

# Horizontal Sliding Walls

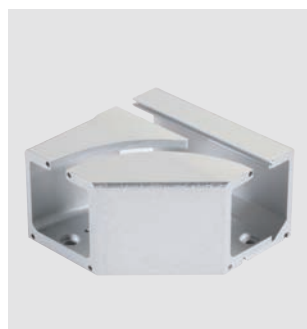
Technical brochure 2017

HSW EASY Safe  
HSW-GP  
HSW-R

dormakaba 



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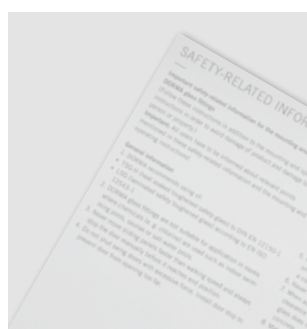
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## SUPPORT AND GUIDE ELEMENTS

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### **Stacking arrangements**

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### **Track rails and modules**

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### **Substructure**

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## THE RIGHT STACKING ARRANGEMENT FOR ANY SITUATION

### Perfect parking every time

Existing structures or unusual layouts often require special solutions, particularly in the design of the stacking area. DORMA HSW systems can be parked in a range of different positions. The stack of panels can be aligned parallel or square to the frontage, be readily visible for effect or hidden behind columns etc.

Another possibility is that of parking the system in line but out of the way, whether behind a wall or in a niche (see also pages 7 – 9).

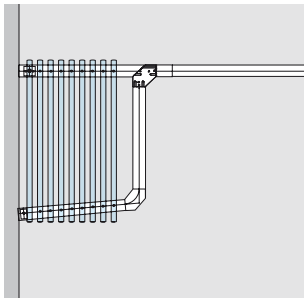
The panels can also perform certain functions when the frontage is open, such as providing the sides of internal store windows and showcases, or, if provided with the appropriate printing on the glass, for adding artistic value to a wall.

The following pages show some system solutions devised in answer to a wide range of different problems.



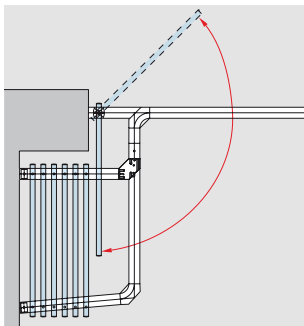
# PANELS TRANSVERSE TO TRAVEL DIRECTION

## Panels stacked 90° angle transverse to travel direction



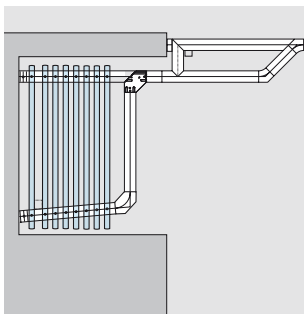
### Standard stacking arrangement.

With pivoting end panel, single or double action, as possible access leaf (left or right, or left and right).



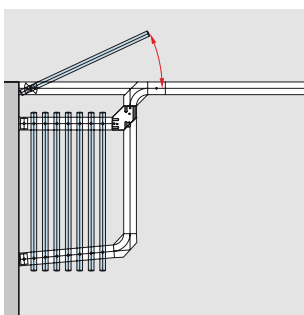
### Niche stacking.

With pivoting end panel, single or double action, as possible access leaf (left or right, or left and right).



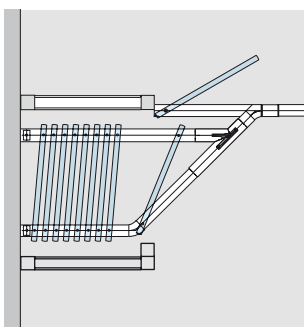
### Stacking with reshuffle bypass

(without pivoting end panel). Behind wall projection/fixed side panel (Left or right, or left and right).



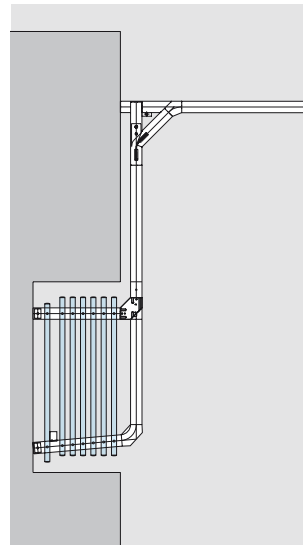
### Stacking behind pivoting end panel, single action

(Left or right, or left and right).



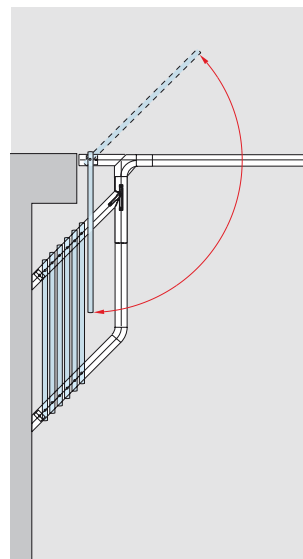
### Stacking in a box or niche, behind pivoting end panel, single or double action

Sliding panels only, around 135° offset (left or right, or left and right).



### Stacking in a box/pocket.

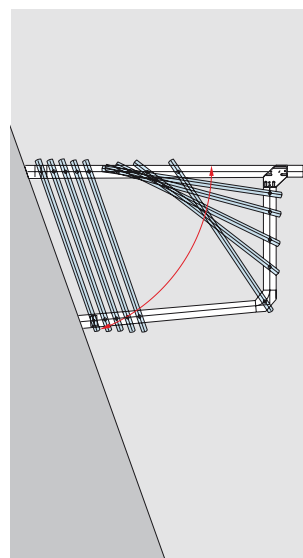
For systems with slidable panels only (left or right, or left and right).



### Stacking behind column.

#### Stacking legs at 135° angle.

With pivoting end panel, single or double action, as possible access leaf (left or right, or left and right).



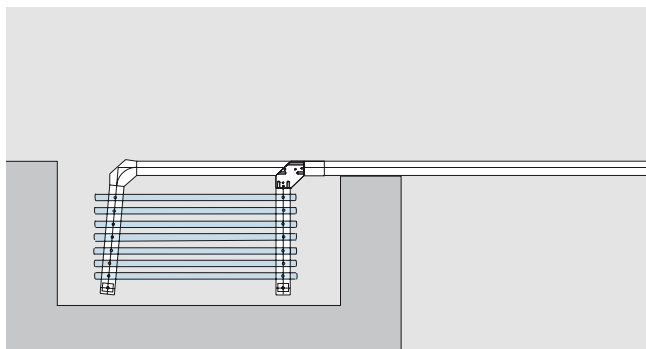
### Stacking at acute angle.

All panels brought into position with rear track roller.

## PANELS PARALLEL TO TRAVEL DIRECTION

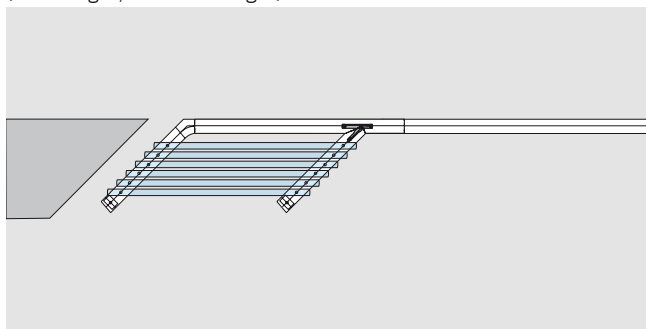
### Stacking in a niche, outer stacking leg at 95° angle

for small number of panels (up to 6) (left or right, or left and right).



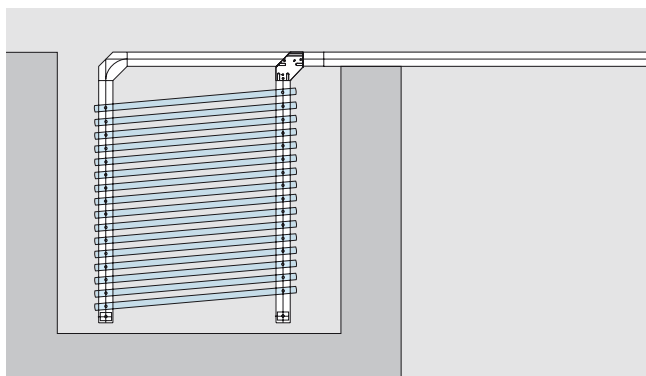
### Stacking legs at 135° angle

(left or right, or left and right).



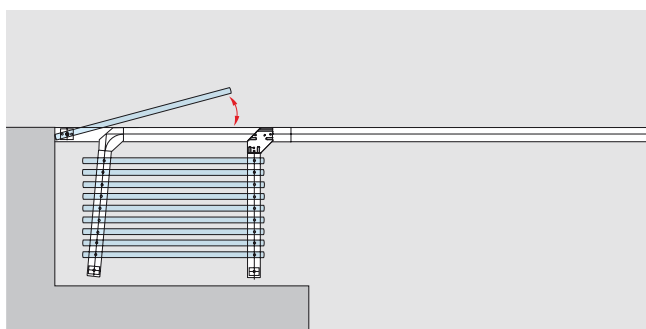
### Stacking legs at 90° angle

for large number of panels (left or right, or left and right).



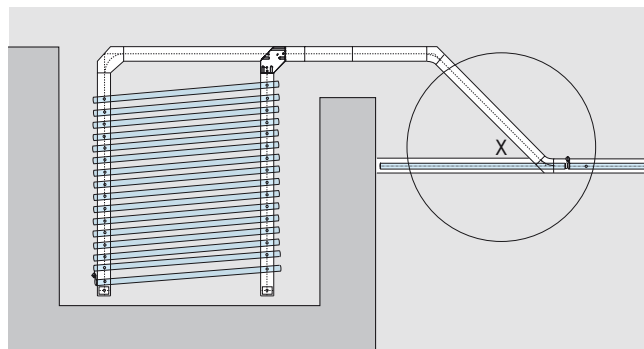
### Stacking behind pivoting end panel, single or double action, as possible access leaf.

Outer stacking leg at 95° (left or right, or left and right).



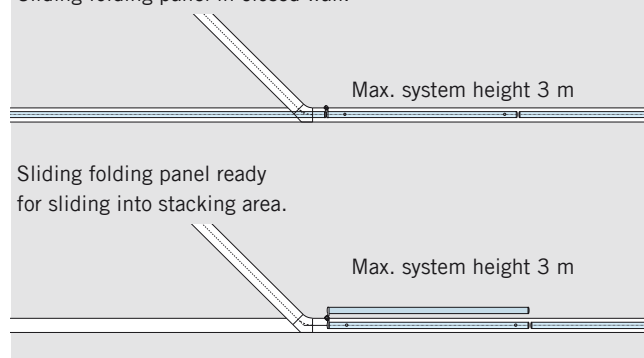
### Stacking offset in niche

with sliding folding panel as wall connection stacking legs at 90° (left or right, or left and right).



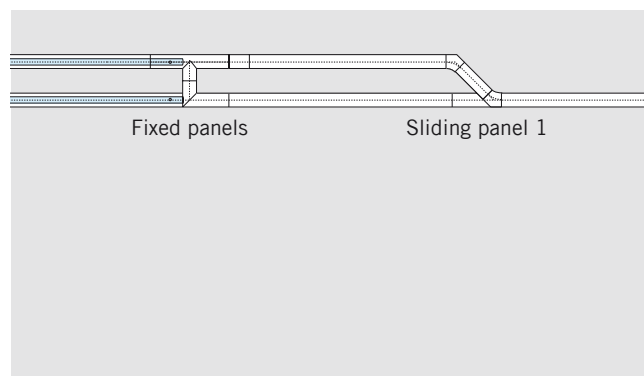
#### Detail X

Sliding folding panel in closed wall.



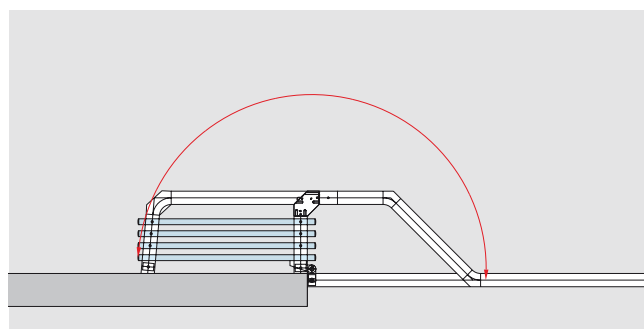
### Stacking behind fixed panels

(left or right, or left and right).



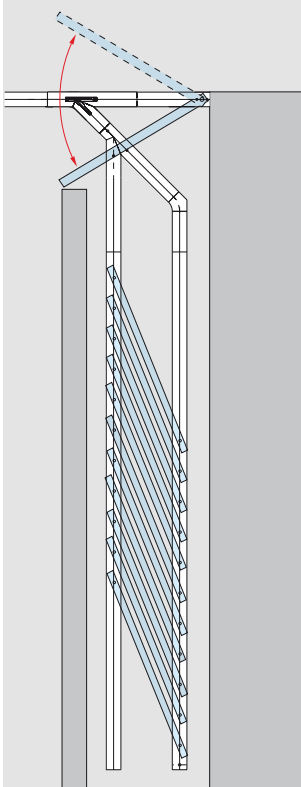
### Stacking offset, beyond offset hung pivoting end panel, single or double action,

(left or right, or left and right).

