

Tailored functions, reliable door designs

With four operator and four sliding leaf designs, each available with or without side screens, the DORMA ST/ES and FST/ES automatic sliding door systems can ideally be adapted to different requirements and architectural concepts. Whether the emphasis is on functionality, the operational sequences, visual appearance, stability or thermal insulation, ST/ES and FST/ES door systems meet can be configured to satisfy almost any specification.

For emergency exits and escape routes

DORMA FST/ES automatic sliding door systems are equipped with a redundant drive unit, an auxiliary control system for redundant safety and a self-monitoring radar motion detector. They are also type-approved in Germany as "automatic sliding door without break-out fittings for use in emergency escape/rescue routes".



Convenient and safe

Like all DORMA automatic door systems, DORMA ST/ES and FST/ES sliding doors are particularly impressive thanks to their fast yet smooth operation, minimal noise and high level of user friendliness. The self-learning microprocessor control system is capable of meeting a wide range of differing requirements in relation to functionality, offers a guarantee for high reliability and, together with the closing force monitoring system, ensures maximum operational safety. Whether with standard integrated locks or an automatic through-rod multipoint locking system, individual requirements relating to intruder protection can be fully satisfied.

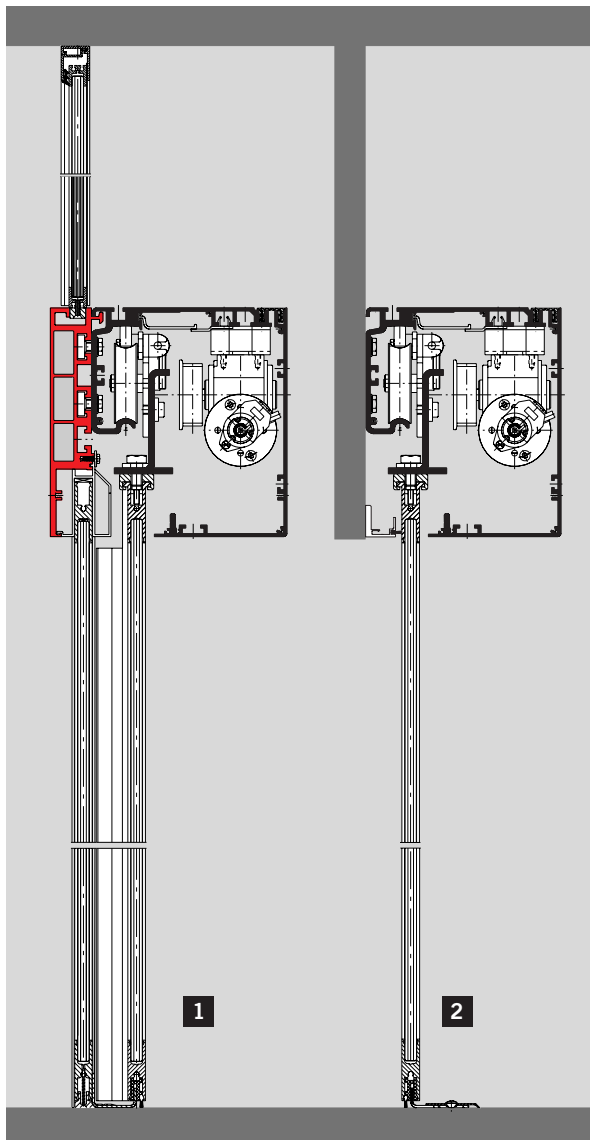
Features and benefits

- Unbeatable performance
- Problem-free adaptability to individual requirements
- As the DORMA FST/ES with its redundant drive unit, auxiliary control unit for redundant safety and special radar motion detector, also suitable for emergency exit and escape routes
- High cost-efficiency and reliability thanks to proven components and quality assured manufacture
- Numerous adjustable parameters
- Comprehensive range of connections provided as standard
- Automatic obstruction detection and reversing cycle
- Delivered ready to install, with fitting and commissioning also available on request
- Designed and manufactured in accordance with the latest state of the art and in line with all relevant standards and specifications
- Individually tailored intruder protection



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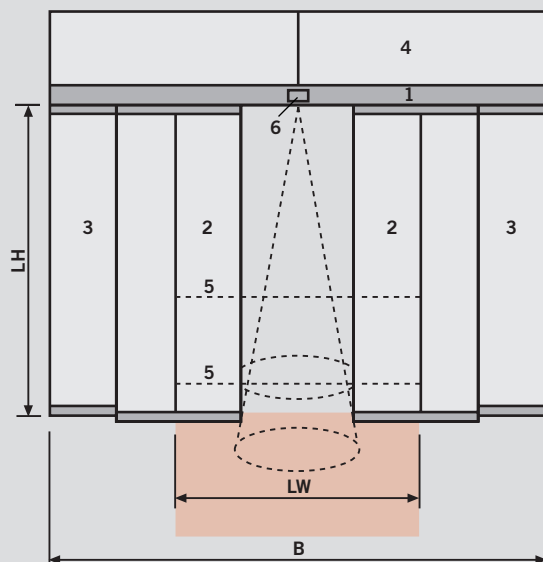
Tailored to requirements

Thanks to a wide range of standard dimensions, DORMA ST/ES and FST/ES automatic sliding door systems ensure that you always get a particularly cost-efficient solution.

The systems are custom designed, made to measure and supplied ready to install. If required, DORMA will also assume responsibility for the fitting and commissioning work.

- 1** Corridor (passage) installation
- 2** Wall (face-fix) installation

DORMA ST/ES, FST/ES



- 1** Transom with track rail, drive unit and control
- 2** Sliding door leaves
- 3** Fixed side screens (for installations between extending wall faces or similar, these side screens are not required. In order to achieve a clear passage width increase of approx. 200 mm or approx. 400 mm, sliding doors featuring G-type slimline profiles can be additionally equipped with hinged safety pocket screens. These eliminate the need for a safety distance between the outer edges of the opened door and the structural edges, or the safety software which is otherwise required).
- 4** Top light or solid panel
- 5** Safety light barriers
- 6** Activator, e.g. radar motion detector

Dimensions and designs	ST/ES	FST/ES
Approved for emergency exit and escape routes	–	●
Single-leaf sliding door		
Clear passage width LW	700 – 2000 mm	1000 – 1400 mm
Leaf weight max.	1 x 200 kg	1 x 100 kg
Double-leaf sliding door		
Clear passage width LW		
– ES 90, ES 100 operator	800 – 3000 mm	1000 – 2200 mm
– ES 90 E, ES 100 E operator	800 – 3000 mm	1000 – 2500 mm
Leaf weight max.		
– ES 90, ES 100 operator	2 x 100 kg	2 x 75 kg
– ES 90 E operator	2 x 130 kg	2 x 100 kg
– ES 100 E operator	2 x 150 kg	2 x 100 kg
Clear passage height LH	2100 – 2500 mm	
Fixed side screens		○
Safety distance at secondary closing edges		○
Hinged safety pocket screens (G-type slimline profile only)		○
Software for protection at the secondary closing edges		○
Sliding leaf and side screen design		
– Slimline (toughened glass) profiles G		■
– Double glazing profiles G-Iso		■
– Standard frame profiles R		■
– Thermal break profiles R-Thermo		■
Top light		○
Solid top panel		○
Operator height	200 mm	
Operator depth		
– ES 90, ES 100 with G and G-Iso	171 mm	
– ES 90, ES 100 with R and R-Thermo	202 mm	
– ES 90 E, ES 100 E	202 mm	
Low-noise track rail for ES 90 and ES 90 E		●
Sound-insulated track rail for ES 100 and ES 100 E		●

Technical data	ST/ES	FST/ES
Adjustable opening and closing force, max. 150 N		●
Parameter adjustment		●
Adjustable opening speed		
– ES 90, ES 100 operator	100 – 600 mm/s	
– ES 90 E, ES 100 E operator	100 – 750 mm/s	
Adjustable closing speed	100 – 550 mm/s	
Adjustable creep speed	30 – 90 mm/s	
Adjustable hold-open time	0 – 180 mm/s	
Power supply data	230 V, 50/60 Hz	
Power consumption, max.	360 W	
Power consumption, average	30 W	
External power supply	24 V, 2 A	
Degree of protection	IP 20	
Type-approved by German Technical Inspectorate (TÜV)		●
Tested and approved in accordance with low voltage directives		●
Quality-assured manufacture to ISO 9000		●

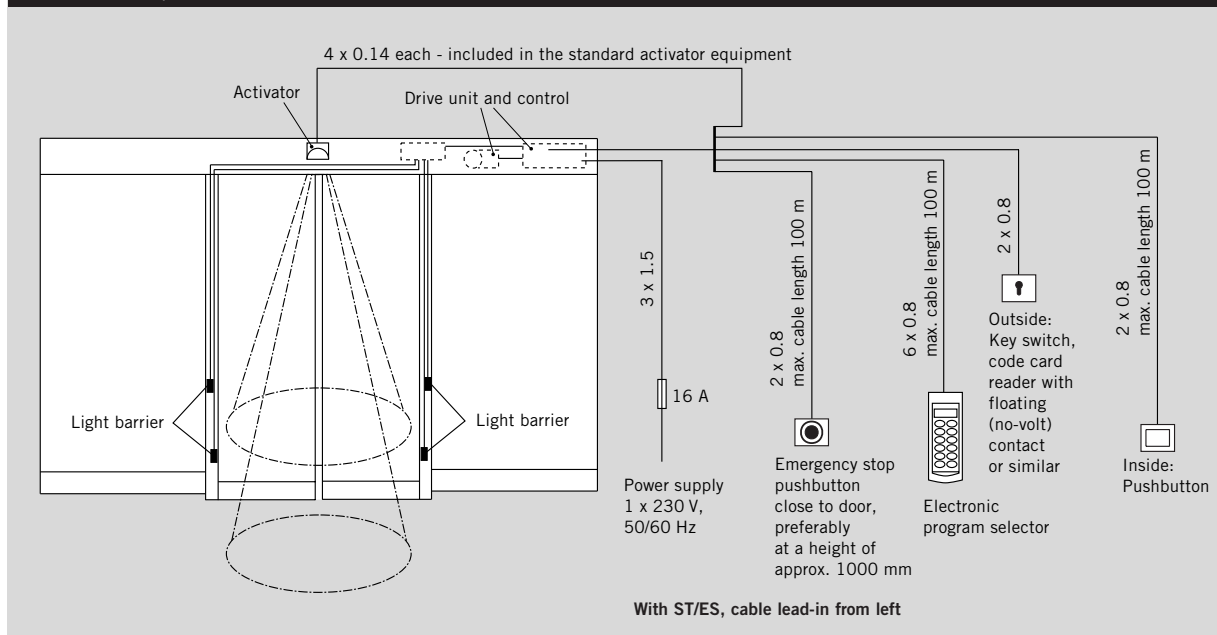
● Standard ■ Option ○ Accessory

Drive unit and control	ST/ES	FST/ES
Operator type		
- Standard ES 90	■	
- Standard with more powerful motor ES 90 E	■	
- Enhanced (sound-insulated) ES 100	■	
- Enhanced with more powerful motor ES 100 E	■	
Expansion module EM 2	○	-
Short-circuit-proof switched power supply unit	●	
Microprocessor control	●	
Function programs		
- Off	●	
- Automatic	●	
- Permanent open	●	
- Partial opening or self-regulating partial opening	●	
- Exit only	●	
- Exit only, partial opening	●	
- Night-bank control	●	
Connection for airlock control	○	-
Pharmacy control	○	-
Delayed opening action for cheque card and code card reader or key switch		○
Self-learning	●	
Light barriers, self-monitoring (two pairs)	●	
Automatic reversal	●	
Fail-safe (opens when de-energised)	■	●
Fail-secure (closes when de-energised)	■	-
Emergency closing feature (ensure compliance with local regulations)	○	-
Program selector CP 90 or CP 90 C	○	-
Connection for access control system	●	
Bell contact	●	
Door status signal		○
Module for connection to EIB building control system		○
RSM module for connection to telephone network		○

