "Auf, Zu" (German for "Open/Closed"), 2 NO contacts, with profile half-cylinder, may be replaced for any profile half-cylinder of a master key system, key only retractable in neutral position, aluminum, metal, 75 x 75 x 60 mm		
	<b>KT 8 UP</b>	flush-mounted version		05054831332
	<b>KT 8 AP</b>	surface-mounted version		05054931332



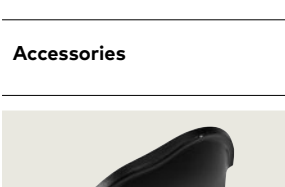


## Emergency pushbuttons

	Designation	Specification	Installation system	Order No.
	<b>TL-N S55</b>	Highly-illuminated emergency pushbutton environment with visual locking status indication, optical and acoustic alarm via yellow flashlight and integrated alarm siren, sabotage-proof, behind glass, <b>not including frame</b>		
		NO contact: 1, NC contact: 1, max. load current: 1 A at 24 V DC, flush-mounted version, 80 x 80 mm	System 55	56330500

## Active infrared detectors

Safety sensors	Designation	Specification	Color	Order No.
	<b>Prosecure Opti Scan</b>	The active infrared curtain according EN 16005 ensures optimum protection of the area at the side of the door. It protects people in the danger area of the opening door panel.	black silver colored white	86301100 86302100 86303100
	<b>Prosecure Opti Scan 1</b>	The active infrared curtain according DIN 18650 and EN 16005 ensures optimum protection of the area at the side of the door. It protects people in the danger area of the opening door panel.	black silver colored white	86301101 86302101 86303101
Combi sensors	Designation	Specification	Color	Order No.
	<b>Prosecure Opti Combi</b>	Quick and easy to install, wide field can be used as a light barrier substitute, LCD display, precise positioning of the AIR curtain thanks to inclination angle display on a clear scale, direction recognition (EN 16005)	black silver colored white	86711400 86712400 86713400
	<b>Prosecure Opti Combi 1</b>	Very flexible field settings, active infrared curtain is self-monitoring, crossing traffic optimization, precise positioning of the AIR curtain thanks to inclination angle display on a clear scale, direction recognition (DIN 18650 and EN 16005)	black silver colored white	86711401 86712401 86713401

## Motion detectors

Motion detectors	Designation	Specification	Color	Order No.
	<b>Prosecure Easy Motion Mono</b>	Full-automatic access on pulse activation; adjustable inclination angle, inclined field of view and field size, LED status indicator, not in accordance with EN 16005 Ambient temperature -20 °C – 60 °C	black	86001000
			silver colored	86002000
			white	86003000
	<b>Prosecure Easy Motion Stereo</b>	Adjustable inclination angle, inclined field of view and field size, direction recognition, cross-traffic suppression, immunity, LED status indicator, not in accordance with EN 16005 Ambient temperature -20 °C – 60 °C	black	86011000
			silver colored	86012000
			white	86013000
	<b>Prosecure Opti Motion Mono</b>	Adjustable inclination angle, inclined field of view and field size, direction recognition, immunity, LED status indicator Ambient temperature -20 °C – 60 °C	black	86101000
			silver colored	86102000
			white	86103000
			black	86111000
			silver colored	86112000
			white	86113000
Accessories	Designation	Specification		Order No.
	<b>Rain protection cover</b>	For Easy Motion detectors		86031900
	<b>Rain protection cover/ceiling angle bracket</b>	For Opti Motion detectors		86131900



**Door  
Hardware**



**Electronic  
Access & Data**



**Mechanical  
Key Systems**



**Lodging Systems**



**Entrance  
Systems**



**Interior Glass  
Systems**



**Safe Locks**



**Service**

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