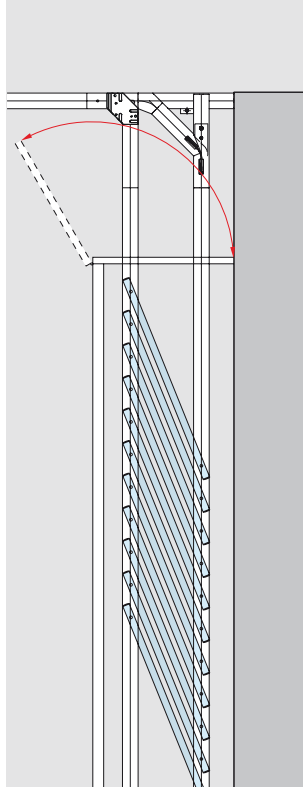


## SPECIAL STACKING ARRANGEMENTS

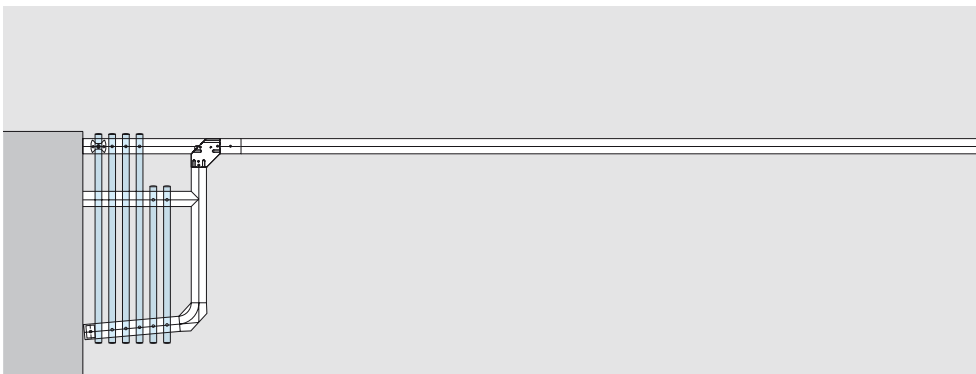
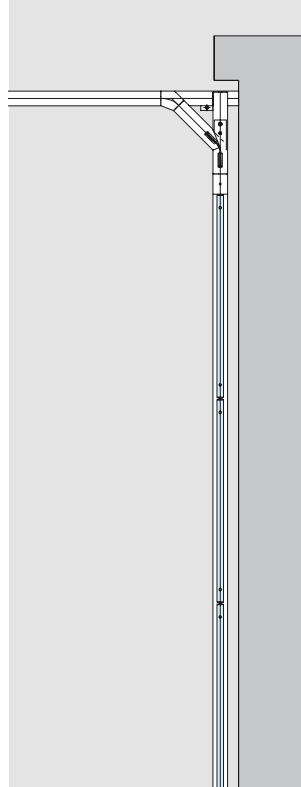
Stacking at the wall in closed compartment behind pivoting end panel, single or double action



Stacking at the wall in closed compartment without pivoting end panel, single or double action



Stacking in front of 90° wall with reshuffle bypass



Stacking panels of varying width

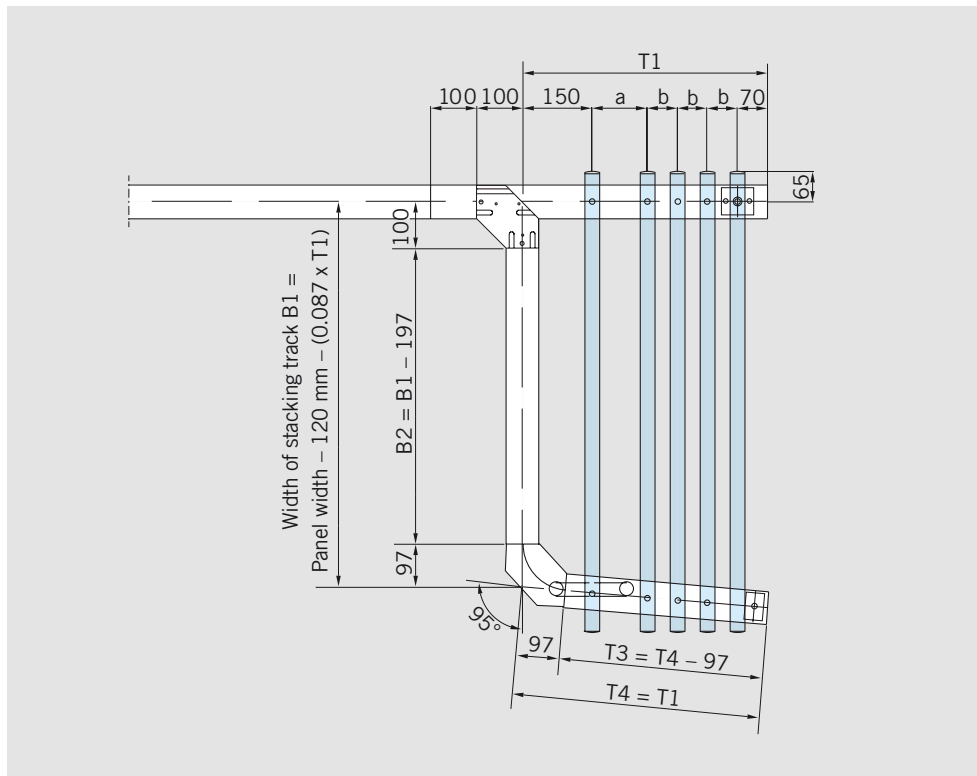


Stacking with one stacking leg for sliding panels in front of the pivoting end panel, single or double action, on each side (2 pivoting end panels / 2 sliding panels).

## STACKING ARRANGEMENT CALCULATIONS

### Panels stacked 90° angle transverse to travel direction

(left or right, or left and right)

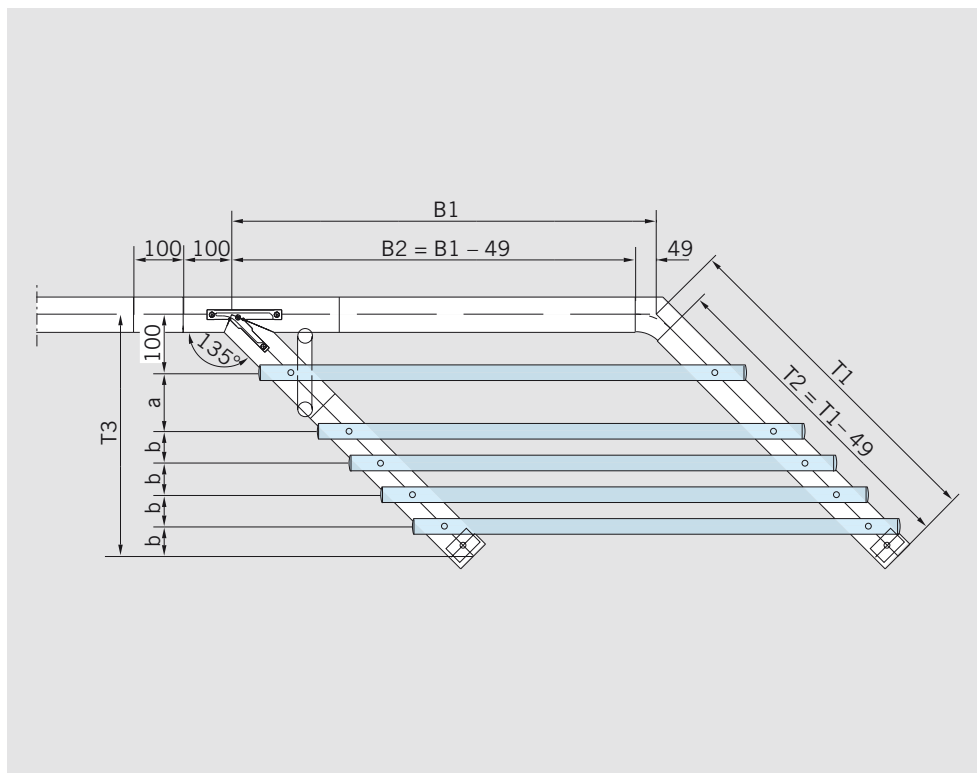


$a$  = depending on  
pull handle depth  
 $b$  = 65 mm for HSW EASY Safe  
80 mm for HSW-R

HSW-GP cannot be configured  
with a 95° junction.

### Stacking legs at 135° angle

(left or right, or left and right).

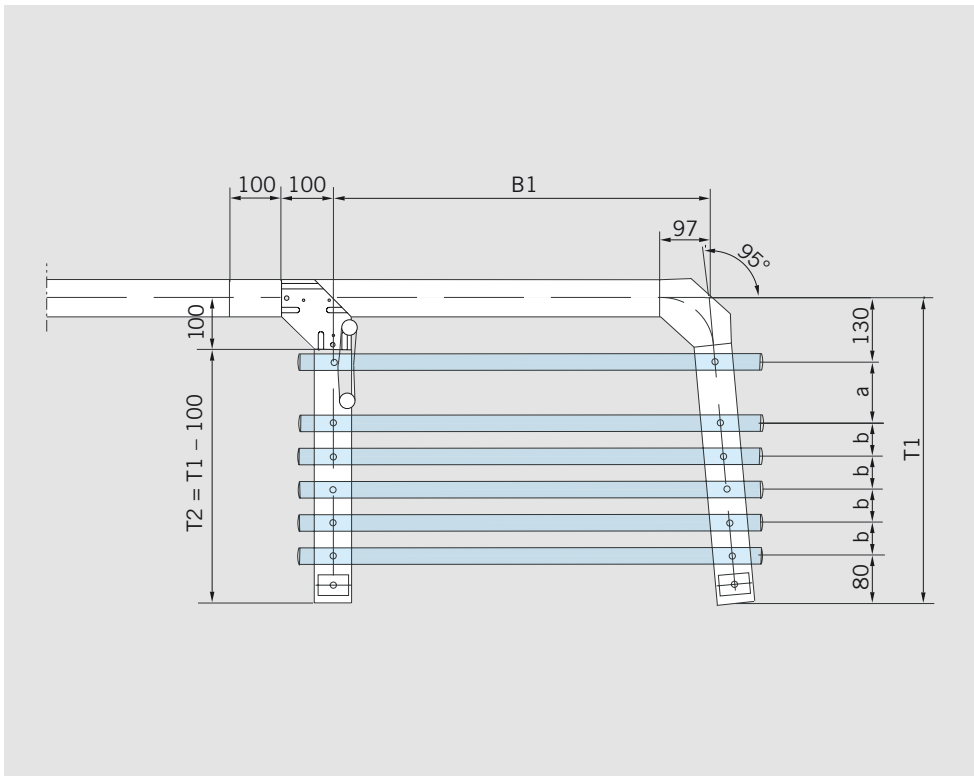


$a$  = depending on  
pull handle depth  
 $b$  = 65 mm for HSW EASY Safe  
80 mm for HSW-R

$B1$  = Panel width - 130 mm  
 $T1$  =  $T3 \times 1.414$  mm

### Stacking in a niche, outer stacking leg at 95° angle

for small number of panels (up to 6) (left or right, or left and right).



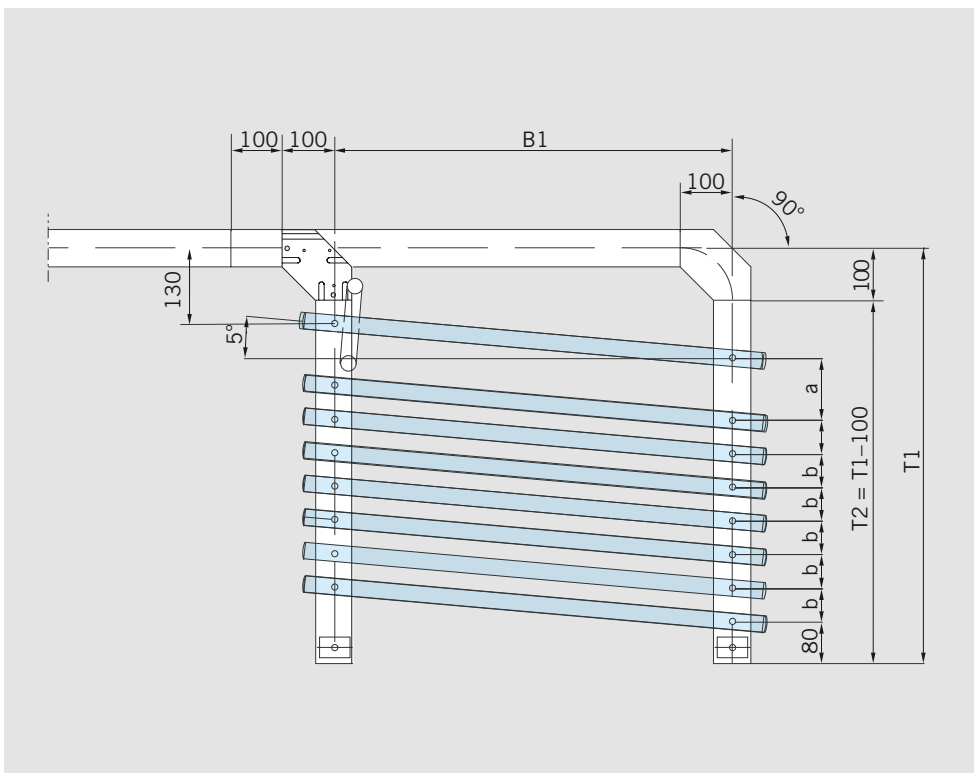
a = depending on  
pull handle depth  
b = 65 mm for HSW EASY Safe  
80 mm for HSW-R

$B1 = \text{Panel width} - 130 \text{ mm} -$   
 $([T1 - 80] \times 0.087)$

HSW-GP cannot be configured  
with a 95° junction.