Ancillary equipment	ST/ES	FST/ES
Locking system		
- Electro-mechanical locking (dual-action hook lock)	○	-
- Electro-mechanical locking system with manual unlocking		○
- Automatic through-rod multipoint locking (only with standard R-type frame profiles)	○	○*
- Floor lock	○	○*
- Hook bolt lock (only with standard R-type frame profiles)	○	○*
Visual fault indicator	○	●
Battery pack		●
Emergency power module (UPS)	○	-
FireSafe (see separate fire doors publication DORMA ST-FS "FireSafe")		○

*Emergency escape function is disabled by activation of the lock

DORMA ST/ES, FST/ES connections



With G-type slimline profiles

Features

- Elegant all-glass appearance thanks to slimline profiles
- High stability and rigidity
- Protection against draughts by side seals

1 With LM (aluminium) girder, top light and side screens

2 Lintel fixing (not illustrated)

3 Floor guide

Operator

Range of drive units available, or depending on leaf weight – see Page 18

System height

$H = LH + \text{min. } 200 \text{ mm}$

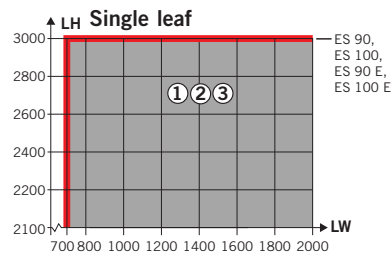


FST-G/ES

Determining the leaf size:

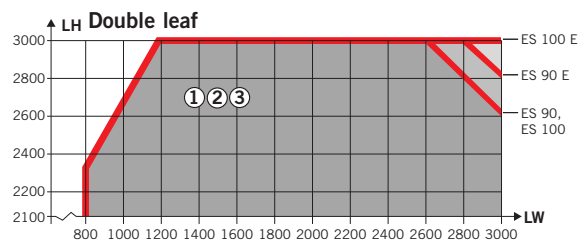
Dependent on clear passage height **LH** and clear passage width **LW**. Do not exceed the maximum door leaf weight allowable for the operators (drive units) concerned.

ST-G

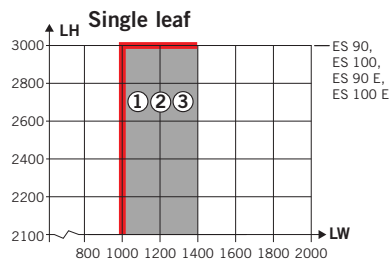


Glazing

- ① Toughened safety glass (TSG) 10 mm
- ② Laminated safety glass (LSG) 2x5 mm
- ③ Special glass

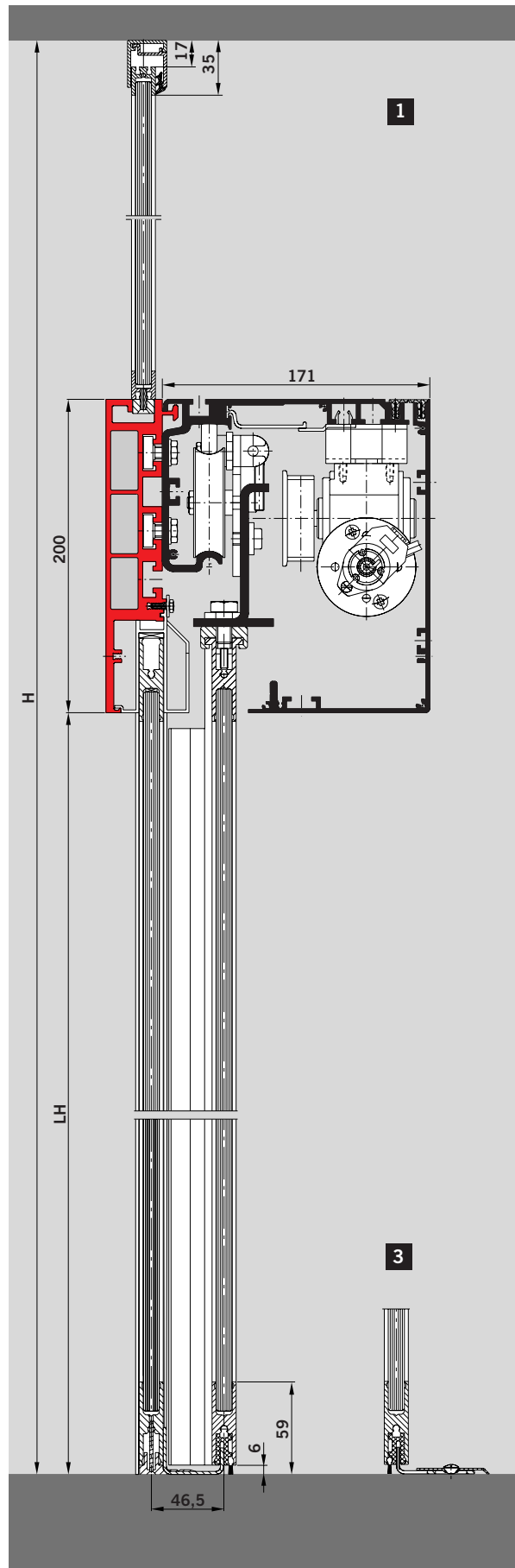
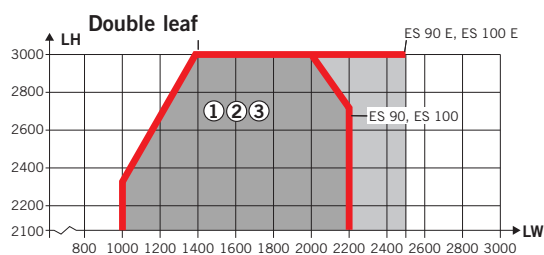


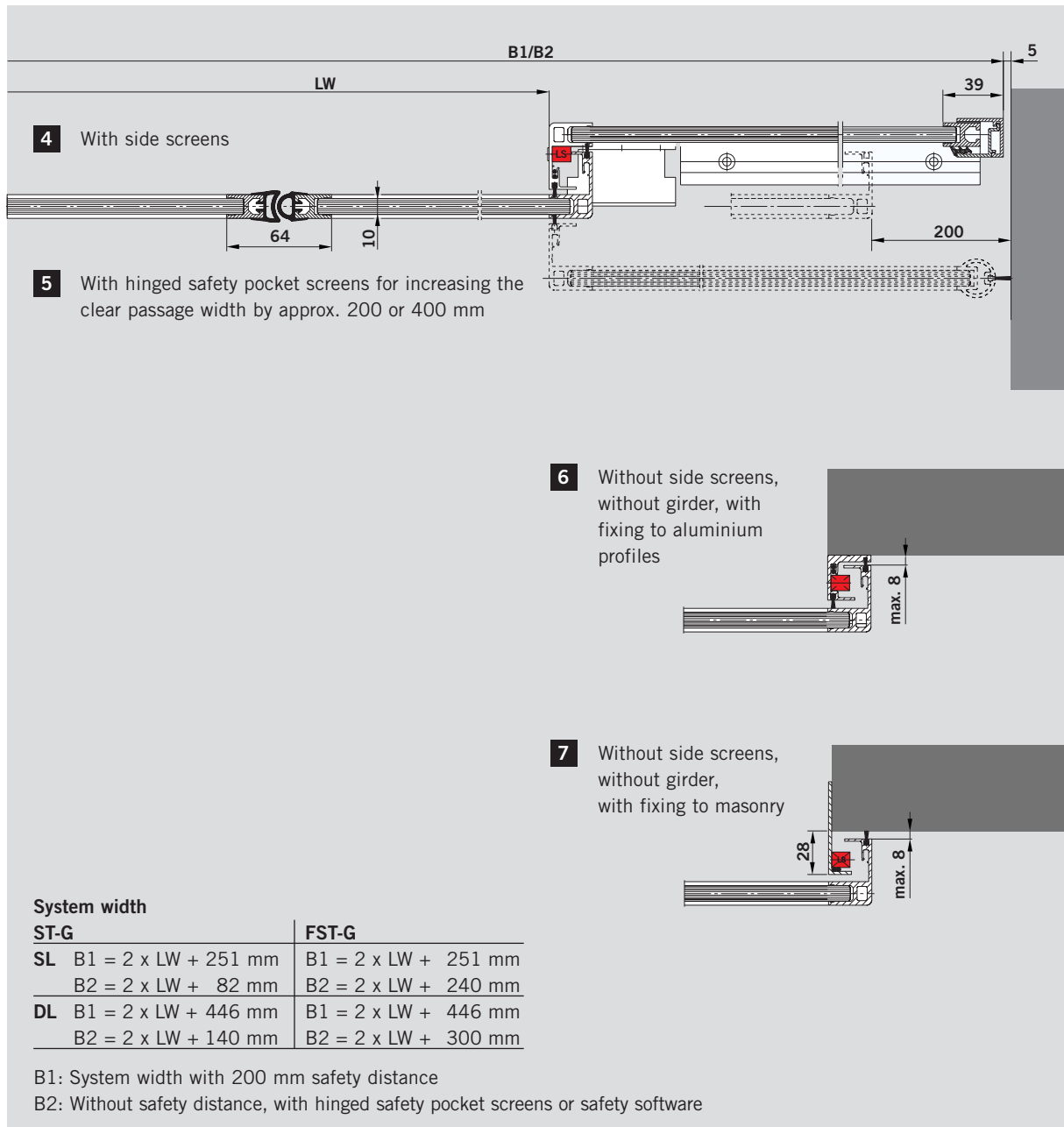
FST-G



Glazing

- ① Toughened safety glass (TSG) 10 mm
- ② Laminated safety glass (LSG) 2x5 mm
- ③ Special glass





Standard clear passage widths and system widths

Version	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
LW	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000		
DORMA ST-G																										
SL B1	1651	1851	2051	2251	2451	2651	2851	3051	3251	3451	3651	3851	4951	4251												
SL B2	1482	1682	1882	2082	2282	2482	2682	2882	3082	3282	3482	3682	3882	4082												
DL B1				2446	2646	2846	3046	3246	3446	3646	3846	4046	4246	4446	4646	4846	5046	5246	5446	5646	5846	6046	6246	6446		
DL B2				2140	2340	2540	2740	2940	3140	3340	3540	3740	3940	4140	4340	4540	4740	4940	5140	5340	5540	5740	5940	6140		
DORMA FST-G																										
SL B1	1651	1851	2051	2251	2451	2651	2851	3051																		
SL B2	1640	1840	2040	2240	2440	2640	2840	3040																		
DL B1				2446	2646	2846	3046	3246	3446	3646	3846	4046	4246	4446	4646	4846	5046	5246	5446							
DL B2				2300	2500	2700	2900	3100	3300	3500	3700	3900	4100	4300	4500	4700	4900	5100	5300							

*SL = Single leaf, DL = Double leaf

With G-Iso slimline profiles

Features

- Elegant all-glass appearance thanks to slimline profiles
- High stability and rigidity
- Low k value with double glazing
- Particularly good insulating properties thanks to interlocking side seals and also top and bottom seals

Operator

Range of drive units available, or depending on leaf weight – see Page 18

System height

$$H = LH + \text{min. } 200 \text{ mm}$$

1 With LM (aluminium) girder, top light and side screens

2 Lintel fixing (not illustrated)

3 Floor guide

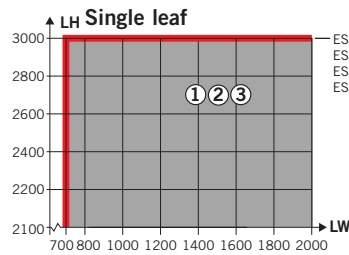


FST-G-Iso/ES

Determining the leaf size:

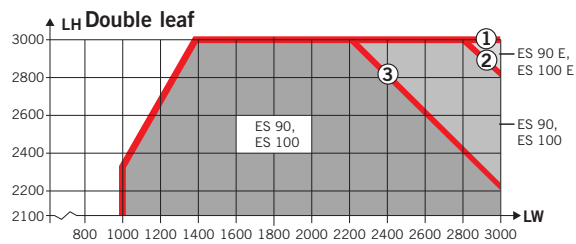
Dependent on clear passage height LH and clear passage width LW. Do not exceed the maximum door leaf weight allowable for the operators (drive units) concerned.

ST-G-Iso

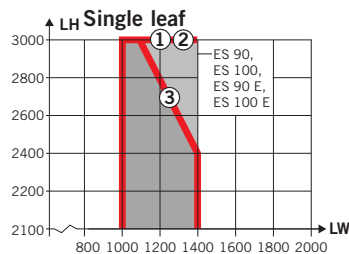


Double glazing

- ① 4/12/4 mm
- ② 5/10/5 mm
- ③ 6/8/6 mm

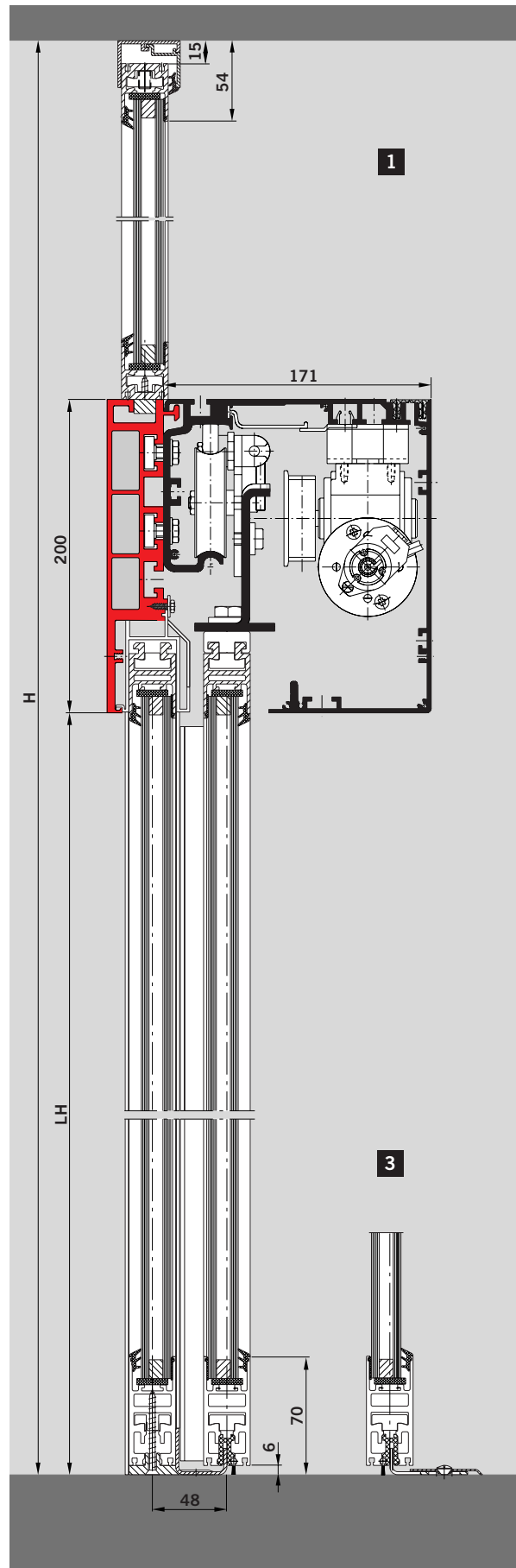
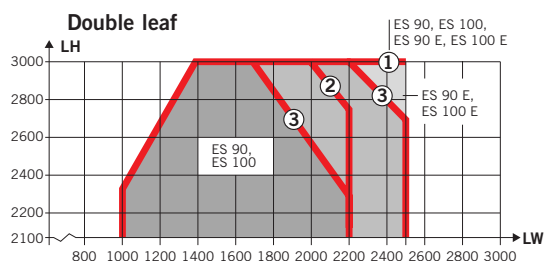


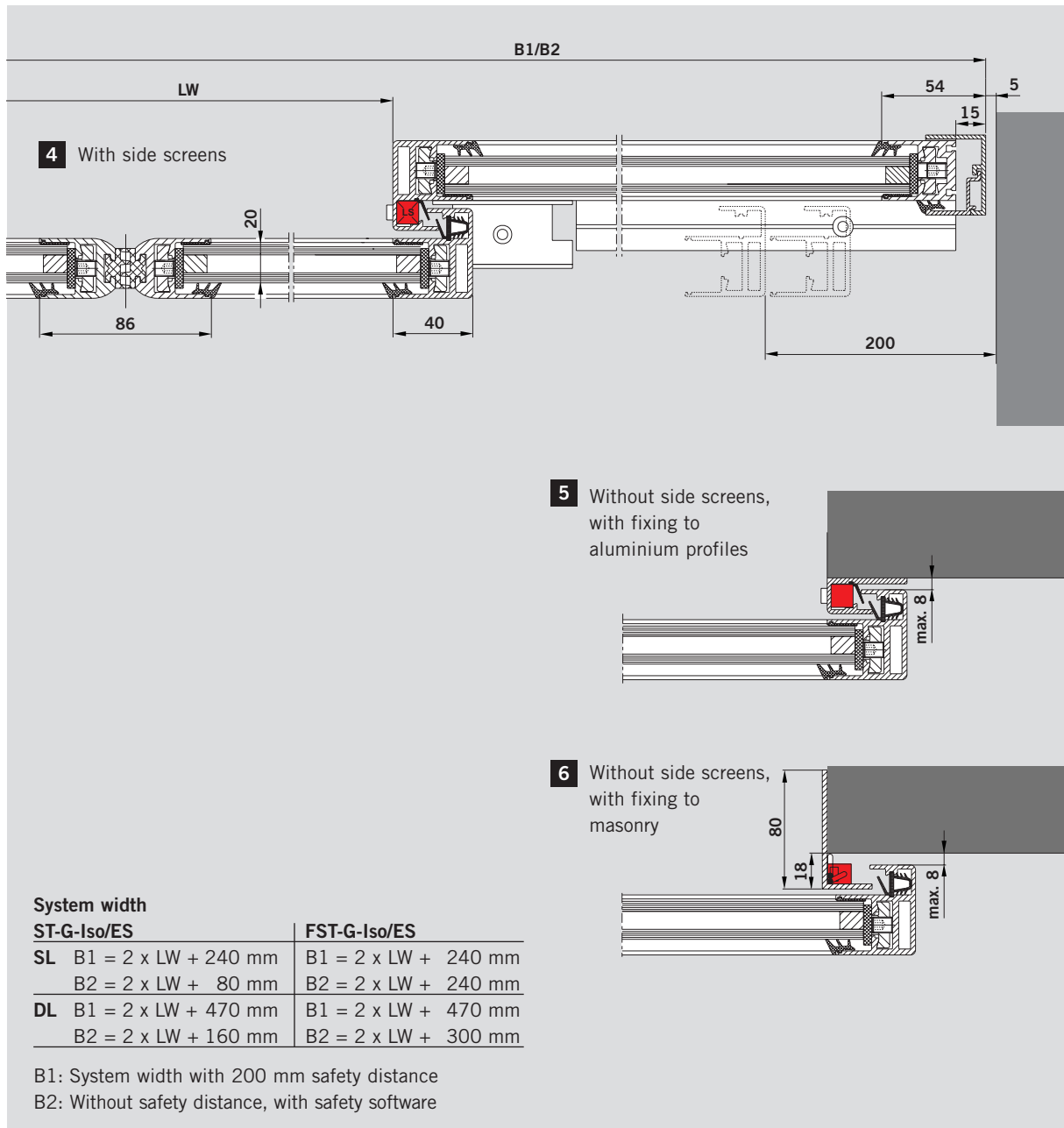
FST-G-Iso



Double glazing

- ① 4/12/4 mm
- ② 5/10/5 mm
- ③ 6/8/6 mm





Standard clear passage widths and system widths

Version	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
LW	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	
DORMA ST-G-Iso																									
SL B1	1640	1840	2040	2240	2440	2640	2840	3040	3240	3440	3640	3840	4040	4240											
SL B2	1480	1680	1880	2080	2280	2480	2680	2880	3080	3280	3480	3680	3880	4080											
DL B1				2470	2670	2870	3070	3270	3470	3670	3870	4070	4270	4470	4670	4870	5070	5270	5470	5670	5870	6070	6270	6470	
DL B2				2160	2360	2560	2760	2960	3160	3360	3560	3760	3960	4160	4360	4560	4760	4960	5160	5360	5560	5760	5960	6160	
DORMA FST-G-Iso																									
SL B1	1640	1840	2040	2240	2440	2640	2840	3040																	
SL B2	1640	1840	2040	2240	2440	2640	2840	3040																	
DL B1				2470	2670	2870	3070	3270	3470	3670	3870	4070	4270	4470	4670	4870	5070	5270	5470						
DL B2				2300	2500	2700	2900	3100	3300	3500	3700	3900	4100	4300	4500	4700	4900	5100	5300						