### Stacking legs at 90° angle

for large number of panels (left or right, or left and right).



a = depending on  
pull handle depth  
b = 65 mm for HSW EASY Safe  
80 mm for HSW-GP and  
HSW-R

$B1 = \text{Panel width} - 134 \text{ mm}$



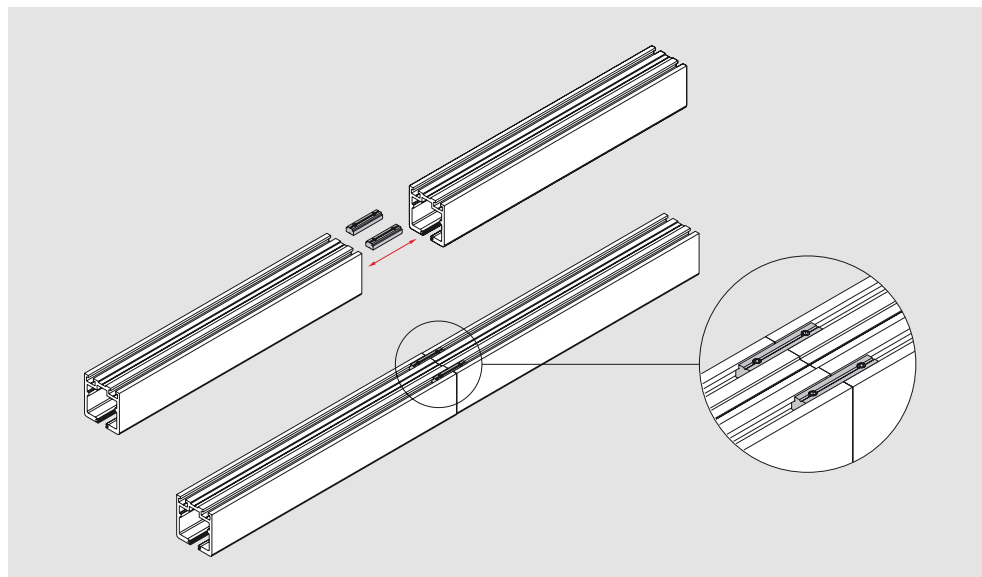
# SIMPLE, SECURE AND REMOVABLE CONNECTIONS

## Plug connection of tracks and modules

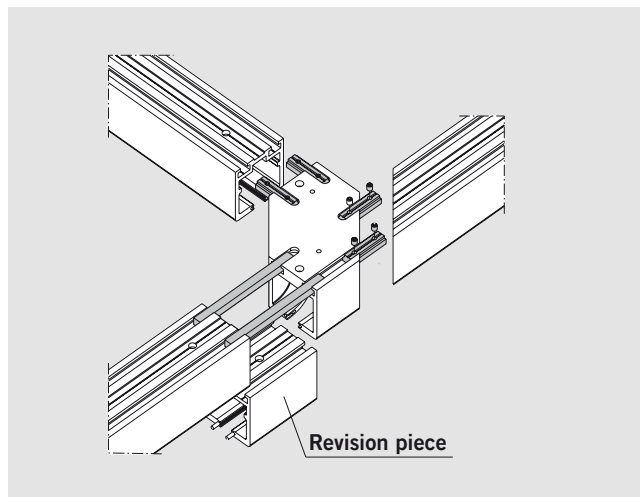
To provide fast, easy and flexible installation of the track rail sections and the modules it is a considerable advantage when all parts are delivered unwelded. The special HSW track rail design with two parallel channels at the top (suitable for M 12 screws) simplifies the work on site.

- The single track rail sections and modules are connected to each other by special clamp inserts fitted in the provided channels, delivering secure connection. If necessary even adjustment cuts of track sections can be done on site.
- In the lower part of the track rails additional pins provide smooth and even passage for the roller carriers.
- Even the stacking construction is fitted together and connected to the frontage track rail in the same way. As an option parts of the stacking construction can be delivered pre-mounted.
- The segmentation is realized by mitre cuts and welded connections within single track rail sections as supplied condition. On site the adjacent track rail section then can easily be fitted in a straight line by clamp inserts and pins.

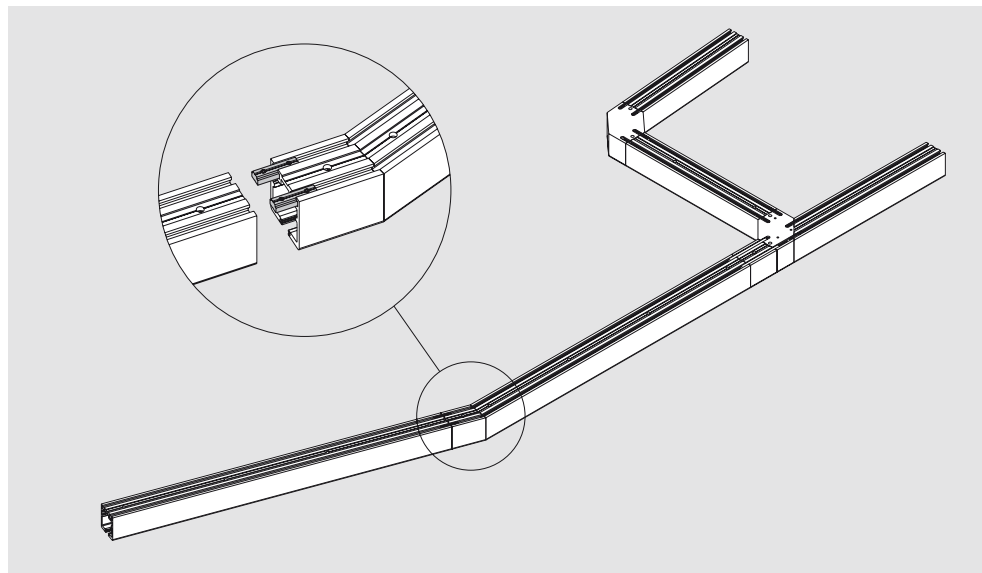
## Single track rail section



## Stacking construction



## Segmented track rail section



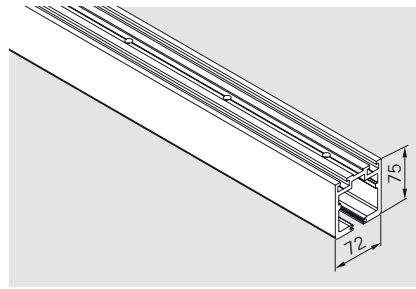


### Flexible and stable

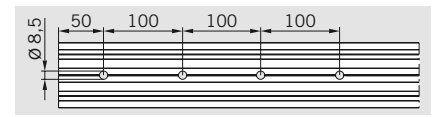
Horizontal sliding walls can be constructed in a wide range of different configurations to suit the site of installation, prevailing structural conditions and the planning concept. With DORMA HSW systems, a variety of designs can be implemented with ease. Straight and segmented track rails can be combined to produce virtually any serpentine shape required. The track rails in the form of hollow sections combine all the virtues of light weight, stability and torsional stiffness. And when combined with the HSW substructure, installation becomes even easier.

Flexibility and stability mean that even unusual system configurations can be implemented without problem to give maximum functional reliability.

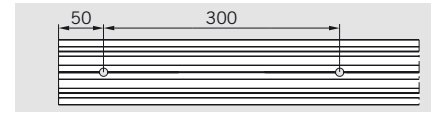
### Straight track rail



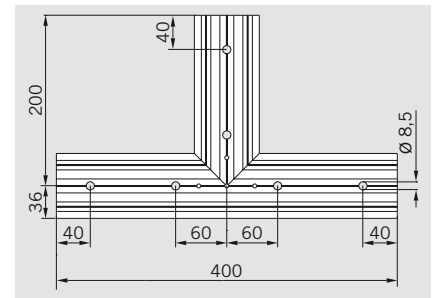
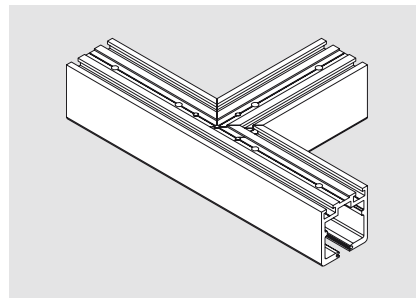
### Track rail at stacking area



### Track rail at assembly frontage



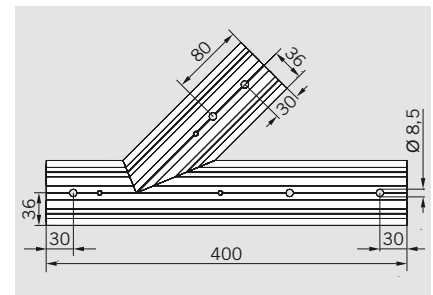
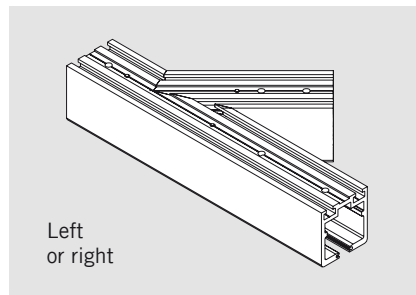
### 90° T-piece



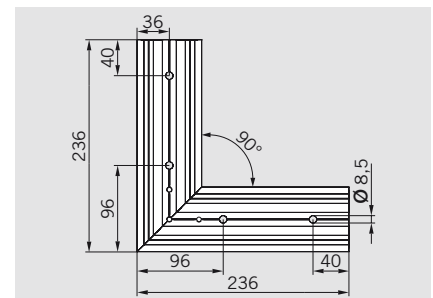
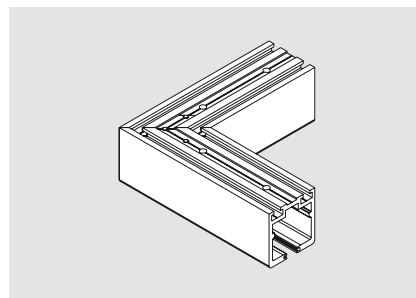
### Straight track rail

For a straight-line system configuration, a drill hole interval of 300 mm in the track rail is sufficient, while the stacking area requires an interval of 100 mm. Where the track assumes an angle of 161 – 179°, the track rail is mitred, while at angles between 90 and 160°, a segment is incorporated. The standard modules available are indicated in the adjacent illustrations.

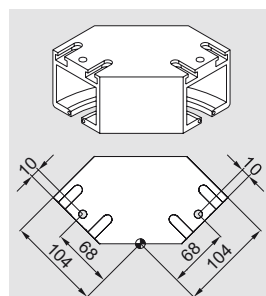
### 135° T-piece



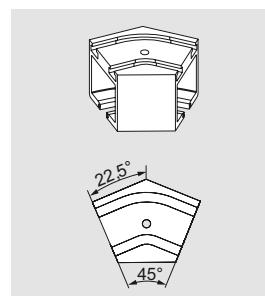
### 90° L-piece



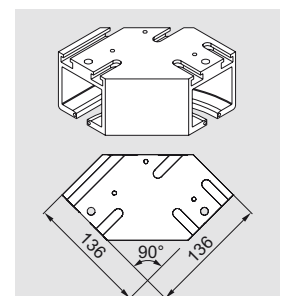
### Module 07/09 for 90°/95° angle

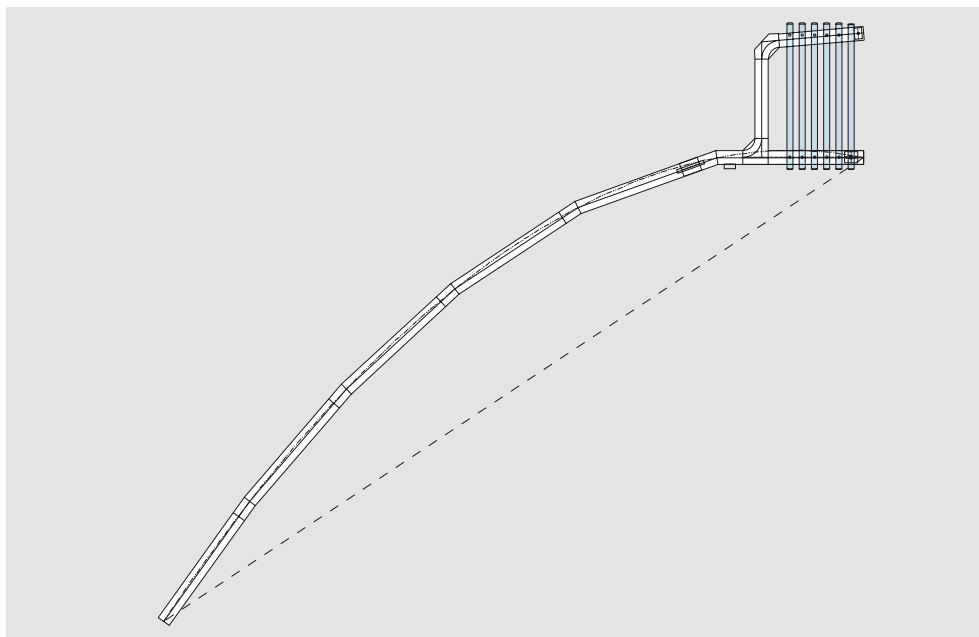


### Module 06 for 45° angle



### Module 04/05 90° angle left/right





#### Segmented track rail

With the segmented track rail, it is possible to implement the DORMA HSW as a polygonal partition or frontage. In so doing, it is essential to note the following requirements:

- The panel width and segment chord length must be properly coordinated;
- Segment panels are provided at the bottom with locks or face-mounted floor bolts and the end cap are equipped with additional buffers for collision protection;
- It is important to ensure that the opening sweep of single action and double action panels does not give rise to collisions.