*SL = Single leaf, DL = Double leaf

With R-type standard frame profiles

Features

- Rugged frames which reliably protect the glazing
- High stability and rigidity
- Protection against draughts thanks to interlocking side seals

- 1 With LM (aluminium) girder, top light and side screens, or with MSH hollow steel section girder (not illustrated)

- 2 Lintel fixing (not illustrated)

- 3 Floor guide

Operator

Range of drive units available, or depending on leaf weight – see Page 18

System height

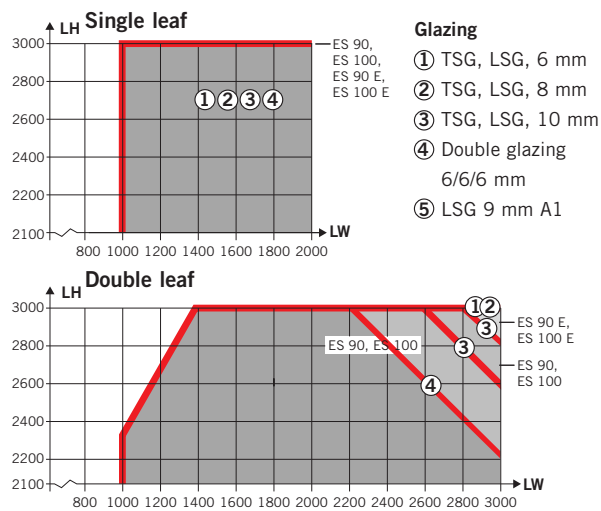
$H = LH + \text{min. } 200 \text{ mm}$



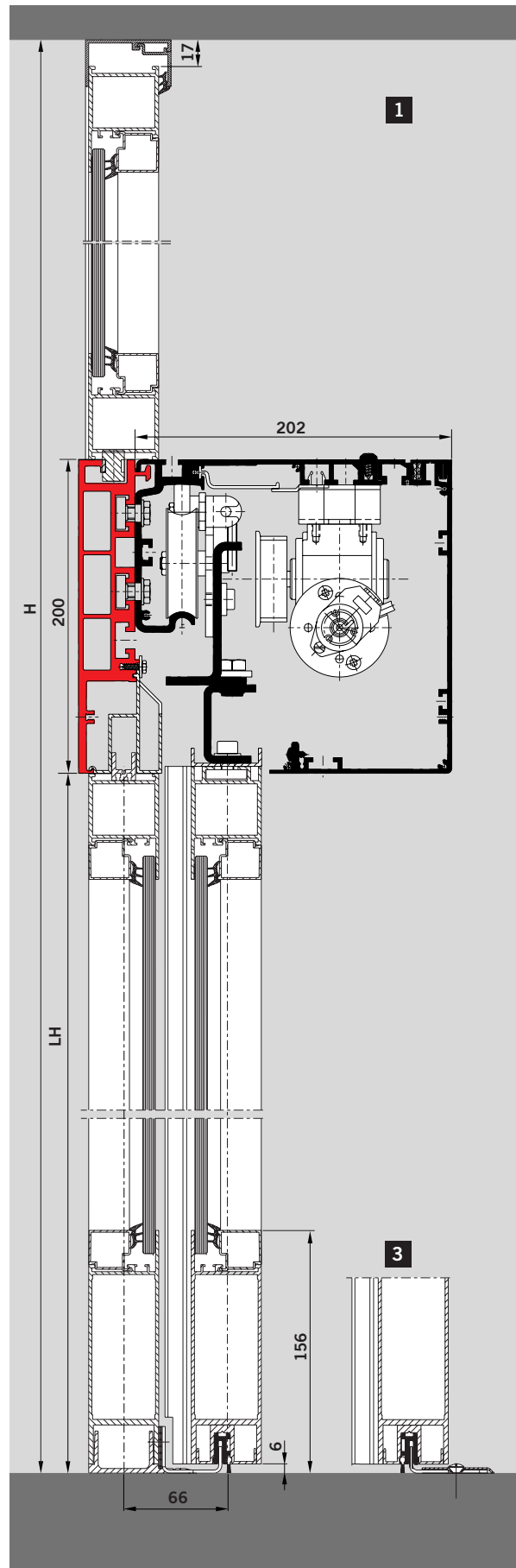
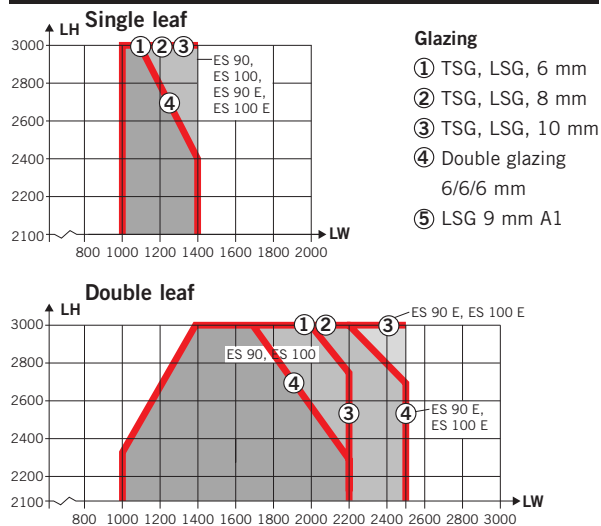
Determining the leaf size:

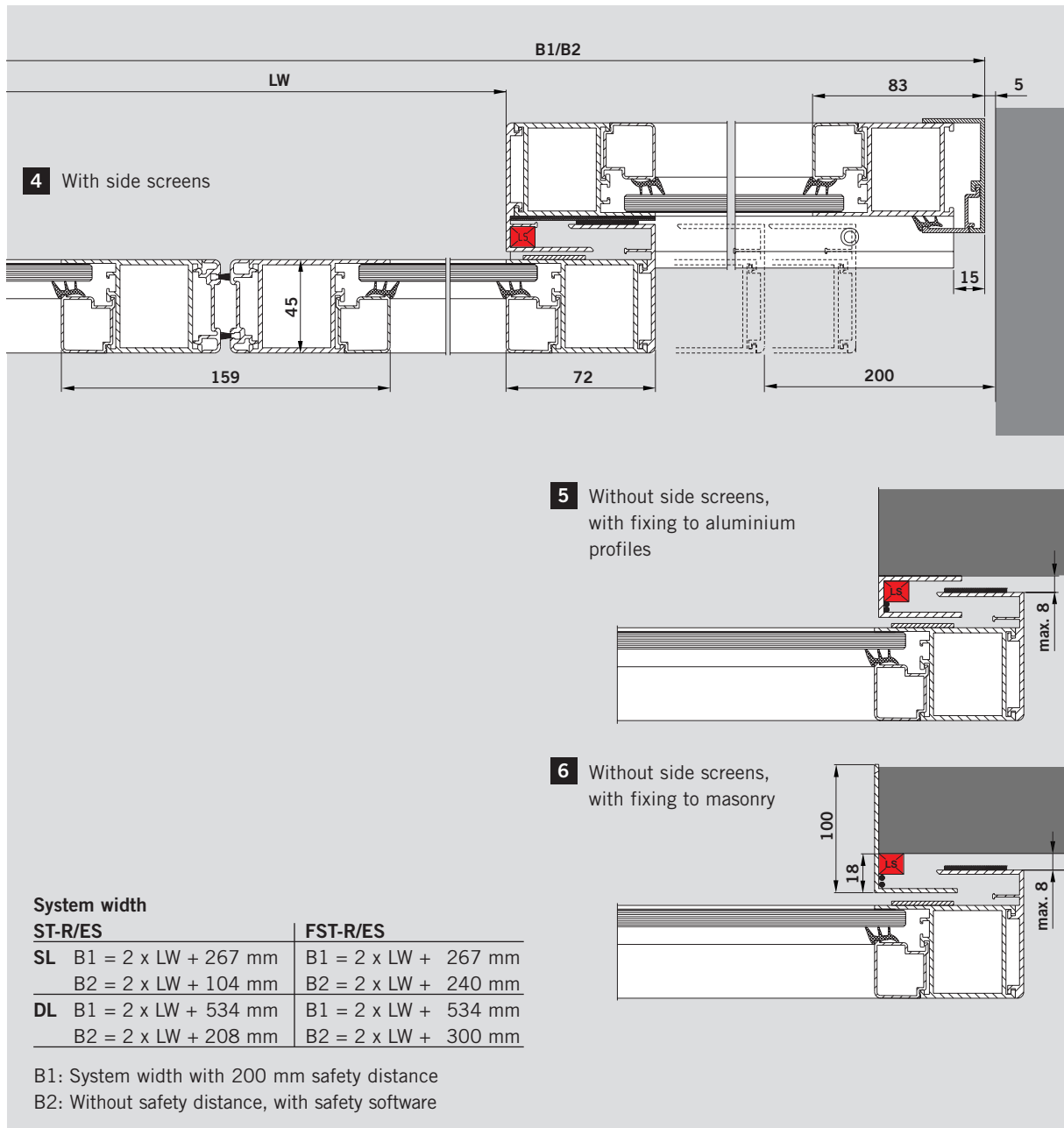
Dependent on clear passage height **LH** and clear passage width **LW**. Do not exceed the maximum door leaf weight allowable for the operators (drive units) concerned.

ST-R



FST-R





Standard clear passage widths and system widths

Version	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
LW	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000		
DORMA ST-R																										
SL B1	1667	1867	2067	2267	2467	2667	2867	3067	3267	3467	3667	3867	4067	4267												
SL B2	1504	1704	1904	2104	2304	2504	2704	2904	3104	3304	3504	3704	3904	4104												
DL B1				2534	2734	2934	3134	3334	3534	3734	3934	4134	4334	4534	4734	4934	5134	5334	5534	5734	5934	6134	6334	6534		
DL B2				2208	2408	2608	2808	3008	3208	3408	3608	3808	4008	4208	4408	4608	4808	5008	5208	5408	5608	5808	6008	6208		
DORMA FST-R																										
SL B1	1667	1867	2067	2267	2467	2667	2867	3067																		
SL B2	1640	1840	2040	2240	2440	2640	2840	3040																		
DL B1				2534	2734	2934	3134	3334	3534	3734	3934	4134	4334	4534	4734	4934	5134	5334	5534							
DL B2				2300	2500	2700	2900	3100	3300	3500	3700	3900	4100	4300	4500	4700	4900	5100	5300							

*SL = Single leaf, DL = Double leaf

With R-Thermo thermal break profiles

Features

- Rugged frames which reliably protect the glazing
- High stability and rigidity
- Low system k value thanks to full thermal break in frame and double glazing
- Particularly good insulating properties thanks to interlocking side seals and also top and bottom seals

Operator

Range of drive units available, or depending on leaf weight – see Page 18

System height

$H = LH + \text{min. } 200 \text{ mm}$

1 With LM (aluminium) girder, top light and side screens

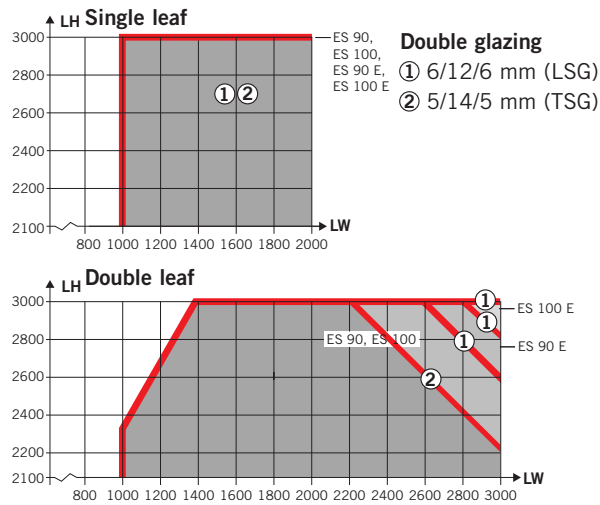
2 Lintel fixing (not illustrated)

 FST-R-Thermo/ES

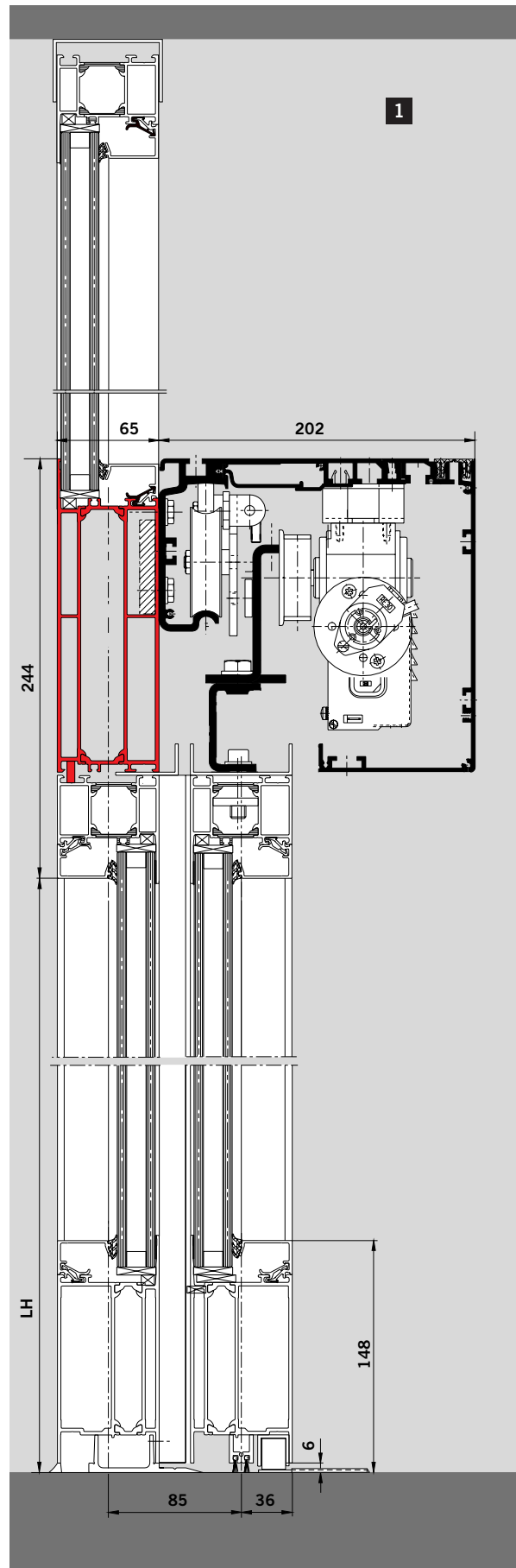
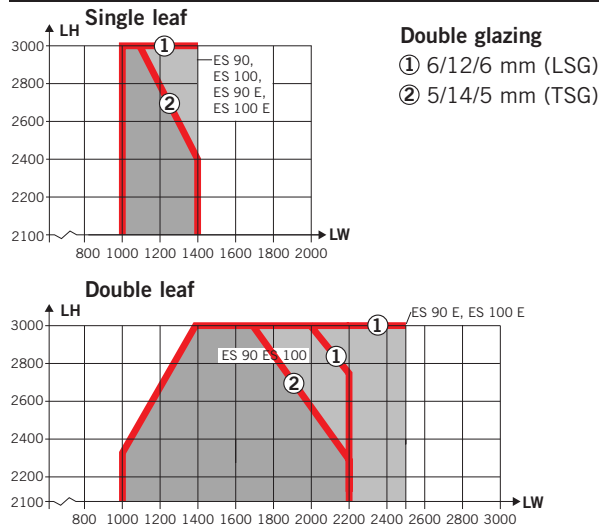
Determining the leaf size:

Dependent on clear passage height **LH** and clear passage width **LW**. Do not exceed the maximum door leaf weight allowable for the operators (drive units) concerned.

ST-R-Thermo



FST-R-Thermo



3 With side screens

4 Without side screens, with fixing to aluminium profiles

5 Without side screens, with fixing to masonry

Illustration shows "Schüco" profile series; "Heral" profile series not illustrated

System width		FST-R-Thermo/ES	
SL	B1 = 2 x LW + 268 mm B2 = 2 x LW + 68 mm	B1 = 2 x LW + 268 mm B2 = 2 x LW + 240 mm	
DL	B1 = 2 x LW + 536 mm B2 = 2 x LW + 136 mm	B1 = 2 x LW + 536 mm B2 = 2 x LW + 300 mm	

B1: System width with 200 mm safety distance
B2: Without safety distance, with safety software

Standard clear passage widths and system widths

Version	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
LW	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000		
DORMA ST-R-Thermo																										
SL B1	1668	1868	2068	2268	2468	2668	2868	3068	3268	3468	3668	3868	4068	4268												
SL B2	1468	1668	1868	2068	2268	2468	2668	2868	3068	3268	3468	3668	3868	4068												
DL B1				2536	2736	2936	3136	3336	3536	3736	3936	4136	4336	4536	4736	4936	5136	5336	5536	5736	5936	6136	6336	6536		
DL B2				2136	2336	2536	2736	2936	3136	3336	3536	3736	3936	4136	4336	4536	4736	4936	5136	5336	5536	5736	5936	6136		
DORMA FST-R-Thermo																										
SL B1	1668	1868	2068	2268	2468	2668	2868	3068																		
SL B2	1640	1840	2040	2240	2440	2640	2840	3040																		
DL B1				2536	2736	2936	3136	3336	3536	3736	3936	4136	4336	4536	4736	4936	5136	5336	5536							
DL B2				2300	2500	2700	2900	3100	3300	3500	3700	3900	4100	4300	4500	4700	4900	5100	5300							

*SL = Single leaf, DL = Double leaf

High stability plus optimum protection

DORMA ST-R/ES sliding doors with standard frame profiles can, as an optional extra, be equipped with a new type of automatic through-rod multipoint locking system. The locking bars manufactured from high-tensile steel are concealed in the centre seal profiles.

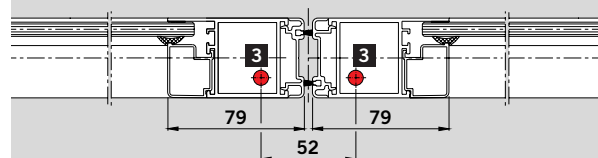
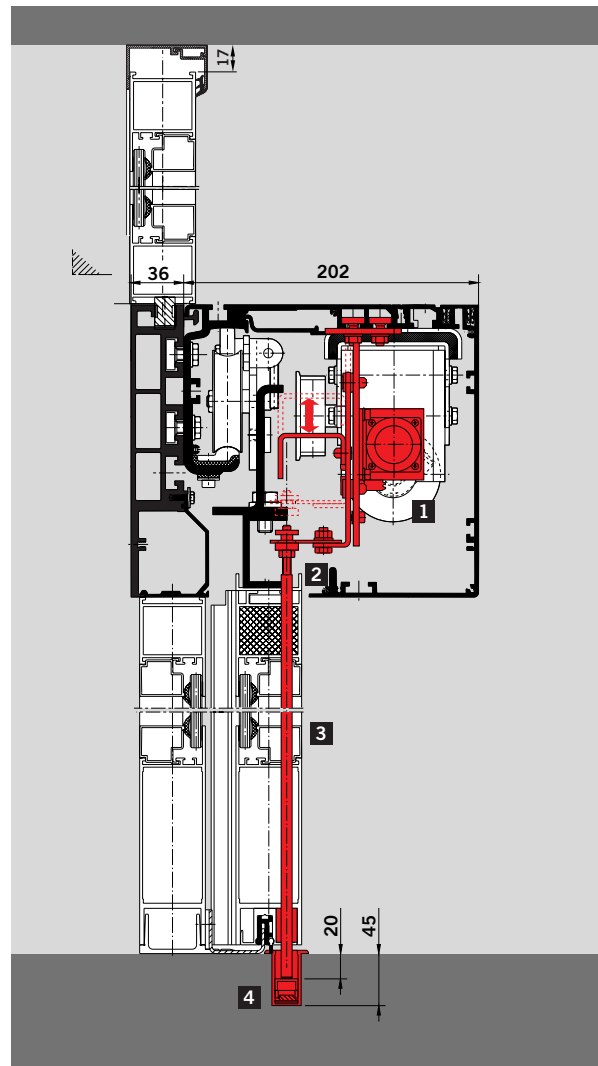
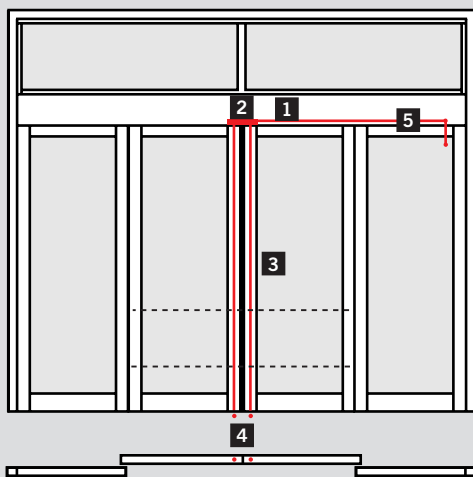
In the locked condition, the rods extend to engage both in high-strength keeps located in the transom construction and in bushing-type keeps recessed in the floor. This two or four-point locking system ensures maximum resistance against all attempts to force the sliding panels open. The locking and unlocking operations are performed by means of an electric motor integrated in the transom assembly.