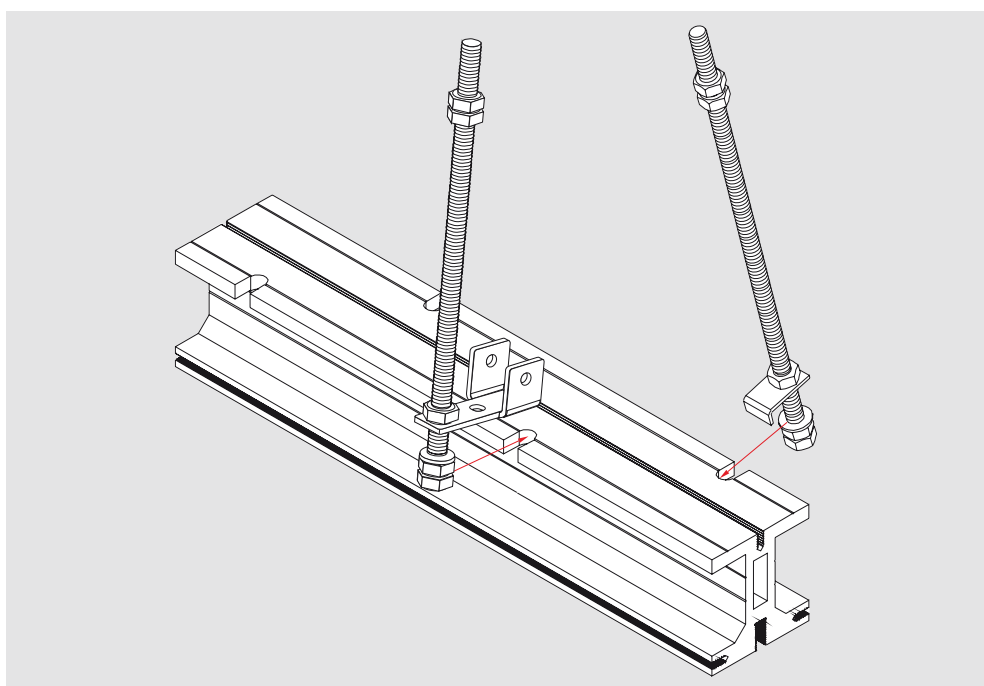
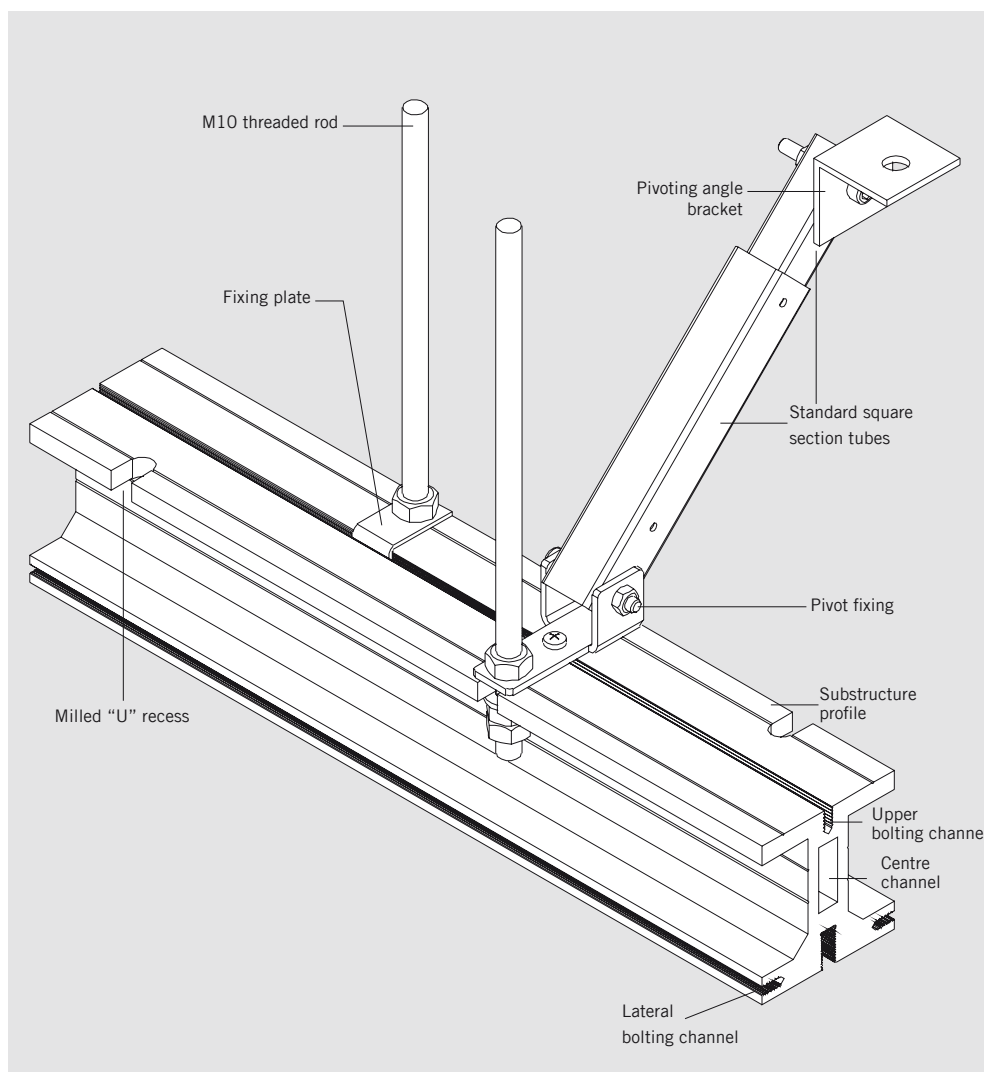
# SUBSTRUCTURE – THE SYSTEM

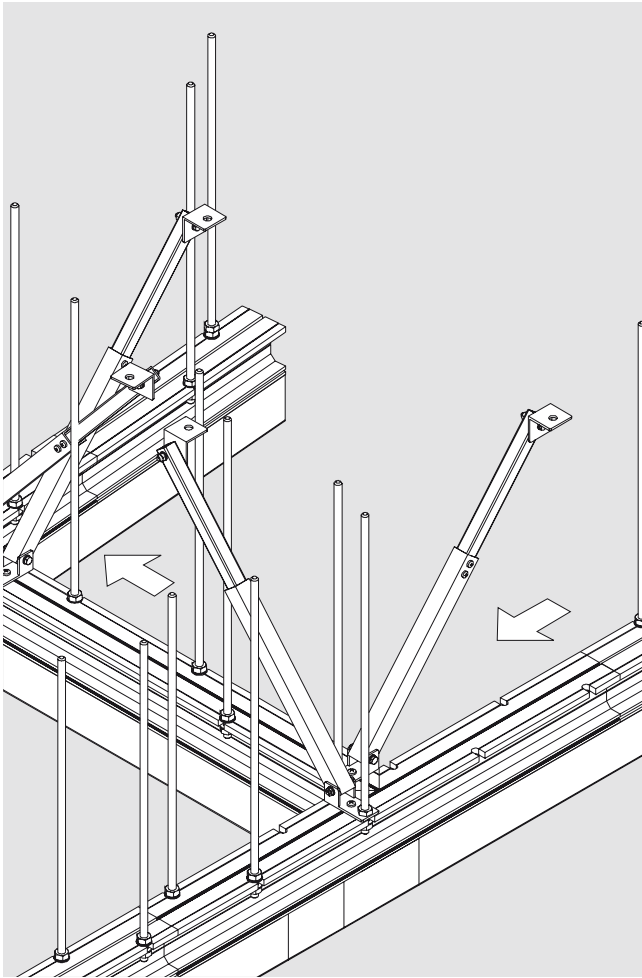
## Solutions

Installing a horizontal sliding wall system invariably requires a certain set of structural conditions to be established. The system will need to be precisely aligned vertically – usually sub-sequent to installation – as well as being exactly configured and securely located. Because DORMA HSW systems do not use floor-level supports and floor tracks, the system requirements and all their technical properties must be taken into account when designing the substructure and its incorporation within the ceiling. This often very costly planning process is normally undertaken by the fabricator as the installation company, and alongside the calculations there are many individual structural and installation procedures involved. The new DORMA substructure system is of modular construction and is designed to significantly reduce on-site installation cost and time. This concept also offers the particular flexibility required to overcome structural constraints, such as the presence of air conditioning shafts or pre-existing electrical systems in the ceiling.

## System design

The DORMA substructure consists primarily of the following components: substructure profile with modules for branching to the stacking area, threaded rods for suspension of the profile(s), and standard square section tubes with appropriate fixings and ceiling brackets for bracing and stiffening the construction.





The forces (shown by arrows) that occur during opening and closing of the sliding wall system must be absorbed by appropriately located bracing elements.

### Safety and flexibility

The DORMA substructure has been developed on the basis of extensive practical experience of the requirements involved in this kind of system. Consequently, the profile incorporates features that greatly facilitate installation and ensure that pre-existing structural factors can be accommodated with maximum flexibility.

Various bolting channels run the whole length of the profile, allowing bolts to be inserted easily at any location within the system configuration. So there is no need for pre-drilling and thread cutting in order to mount the track rails onto the substructure.

Bolted connections can be made directly through the lower bolting channel. The problem of removing drillings and filings from the track rails is thus also a thing of the past.

Bolting channels on both sides of the profile can be used e.g. for fixing the brackets needed for attaching the ceiling retention elements. In addition, centering grooves on all main profile surfaces facilitate overhead drilling, e.g. for accessory attachment. Welding brackets designed for bolting onto the profile provide another option, allowing the DORMA system to be utilised for additional customer-specific applications.

The substructure profile is suspended from threaded rods. These are first placed in the U-recesses using fixing plates that lock into the upper bolting channel. Each pair of threaded rods is regarded as constituting one suspension point. Here again the system remains exceptionally flexible: the staggered U-recesses positioned at intervals of 100 mm enhance the ability of the system to accommodate structural constraints. Depending on the weight of the system and the permitted deflection, it is possible to span a distance of up to 2,100 mm between two suspension points.

The centre channel can be fitted with two flat aluminium bars to provide additional rigidity in the area of butt joints between profiles. In this case it is possible to dispense with the dual suspension arrangement – with one suspension point either side of the joint – which is otherwise necessary. So existing building installations of all types can be effectively bypassed.

Once the substructure has been installed, the HSW system is vertically aligned and fixed

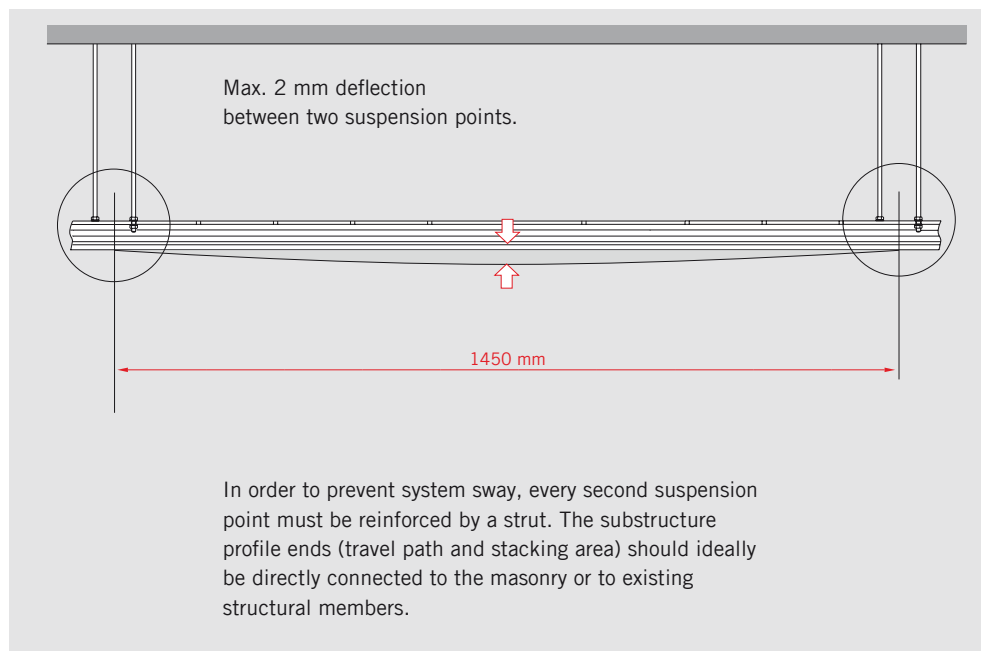
directly via the threaded rods. Subsequent adjustments, e.g. after the building has settled into its foundations, can also be carried out by the same means.

The standard square section tubes offer extra safety, especially where the sliding panels deviate from a straight line. Panel sway must be effectively countered by the structural design adopted at such locations. Diagonal struts that counteract the pressure load stabilise the system in the area of the stacked panels. The telescopic square section tubes are connected as additional bracing elements (struts) to the sub-structure by a pivot fixing. The struts are bolted to the ceiling using the appropriate angle brackets.

The modular design of the DORMA substructure is precisely matched to the modules of the DORMA HSW track rail. The structural elements can be mixed and matched as desired with the result that a small number of component types is sufficient to create a complex, flexible system that conforms fully to all safety requirements. A drawing of the required substructure can be requested from DORMA to supplement the HSW system drawing always supplied with the quotation.

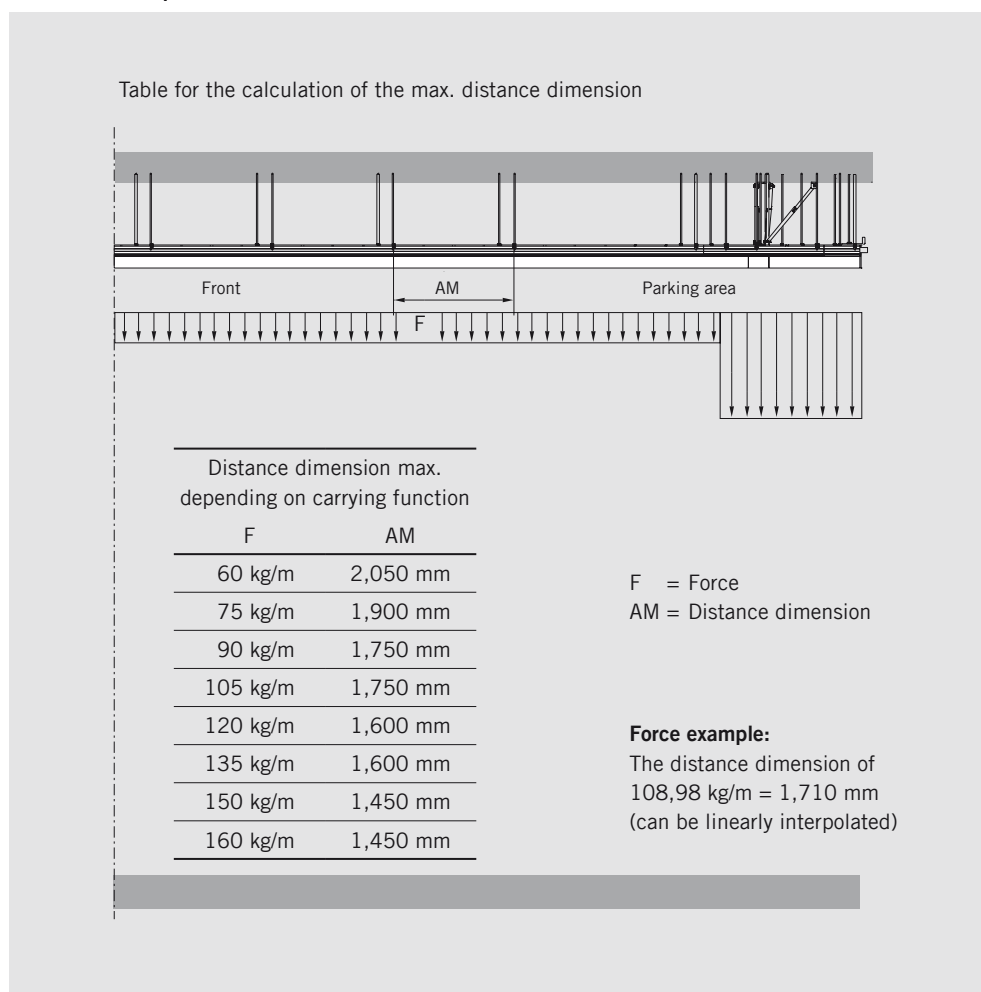
# PLANNING DETAILS

## Calculating the suspension intervals



With a maximum load (panel weight) of 150 kg/m and a permitted deflection of the substructure with track rail of 2 mm, the interval between two suspension points must be no greater than 1450 mm. The table below shows other values for different loads.