In the event of a power failure or in emergency situations, the sliding leaves can be manually unlocked by means of a retract mechanism. The locking system can only be unlocked from the outside by a pre-programmed – i.e. authorised – opening signal. The bushing-type keeps recessed in the floor are provided with spring-loaded covers to protect them against dirt and contamination when the door is unlocked, and are also easy to clean.

For emergency exits and escape routes

A model suitable for employment in emergency escape routes is currently also in development.

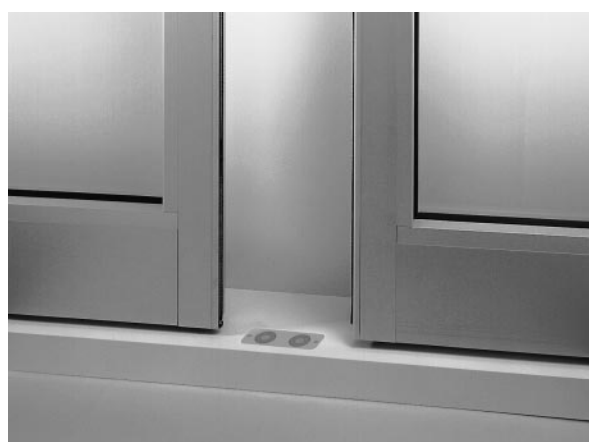
DORMA ST-R with through-bolt locking system



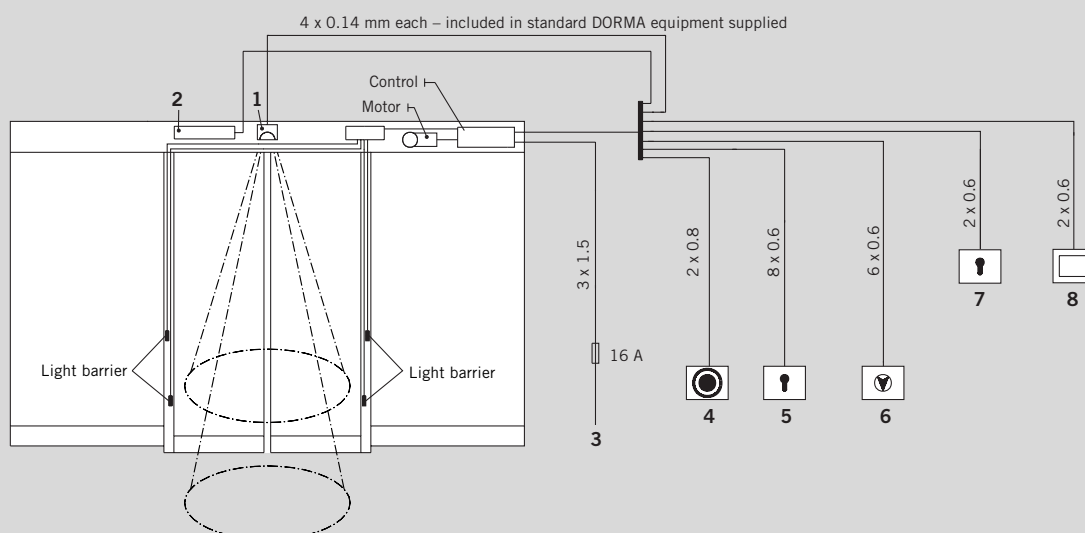
- 1** Electric drive unit for locking and unlocking
- 2** Top keep
- 3** Through-rod
- 4** Floor keep
- 5** Manual unlocking/retract device

Features and benefits

- High level of security protection
 - Solves the age-old contradiction: Locked against ingress, but openable from the inside
 - No impairment to the visual attractiveness of the door
 - Optimum adaptability to individual requirements
 - High level of cost-efficiency and reliability thanks to proven design and quality-assured manufacture
 - Wide range of adjustable parameters
 - Comprehensive connections provided as standard
 - Automatic reversing cycle
 - Delivered ready to install, with fitting and commissioning also available on request
- Designed and manufactured in accordance with the latest state of the art and in line with all relevant standards and specifications.

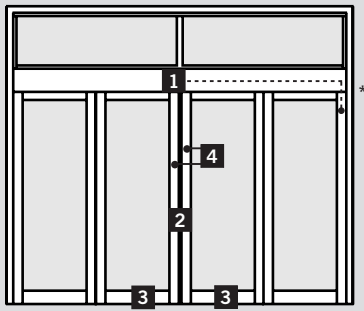


ST-R/ES with through-bolt locking system – Connections

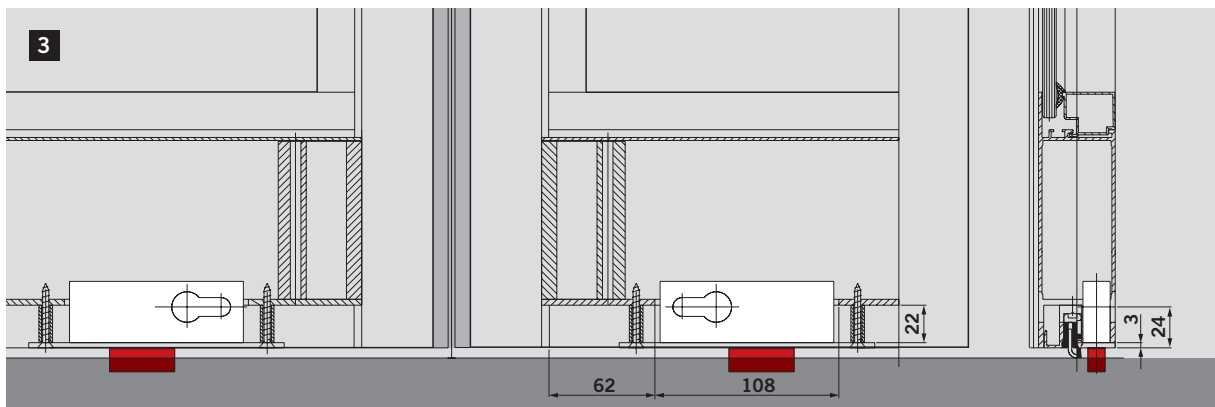
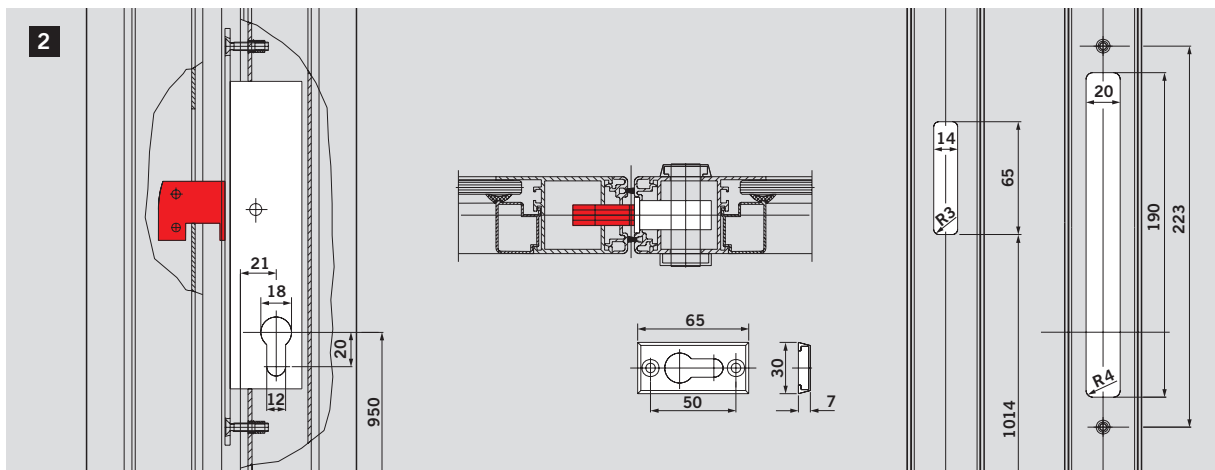
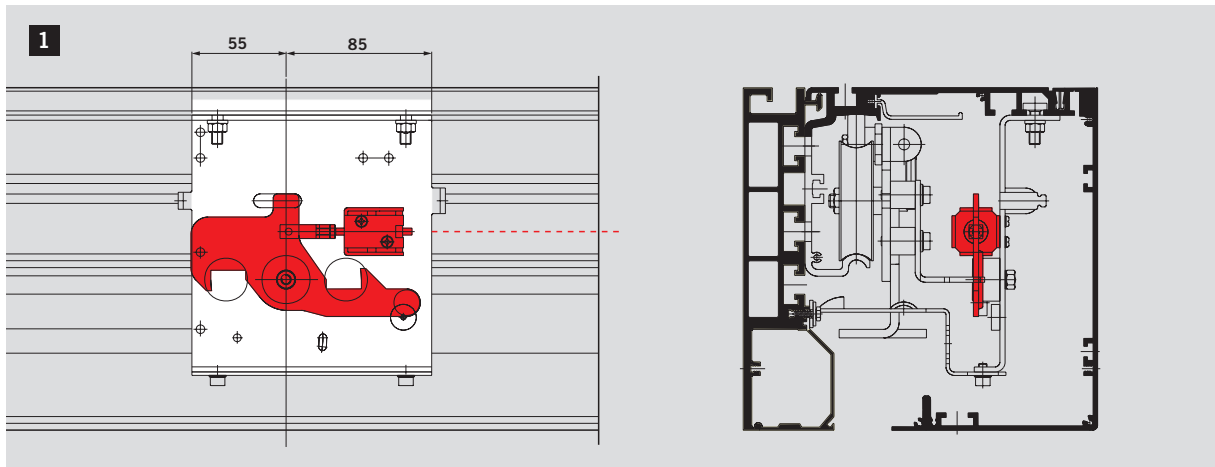


- 1 Motion detector – internal, external
- 2 Locking system
- 3 Power supply: 230 V, 50/60 Hz (Illustration shows FST model with cable from the right; ST model: cable from the left)
- 4 Emergency stop pushbutton to be installed close to door; cable length max. 100 m
- 5 Key switch for activating the locking system (only where used in emergency exits and escape routes)
- 6 Program switch, cable length max. 100 m; where installed with other lines, provide with shield
- 7 Key switch, code card reader with floating (no volt) contact or similar, external
- 8 Pushbutton, internal

Lock options



- 1** In-transom electro-mechanical dual-action hook lock; with manual unlocking for ST/ES
- 2** Hook lock (only for standard frame profile type R)
- 3** Floor locks
- 4** Automatic through-rod multi-point locking system, only for standard frame type R, double-leaf system (see Page 14)



CP 90 program selector



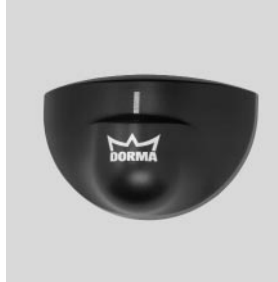
- Program selection
- Indication of the current program
- Adjustment of basic parameters
- CP 90 C with timer function
- CP 90 N for night-bank mode (additional to CP 90 or CP 90 C)
- Display of error codes for remote diagnostics
- Available in black, white and silver
- Dimensions (W x H)
48 mm x 125 mm

Program switches



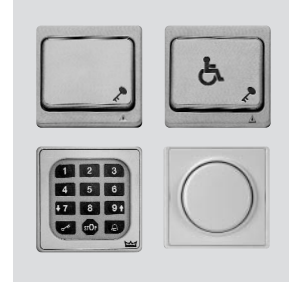
- External installation
- Concealed or surface-mounted units
- Lockable/Rotary knob
- Suitable for standard flush-type boxes
- Can be integrated with an emergency-stop switch in a double frame
- Key switches concealed or surface-mounted

Radar motion detector



- Eagle system
- Directionally sensitive or standard model
- Any combination of radar heads
- No official licence fees (in most countries)
- No effect on pacemakers
- very low output of just approx. 2 mW
- No interference from mobile phones

Switches/Pushbuttons



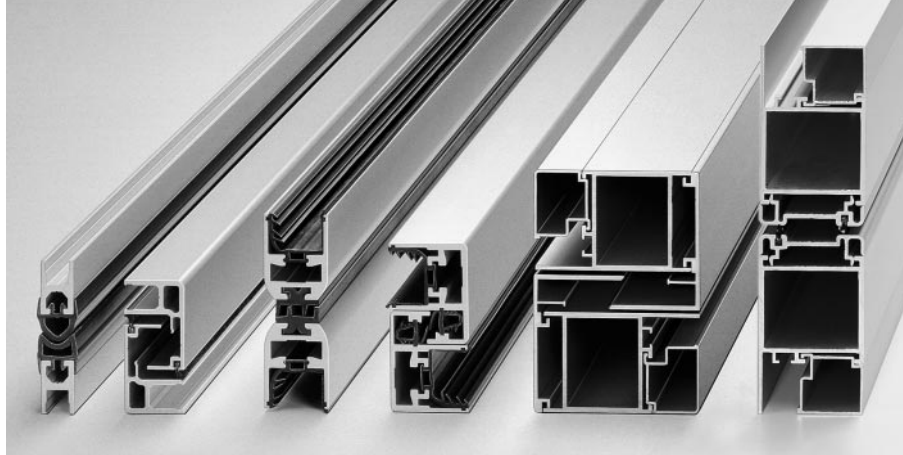
- Concealed and surface-mounted
- Stainless steel finishes
- Water-resistant models
- Keypads for access control systems
- Pushbuttons/Switches

Hand terminal



- Fast and problem-free commissioning of DORMA sliding doors
- Adjustment of basic parameters
- Simple and reliable diagnostics in the event of malfunctions
- Plain text display

Door frame profiles



Slimline profile system
DORMA ST-G, FST-G

Slimline double glazing profile system
DORMA ST-G-Iso,
FST-G-Iso

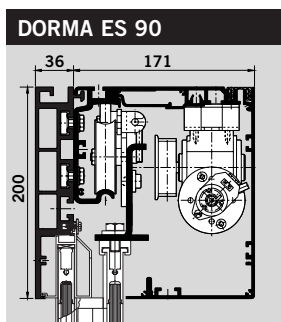
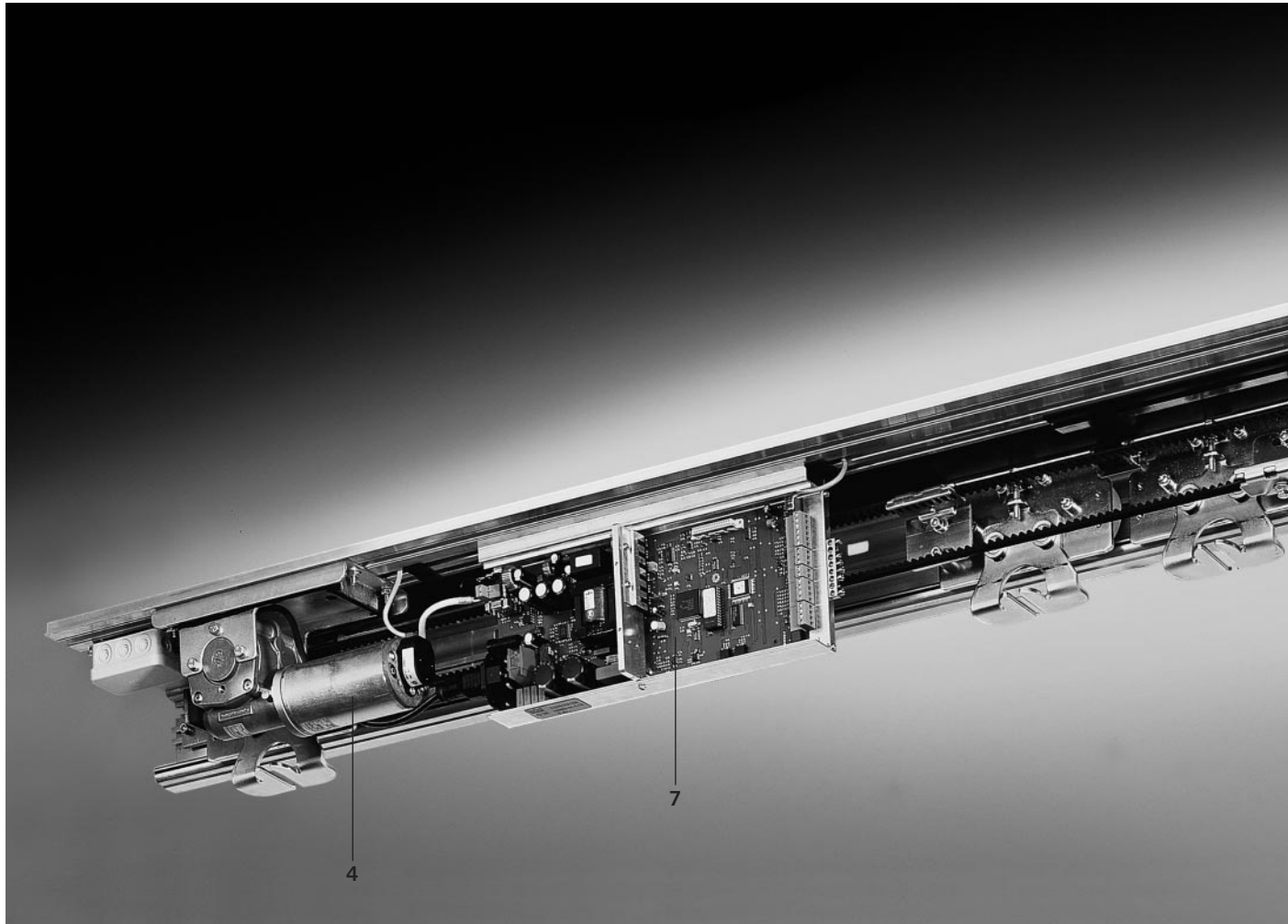
Standard frame profile system
DORMA ST-R, FST-R

Thermal break profile system
ST-R-Thermo, FST-R-Thermo
(not illustrated)

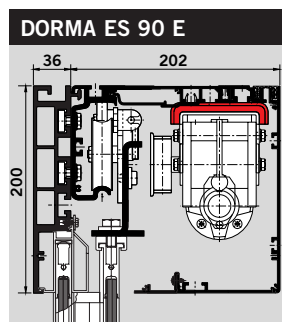
Automatic sliding doors for fire barriers

See brochure on DORMA ST-FS "FireSafe"

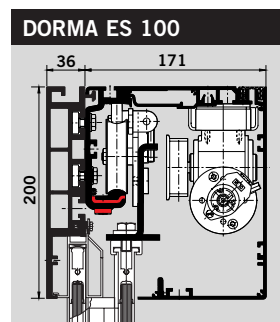
Operator types



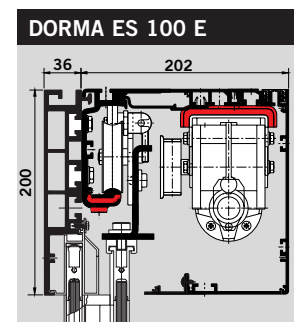
1 Standard operator with low-noise track rail