## Illustrative example of load values



## HSW-G characteristic values

Formula for calculating the:

Glazing height

= system height – 309 mm

= panel height – 193 mm

Glazing weight

Glass 10 mm = 25.00 kg/m<sup>2</sup>

Glass 12 mm = 30.00 kg/m<sup>2</sup>

Door rail weight

Aluminium = 12.00 kg/m

Brass = 14.50 kg/m

Stainl. steel = 13.25 kg/m

## Example system

HSW-G system in stainless steel

System height 3,500 mm

Glazing thickness 12 mm

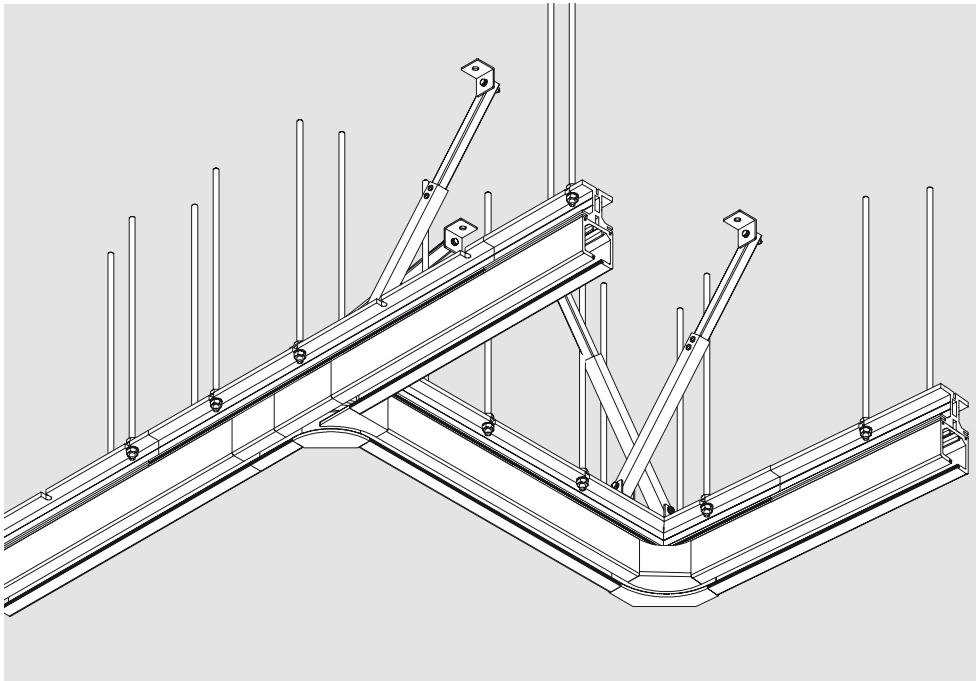
## Calculation

Load

$$\begin{aligned}
 &= \text{glazing weight} \times \text{glazing height} + \text{door track weight} \\
 &= 30 \text{ kg/m}^2 \times (3,500 \text{ mm} - 309 \text{ mm}) + 13.25 \text{ kg/m} \\
 &= 30 \text{ kg/m}^2 \times 3,191 \text{ mm} + 13.25 \text{ kg/m} \\
 &= \mathbf{108.98 \text{ kg/m}}
 \end{aligned}$$

# STACKING AREA DESIGN

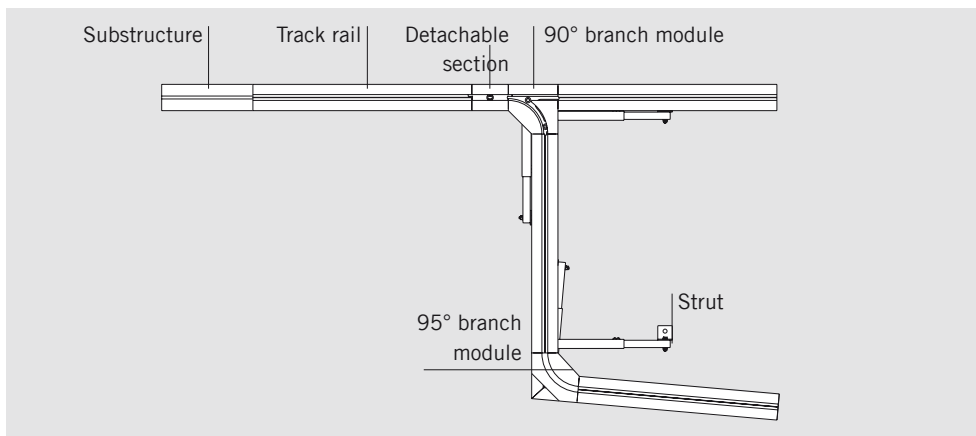
Ansicht von unten



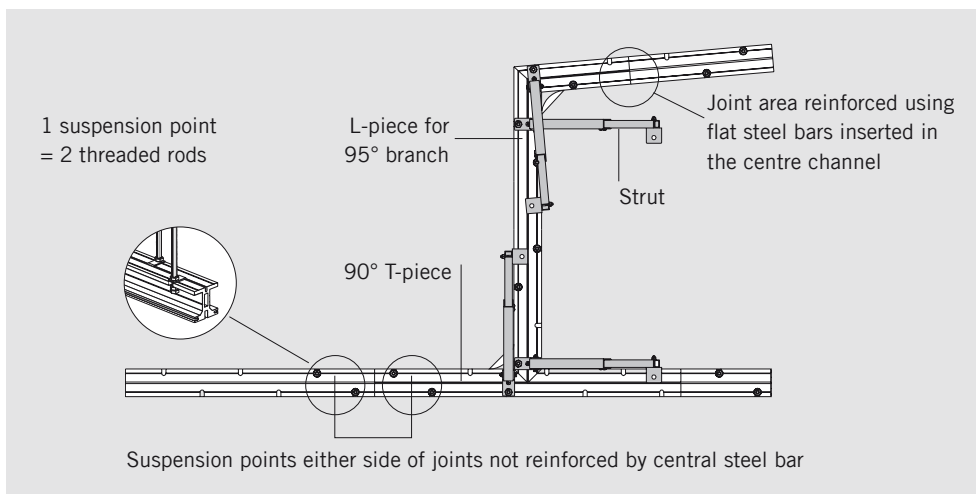
The construction of the stacking area, assembled from substructure and track rail modules, provides a good illustration of how this well-designed system can be utilised. The individual components are coordinated to ensure safe integration. Joints in the substructure are offset to those in the track rails so that individual joints coincide with continuous material in all cases.

Provided that the track rails are adequately bolted to the substructure, gaps of up to 40 cm measured from one suspension point to the next are permitted in the substructure.

View from below



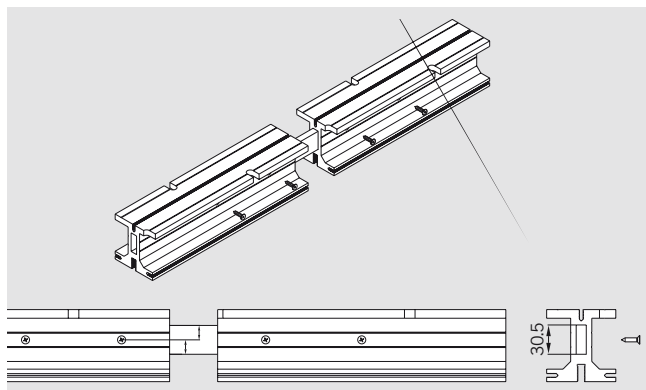
View from above



Joints reinforced by central steel bar only require one local suspension point.

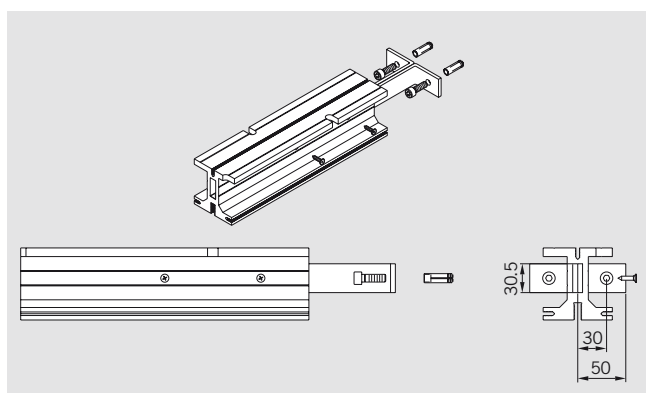
## VARIANTS OF CONNECTION / DETAILS

### UK-Profile



Profile connection  
with connection lug.

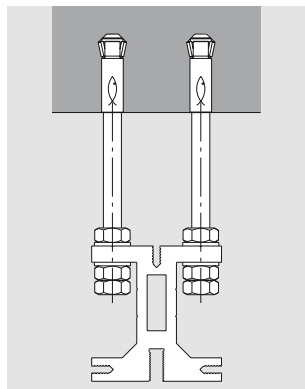
**Art. No. 815.442.001.40**



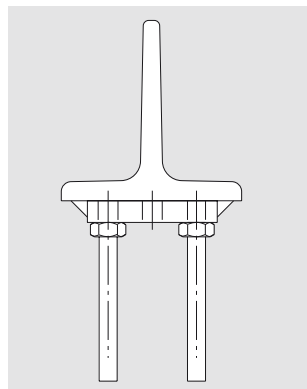
Wall connection with angled  
connection lugs.  
Bending of connection lug on  
site according to need.

**Art. No. 815.442.001.40**

### Direct connection to ceiling



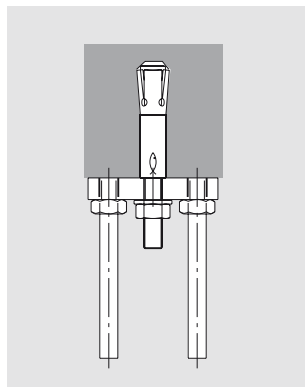
### Welding connection to steel girder



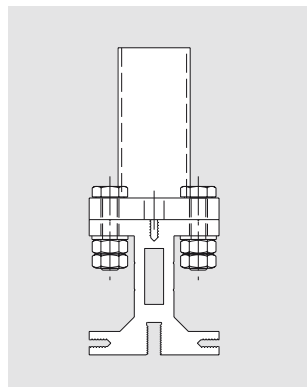
Connection opportunities  
to existing bearing structure  
like ceilings, balks, steel  
girder by dint of adapter plate.

**Art. No. 815.435.001.40**

### Flexible connection to ceiling

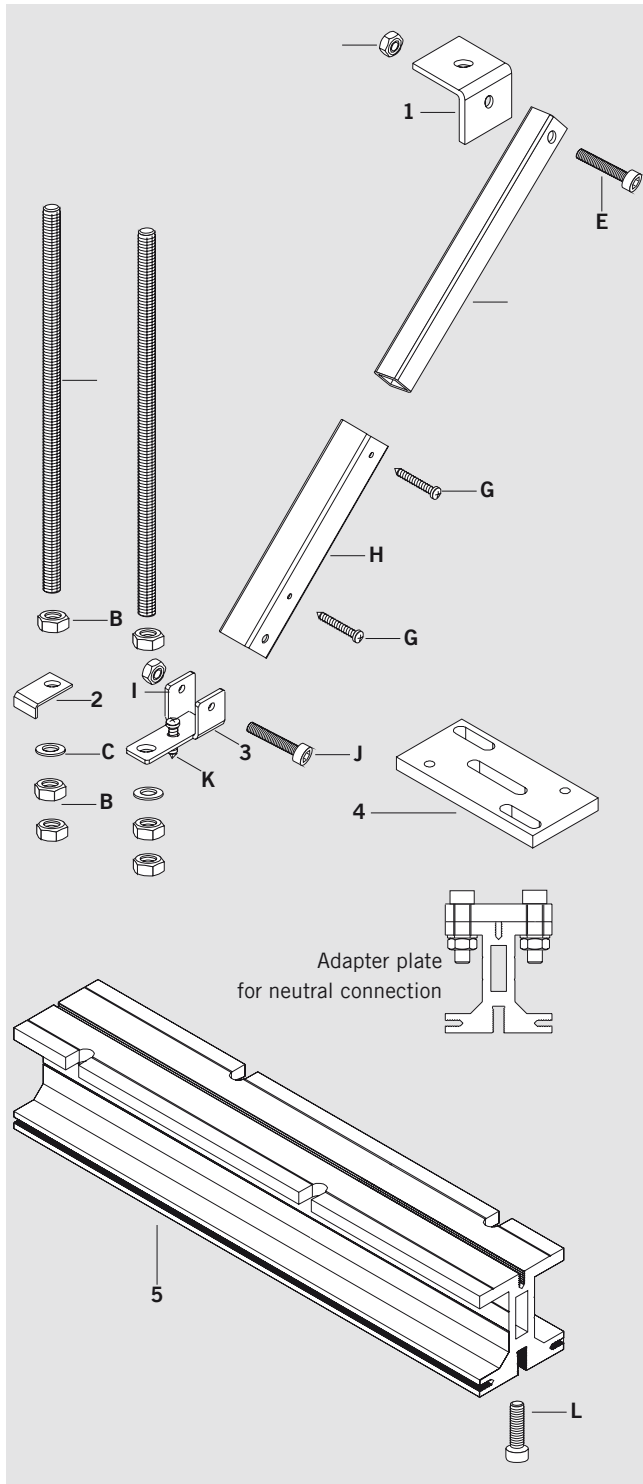


### Connection to steel construction





# COMPONENT PARTS, ACCESSORIES



## Component parts

- 1 Pivoting angle bracket
- 2 Fixing plate
- 3 Pivot fixing
- 4 Adapter plat
- 5 Basic substructure profile,  
stock length 6000 mm  
Fixed length

Art. No. 815.437.001.40

Art. No. 815.434.001.40

Art. No. 815.436.001.40

Art. No. 815.435.001.40

Art. No. 815.658.000.99

Art. No. 815.659.000.99

DIN and standard parts by  
others or on request  
CSN = Company standard no.