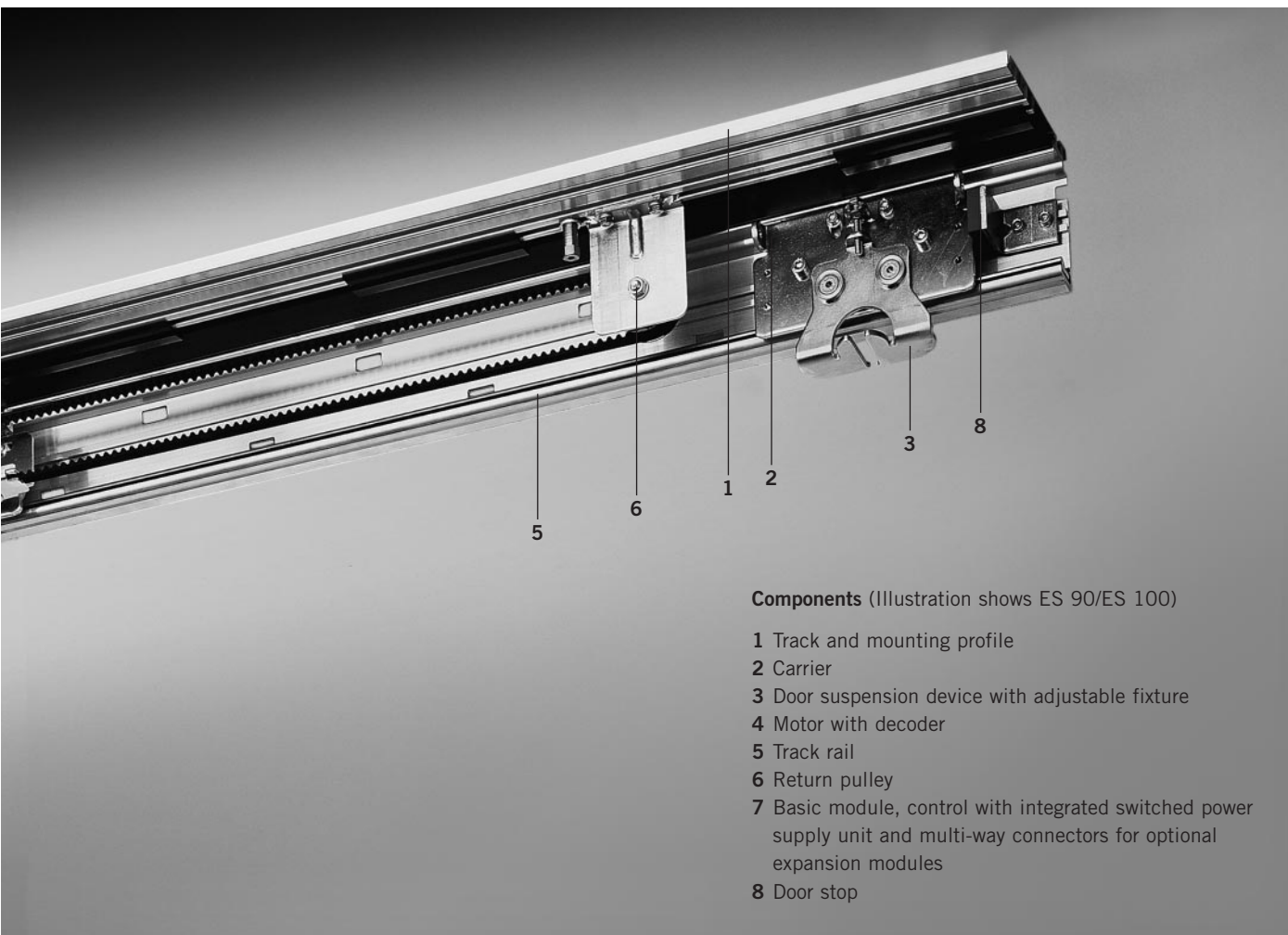
2 Standard operator with low-noise track rail, sound-insulated motor mounting and more powerful motor



3 Enhanced operator with sound insulated track rail

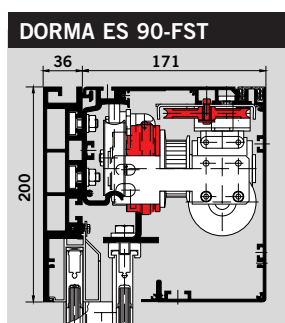


4 Enhanced operator with sound-insulated motor mounting, sound-insulated track rail and more powerful motor

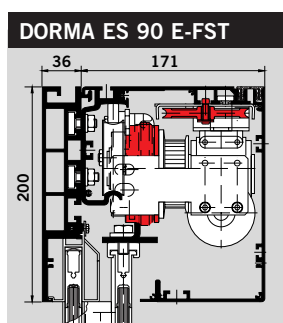


Components (Illustration shows ES 90/ES 100)

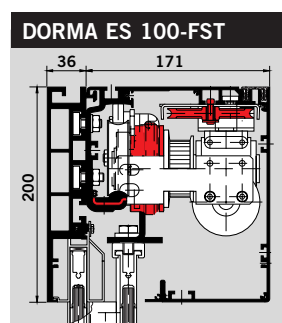
- 1 Track and mounting profile
- 2 Carrier
- 3 Door suspension device with adjustable fixture
- 4 Motor with decoder
- 5 Track rail
- 6 Return pulley
- 7 Basic module, control with integrated switched power supply unit and multi-way connectors for optional expansion modules
- 8 Door stop



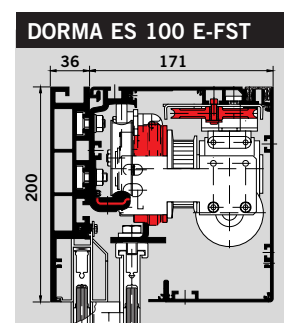
5 Standard operator with low-noise track rail



6 Standard operator with low-noise track rail, sound-insulated motor mounting and more powerful motor



7 Enhanced operator with sound insulated track rail



8 Enhanced operator with sound-insulated motor mounting, sound-insulated track rail and more powerful motor

FST operators for sliding doors in emergency exits and escape routes

Additional equipment

- Expansion module EM3
- Self-monitoring functions for all main components
- Electro-magnetic clutch
- Rubber rope as redundant energy source
- Self-monitoring radar motion detector in the escape direction

Specification text**Automatic sliding door with**

- 2 sliding leaves (standard) 1 sliding leaf
 2 side screens 1 side screen
 without side screens
 2 safety pocket screens 1 safety pocket screen
 with safety software (without safety pocket screens)
 Top light
 1-piece 2-piece 3-piece
 Solid top panel
 FST/ES approved for emergency exits and escape routes

Manufactured in accordance with German guidelines for power-operated windows, doors and gates, ZH 1/494 latest edition, German UVV (accident prevention) regulations and VDE (German Association of Electrical Engineers) standards. Type approved by the German technical inspectorate (TÜV); tested and approved in accordance with low-voltage directives; manufactured on the basis of a quality management system registered to ISO 9000.

Power supply: 230 V, 50/60 Hz

Design:

- Slimline (toughened glass) profiles, G
 Double glazing slimline profiles, G-Iso
 Standard frame profiles, R
 Thermal break profiles, R-Thermo

Transom construction:

- LM (aluminium) girder, self-supporting up to 4000 mm
 LM (aluminium) girder, side screen supported, up to 6600 mm, including cover
 MSH girder (non-standard)

Installation:

- Corridor (passage) Wall (face-fix)

Floor guide:

- Floor surface guide without floor track (standard)
 Concealed guide with floor track

Sliding leaf glazing:

- Toughened safety glass (TSG) ... Laminated safety glass (LSG) ...
 Double glazing ... Special glass
 Midrails

Side screen glazing:

- Toughened safety glass (TSG) ... Laminated safety glass (LSG) ...
 Double glazing ... Special glass
 Midrails

Safety pocket screen glazing:

- Toughened safety glass (TSG) ... Laminated safety glass (LSG) ...
 Double glazing ... Special glass

Top light glazing:

- Float glass ... Toughened safety glass (TSG) ...
 Laminated safety glass (LSG) ... Double glazing ...
 Special glass

Drive unit and control ST/ES:

Automatic sliding door operator of modular design

- ES 90 ES 90 E
 ES 100 ES 100 E

Integrated microprocessor control, self-learning, with adjustable parameters for opening and closing speed, hold-open time and also opening and closing force. With pulse expansion for cheque card, code card reader or key switch. With RS 485 interface, connection for access control system, bell contact and battery pack. Degree of protection IP 20.

- Fail safe (standard) [Opens when de-energised]
 Fail-secure [Closes when de-energised]

- Connection for airlock control
 Door status signal
 Module for connection to EIB building control system
 RSM module for connection to the telephone network
 Emergency power module (UPS)

Drive unit and control FST/ES:

Automatic sliding door operator

- ES 90-FST ES 90 E-FST
 ES 100-FST ES 100 E-FST

With self-diagnostics function for the microprocessor control and integrated EM3 expansion module for redundant monitoring of opening safety. Self-learning, with adjustable parameters for opening and closing speed, hold-open time and also opening and closing force. With pulse expansion for cheque card, code card reader or key switch. With RS 485 interface, connection for access control system, bell contact and battery pack. Degree of protection IP 20.

- Fail safe (standard) [Opens when de-energised]
 Door status signal
 Module for connection to EIB building control system
 RSM module for connection to the telephone network
 Emergency power module (UPS)

Function programs:

Off; Automatic; Permanent open; Partial opening; Exit only; Self-regulating partial opening; Exit only, partial opening; Night-bank control

Safety devices:

Automatic obstruction detection; automatic reversing cycle; force limitation; emergency stop pushbutton; integrated safety light barriers for presence monitoring

Switches, pushbuttons, external:

Program switch

- lockable (FST/ES) non-lockable (ST/ES)
 concealed surface-mounted

Emergency stop pushbutton, external:

- lockable non-lockable
 concealed surface-mounted with emergency break glass
 Electronic program selector, surface-mounted (ST/ES only)
 CP 90 CP 90 C (with timer function)
 CP 90 N (for night-bank control, additional to CP 90 or CP 90 C)

Locking system:

- Electro-mechanical lock, including manual unlocking
 Mechanical lock (not FST/ES)
 Automatic through-rod multipoint locking (available towards the end of 1999)

Activators:

- Eagle 1 radar motion detector, directionally sensitive,units
 Eagle 2 radar motion detector, non-directionally sensitive,.....units
 Eagle 3 radar motion detector, self-monitoring,units (for FST/ES)
 Other:, units

Finish for aluminium parts:

- silver anodised (Eloxal EV6/CO)
 dark-brown anodised (Eloxal EV6/C34)
 RAL Special colour

System dimensions:

Total width Bmm Clear passage width LWmm
Total height Hmm Clear passage height LHmm

Fabrikat:

- DORMA ST-G / G-Iso / R / R-Thermo / ES
 DORMA FST-G / G-Iso / R / R-Thermo / ES