A Threaded rod M10 x 1,000  
CSN 800.01.470.3.30

B Hex nut DIN 439-2 M10  
CSN 800.03.001.3.30

C Washer ISO 7089-10  
CSN 800.04.009.3.30

D Hex nut DIN 934-M6  
CSN 800.03.005.3.30

E Hex socket screw  
DIN 933-M6x35  
CSN 800.01.337.3.30

F Telescopic strut top section,  
square section tube,  
galvanised steel 20x20x2  
CSN 800.16.025.4.32

G Drilling screw DIN 7504  
ST4 8x16  
CSN 800.01.286.3.30

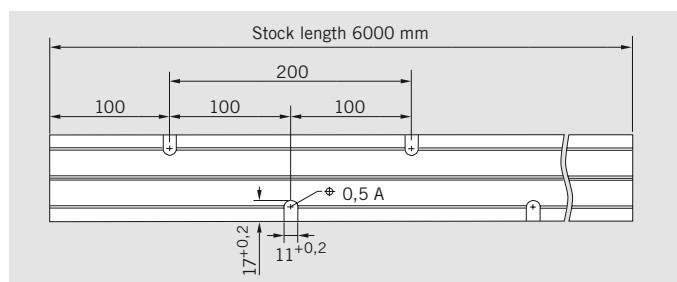
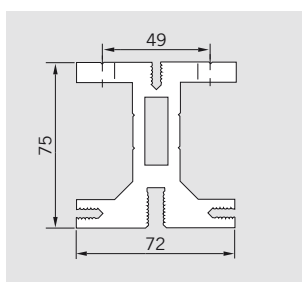
H Telescopic strut bottom  
section, square section tube,  
galvanised steel 25x25x2  
CSN 800.16.026.4.32

I Hex nut DIN 934-M6  
CSN 800.03.005.3.30

J Hex socket screw  
DIN 933-M6x40  
CSN 800.01.319.3.30

K Self-tapping screw  
ISO 7049-St4.8 x 13-C-H  
CSN 800.01.493.3.30

L Cylinder head screw for fixing  
track rail to substructure  
profile  
DIN 912-M8x25  
CSN 800.01.018.3.30



## PANEL SYSTEMS

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### **General information**

24 – 29

### **HSW EASY Safe**

30 – 40

### **HSW-GP**

42 – 45

### **HSW-R**

46 – 52



## HSW EASY SAFE – SECURITY IN USE AND ELEGANCE IN DESIGN

### Outstanding strengths of the HSW EASY Safe system:

- The optional safe use of laminated safety glass increases security and also widens the creative possibilities.
- A visible status display with a clear colour system indicates the status of the top locking device on the pivoting/sliding panel. This gives a better overview and even more security.
- Double brush seals in the top and bottom door rails, successfully minimize drafts.



## INTELLIGENT SOLUTIONS FOR MORE CONVENIENCE AND SECURITY

### HSW EASY Safe – More clarity and easier locking thanks to status display

#### Locking status at a glance

Security and convenience in one. The top door locking device clearly shows the locking status of the door panel on the status display.

This gives the user a greater feeling of reassurance and security.

#### Less draft for even greater comfort

Innovative double brush seals in the top and bottom door rails improve door closure and noticeably minimize the amount of draft. The vertical brush

seals, which are also optionally available, can be fitted up to the full height of the panel and give additional draft proofing – for noticeably greater comfort.



## SIMPLE LOCKING WITH HAND OR FOOT

### Multilock – Three locking possibilities in one component

#### The new Multilock system opens up a new world of simplicity

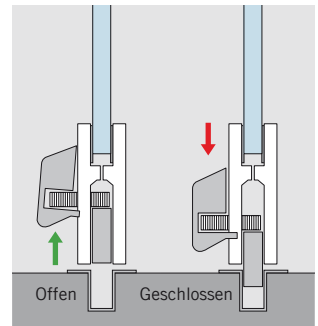
The Multilock combines three locking possibilities in one compact element and can be installed effortlessly in the bottom door rail.



#### Simplicity with clear benefits:

- The 3-in-1 Multilock offers three options for secure locking: front locking device, side locking device or cylinder lock.
- Installation of the Multilock is quick and easy because of the simple plug-in connection.
- Maximum convenience with foot-operated locking options for the face-mounted floor bolt – simple and hassle-free.

#### Easy foot-operated opening and closing



## INNOVATIVE HOLD FOR MORE SECURITY

### Improved security with the use of laminated safety glass

#### Hassle-free installation thanks to the new Clamp & Glue technology

The fixing process with HSW EASY Safe is incredibly simple. The special adhesive is fed through an injection hole to the adhesive channel where it spreads out evenly. After a drying time of just 15 minutes the panel can then be installed.

#### Creative freedom combined with security

Thanks to the innovative Clamp & Glue bonding technology, the HSW EASY Safe system allows the use of highly secure laminated safety glass. With the insertion of inlays within the laminated safety glass, the horizontal sliding wall

can be used as a custom design element, thus setting new standards in interior design.

#### Attractive added value:

- Laminated safety glass makes the application of HSW EASY Safe not only attractive, but also more secure.
- The innovative Clamp & Glue technology enables easy bonding and also ensures that fittings and glass are held firmly in place.
- Special inserts in the laminated safety glass offer huge design freedom as well as additional functions such as protection from the sun, noise reduction and privacy screening.



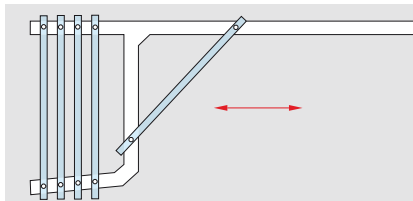
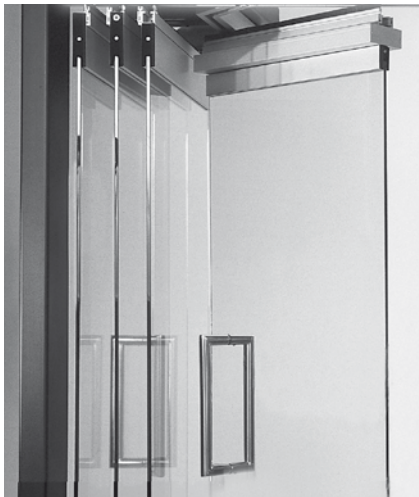
## HSW – TRANSPARENT VERSATILITY

Horizontal sliding walls are used in a wide range of different project types, and for both internal and external applications.

These partitions can be flexibly designed to suit the site of installation, structural conditions and design concept. They can

satisfy a broad spectrum of requirements in relation to styling, material and finish or colour, and can also be equipped with individually fabricated panels to perform special functions. Additional utilisation of the DORMA substructure ensures

flexible planning in the case of all system variants as well as providing for the simple installation, maximum reliability and outstanding safety of the entire system.

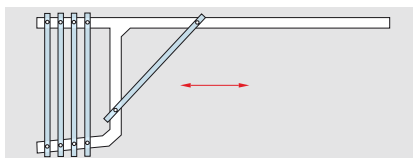


### **HSW – Horizontal Sliding Walls**

Panels slide individually – stacking track required

### **HSW-GP**

Single-point fixings with standard track rail



### **HSW Horizontal Sliding Walls, fully framed**

Panels slide individually – stacking track required

### **HSW-R**

Fully framed for toughened safety glass, laminated safety glass or double glazing

# PRODUCT OVERVIEW

## HSW EASY Safe

With the HSW Easy system, the panels create a continuous transparent face completely without side frame elements. Under certain circumstances, an additional wind deflector can, however, be provided at the glass edges as a preferred option.

## HSW-GP

A defining characteristic of the HSW-GP is the single-point fixings that hold the glass in combination with the conventional track rail profile. The design with its high-quality stainless steel elements and glass-flush single-point fixings provides a perfect complement to contemporary architecture.

## HSW-R

The HSW-R sliding glass panel frontage is suitable wherever likely to be exposed to high wind loads – for example, for shop windows and store entrances located in the façade / on the outside of the building. Aluminium alloy frames clamp the glass on all sides, with lateral rubber lip seals and

double brush seals top and bottom providing added weather protection.

Use and features		HSW EASY Safe	HSW-GP	HSW-R
Shop fronts			◦	•
Shop fronts with climate barrier function				◦
Internal room divider		•	•	◦
Glass thicknesses (mm)	Toughened safety glass (TSG)		10/12	8–24
	Laminated safety glass (comprising TSG sheets)	10–19	12/13,5	12–28
Assembly height (max. mm)		4000	3000	3000
Panel width (max. mm)		1250	1200	1100
Panel weight (max. kg)		150	100	100
<b>Access panels (pivoting type)</b>				
– Pivoting end panel, single action		•	•	•
– Pivoting end panel, double action		•	•	•
– Offset hung end panel				◦
– Single action sliding panel		•		•
– Double action sliding panel		•		•
– Invisibly integrated door closer ITS 96		•		•

• Standard ◦ Optional \*Weight dependent on panel fittings

# PANEL DESIGN

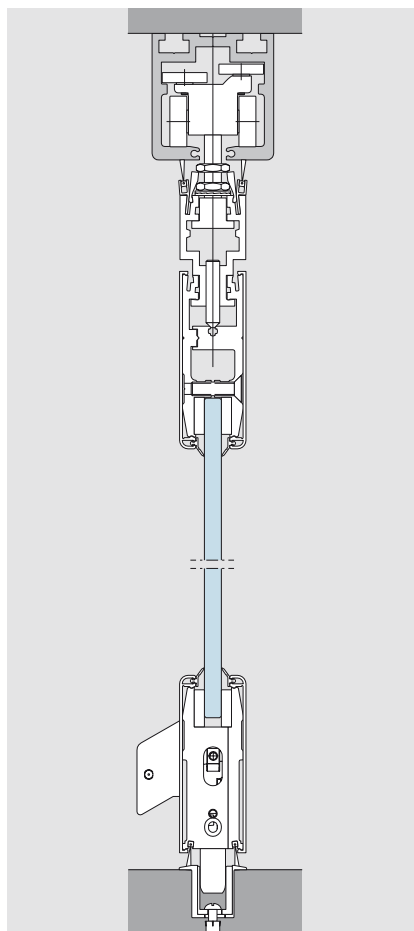
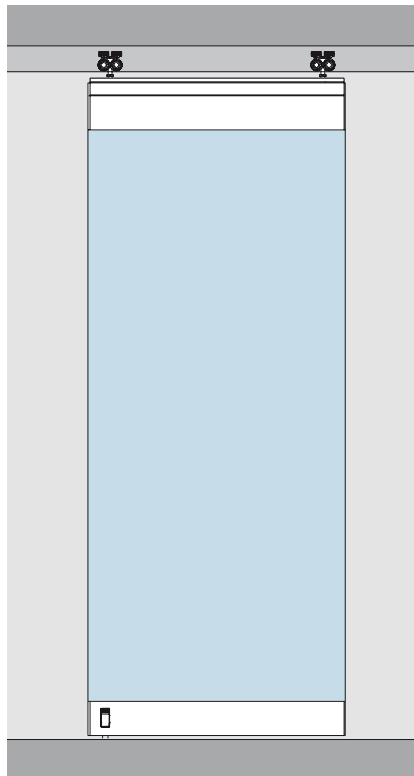
With the features that unify the different panel types, **HSW EASY Safe** satisfies all the requirements placed on transparent façades in the typical applications that arise.

- All panel types are provided with a bottom and a top door rail fixed to the glass pane.
- While sliding panels, pivoting end panels, single or double action, and fixed panels can do without an additional carrier profile at the top, it is indispensable for single and double action sliding panels. When an assembly incorporates single or double action sliding panels then the carrier profile is required for the other panel types as well to achieve a continuous assembly design and a matching connection between the panels.
- The glass panes can have the following glass thicknesses: 10 mm, 12 mm, 12.8 mm, 13.5 mm, 15 mm, 17 mm and 19 mm.
- For laminated safety glass the Clamp & Glue technology provides secure hold without the need for glass drilling.
- The top panel profile (either door rail or carrier profile) incorporates a double brush seal as standard. As an option the bottom door rails can have double brush seals as well.
- Excellent draft protection is reached when additional sealing profiles with matching double brushes are used at the vertical glass edges as well.

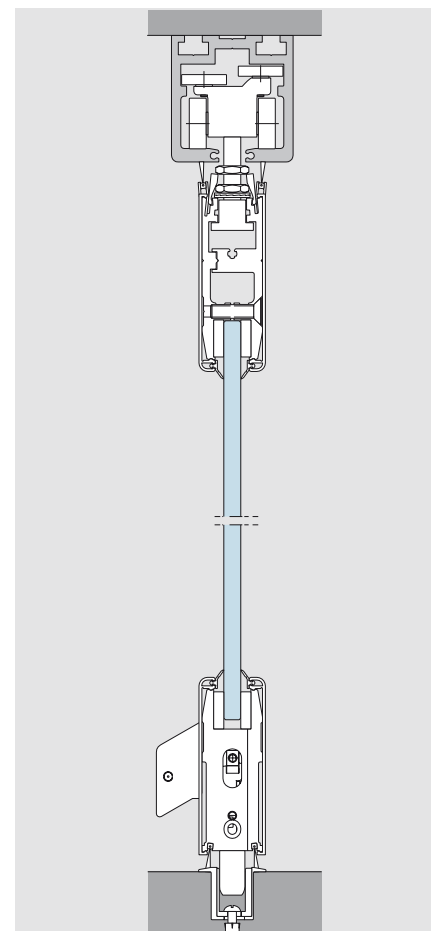
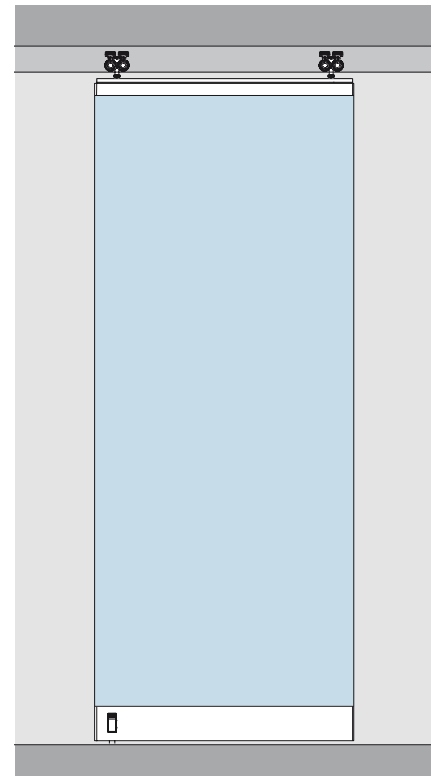
HSW EASY Safe is certified to have reached the following tests:

- Wind load (Frame bending): EN 12210 Class 1
- Endurance strength: DIN EN 1527 Class 2 and DIN EN 1191 Class 3
- Side impact: DIN EN 13049 Class 5 (highest class)
- Corrosion: DIN EN 1670 Class 4
- EPD (Environmental Product Declaration): ISO 14040

**Sliding panel**  
with carrier profile



**Sliding panel**  
without carrier profile





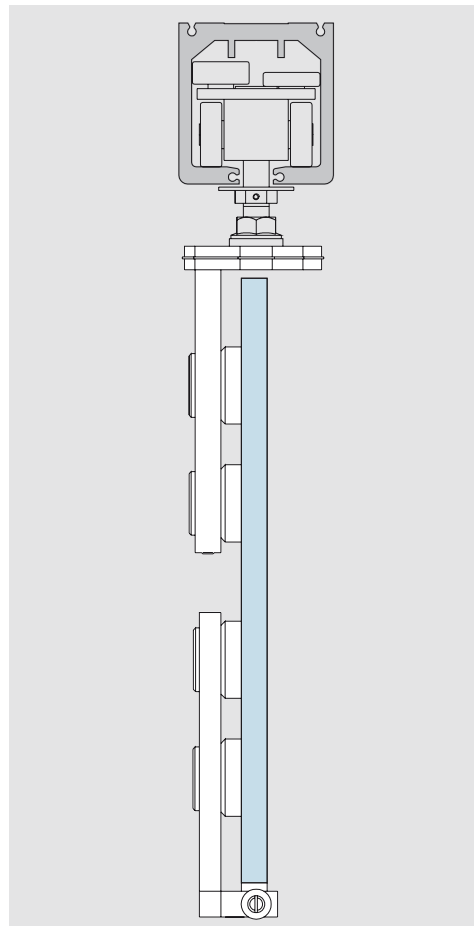
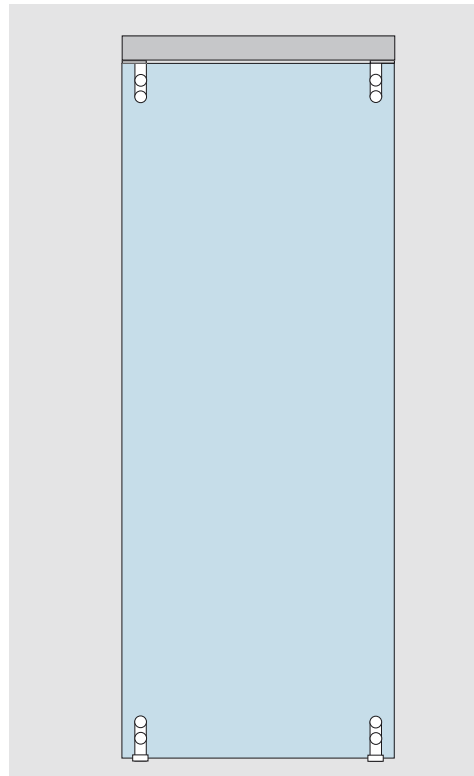
## PANEL DESIGN

In the all-glass version HSW-GP, the panels without frame form a continuous, transparent face, with the use of single-point fixings creating a fine, elegant appearance.

The all-round frames of the individual panels of an HSW-R system offer not only high stability but also effective protection against external influences, with the option of either laminated safety glass (LSG) or toughened safety glass (TSG) for the glazing.

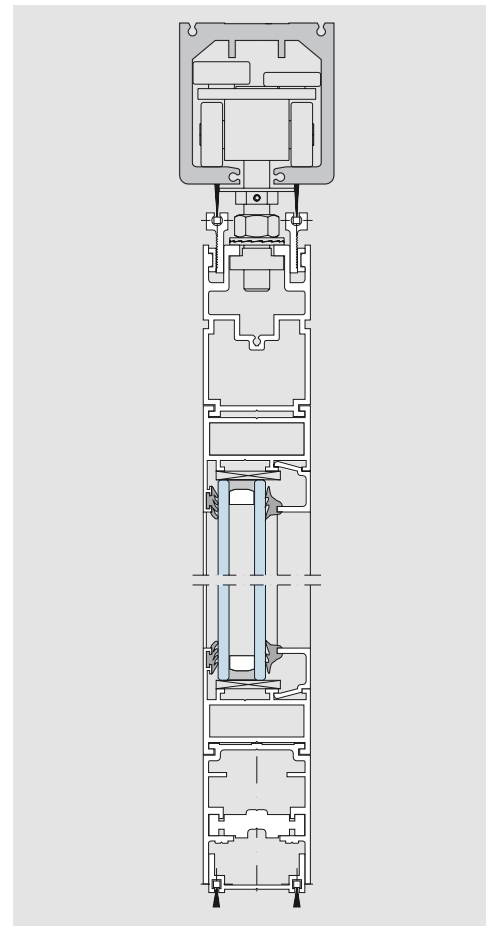
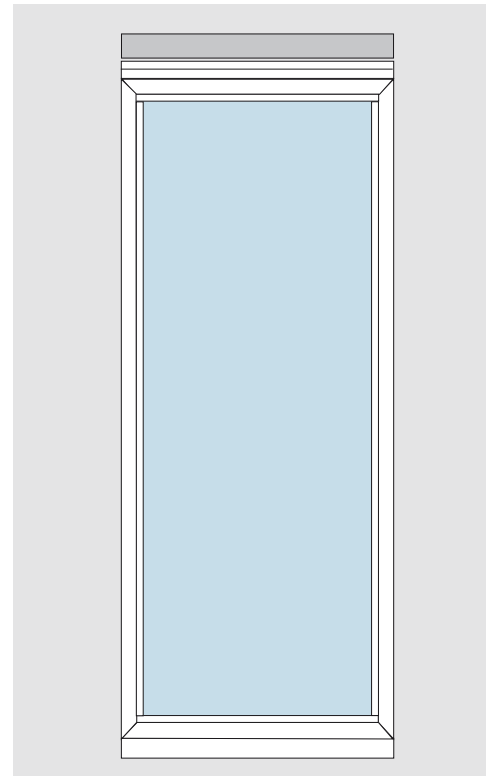
### HSW-GP

Frameless all-glass system with single-point fixings

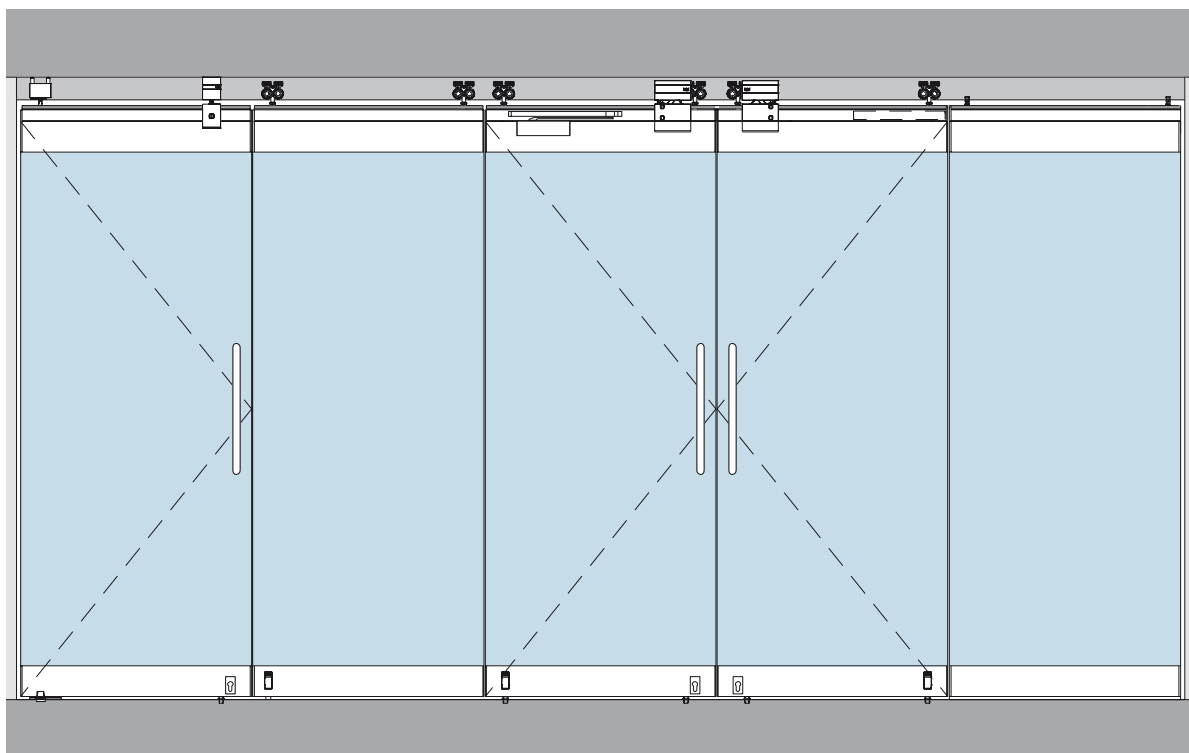


### HSW-R

All-round frame



## PANEL FUNCTIONS



	<b>Pivoting end panel, single or double action</b>	<b>Sliding panel</b>	<b>Single action sliding panel *</b>	<b>Double action sliding panel *</b>	<b>Fixed panel</b>
	Non-sliding. Single action panel with floor pivot and TS 92 / TS 73 door closer. Double action panel with floor pivot or BTS floor spring.	Basic movable panel without additional function.	Single action sliding panel with TS 92 cam-action door closer, operational when frontage closed. Alternatively with ITS 96.	With ITS 96 door closer, operational when frontage closed.	Stationary. Panel design matching the design of the sliding panels in the assembly.
Max. panel height	4,000 mm	4,000 mm	3,600 mm	3,600 mm	4,000 mm
Max. panel width	1,250 mm	1,250 mm	1,250 mm	1,250 mm	1,250 mm
Max. panel weight	150 kg	150 kg	120 kg**	120 kg**	150 kg

The individual panels can also be of differing widths. The largest width should not exceed max. 115% of the smallest width.

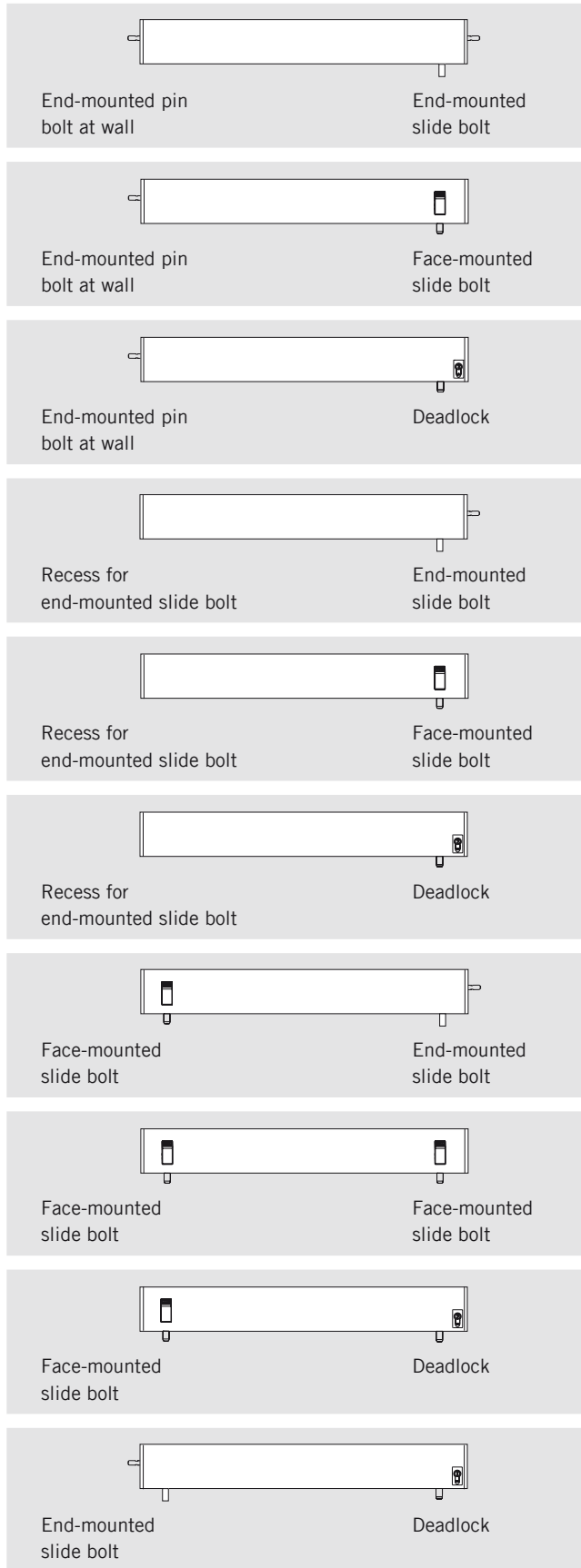
\* For these panel types please consider our notes on portal systems on page 69.

\*\* Note: The maximum permissible weight relates to the complete door assembly, including handles.

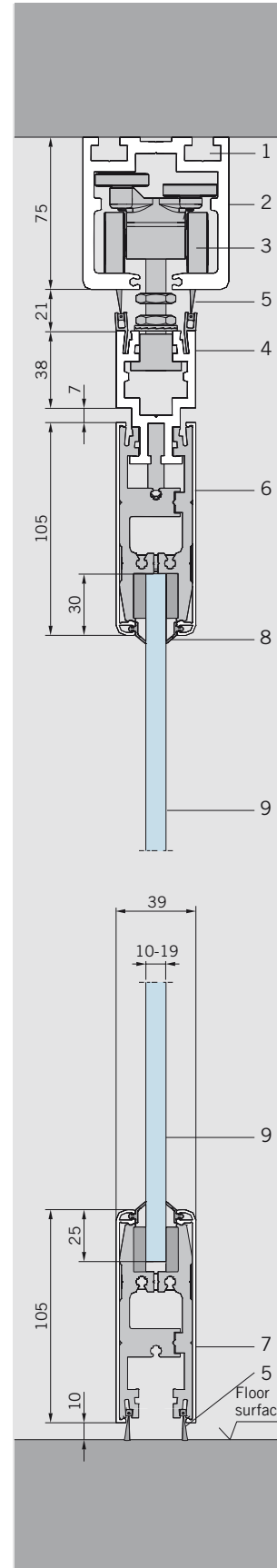
# DOOR RAILS AND GENERAL DETAILS

## Bottom locking devices

All depicted combinations are also available as mirror arrangements.



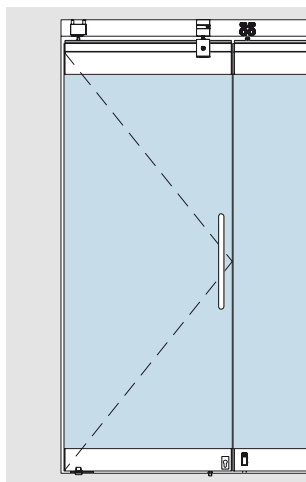
## General parts and measurements



Irrespective of the function of the individual panels, an HSW EASY Safe system comprises the following basic components:

- 1 Two parallel channels suitable for M 12 screws
- 2 Track rail
- 3 Roller carrier
- 4 Carrier profile
- 5 Double brush seals on top (bottom layout is optional)
- 6 Top door rail and
- 7 Bottom door rail, both comprising base profiles with clip-on cover profiles and end caps
- 8 Rubber seal, bridges the gap between cover profile and glass panel
- 9 Toughened safety glass or toughened laminated safety glass 10-19 mm (by others)

# PIVOTING END PANEL, SINGLE OR DOUBLE ACTION



## Pivoting end panel, single or double action, with floor pivot

Non-moving and always equipped with a bottom deadlock or a locking deadlock and the option for an additional upper locking unit.

## Pivoting end panel, single action with stop-type end caps top and bottom.

Pivot point variants:

- Floor pivot with round spindle, optional combined with DORMA TS 92 overhead door closer\*
- BTS 84 for panels up to 100 kg, with optional hold-open at 90° door opening angle
- BTS 80 for panels up to 150 kg with adjustable hold-open device

## Pivoting end panel, double action

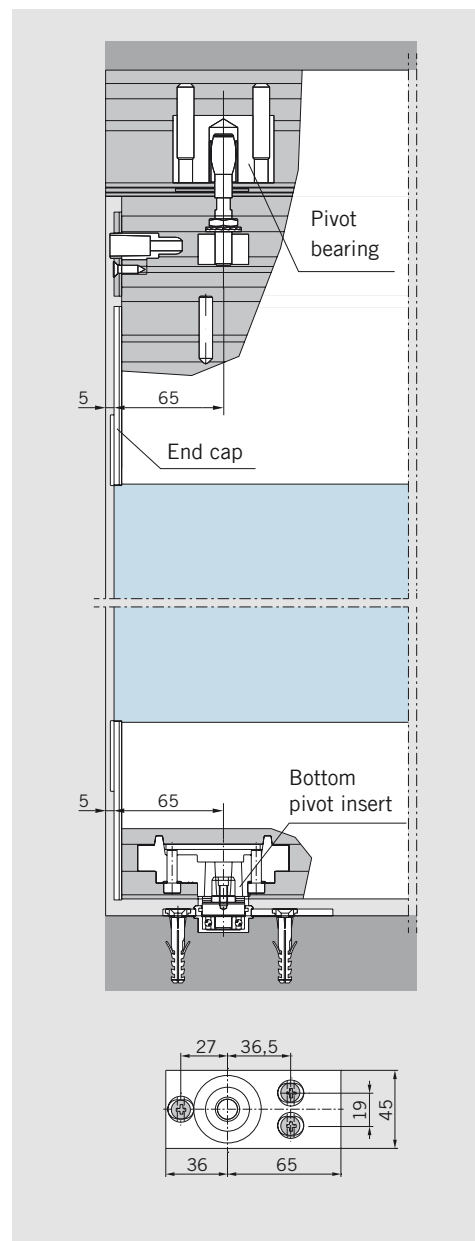
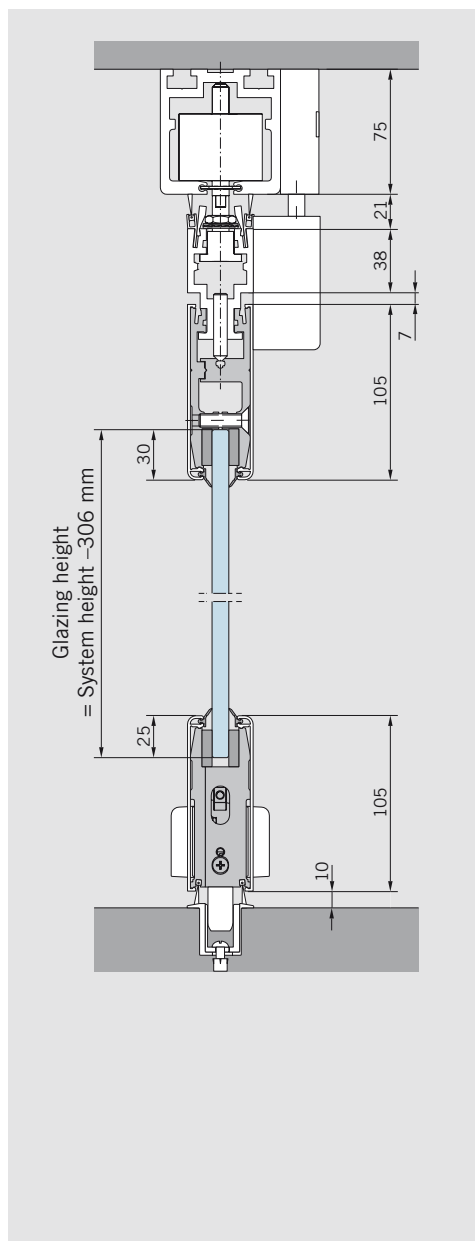
Pivot point variants:

- Floor pivot with round spindle
- BTS 84 for panels up to 100 kg, with optional hold-open at 90° door opening angle
- BTS 80 for panels up to 150 kg with adjustable hold-open device

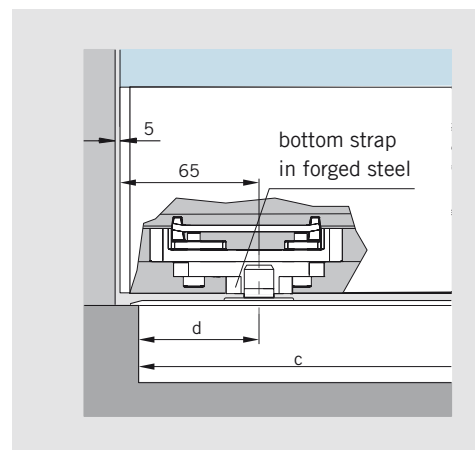
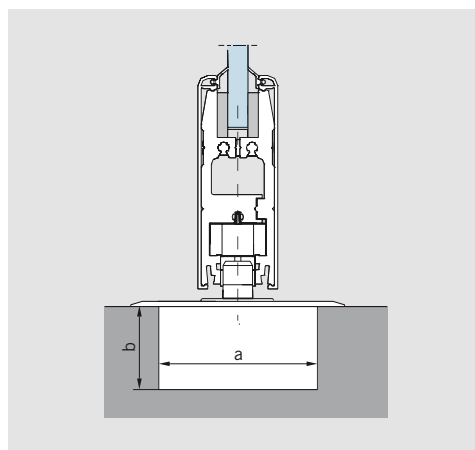
## Floor recess dimensions

	BTS 84	BTS 80
a	108	78
b	40	60
c	306	341
d	51-58	51-57

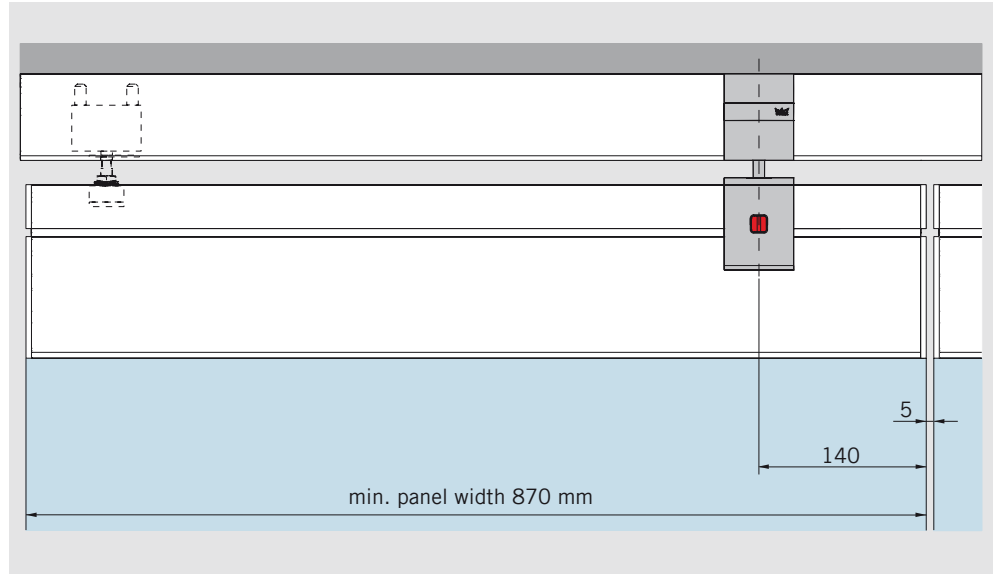
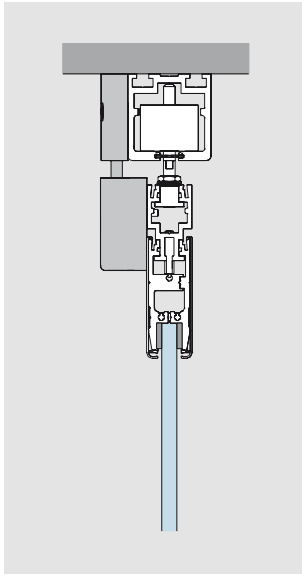
\* Data and features TS 92 see page 36.



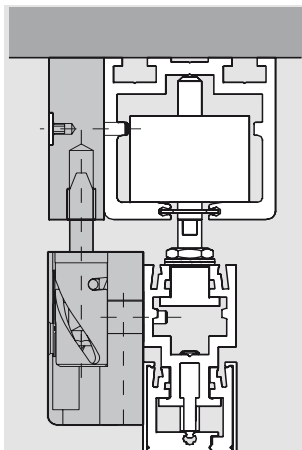
## Pivoting end panel, single or double action, with floor spring



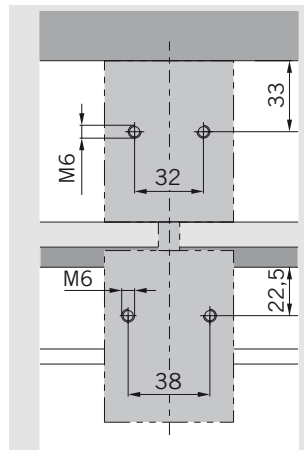
## Pivoting end panel, single or double action, with additional upper locking bolt



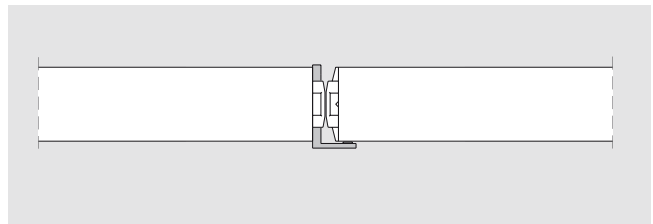
Additional upper locking bolt



New drill hole of pattern

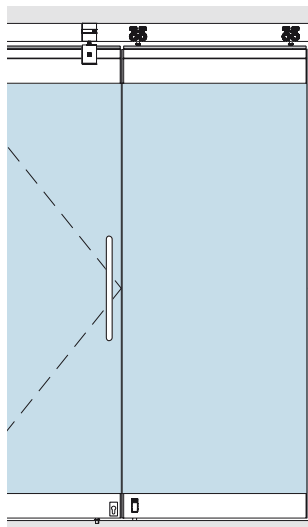


End cap with stop (optional)



Data and features		BTS 80			BTS 84		
Spring strength (EN)		3	4	6	2	3	4
Standard and external doors	≤ 850 mm				•		
	≤ 950 mm	•				•	
	≤ 1.100 mm		•				•
	≤ 1.400 mm			•			
Closing speed adjustable by valve	130°–0°				•	•	•
	130°–20°				•	•	•
	175°–0°	•	•	•			
Delayed action adjustable by valve (selectable alternative to the hold-open feature)		•	•	•			
Max leaf weight (kg)		300	300	300	100	100	100
Hold open	90°				•	•	•
	adjustable	•	•	•			
Dimension	Length	341	341	341	306	306	306
	Overall width	78	78	78	108	108	108
	Height	60	60	60	40	40	40
Door closer tested to EN 1154		•	•	•	•	•	•

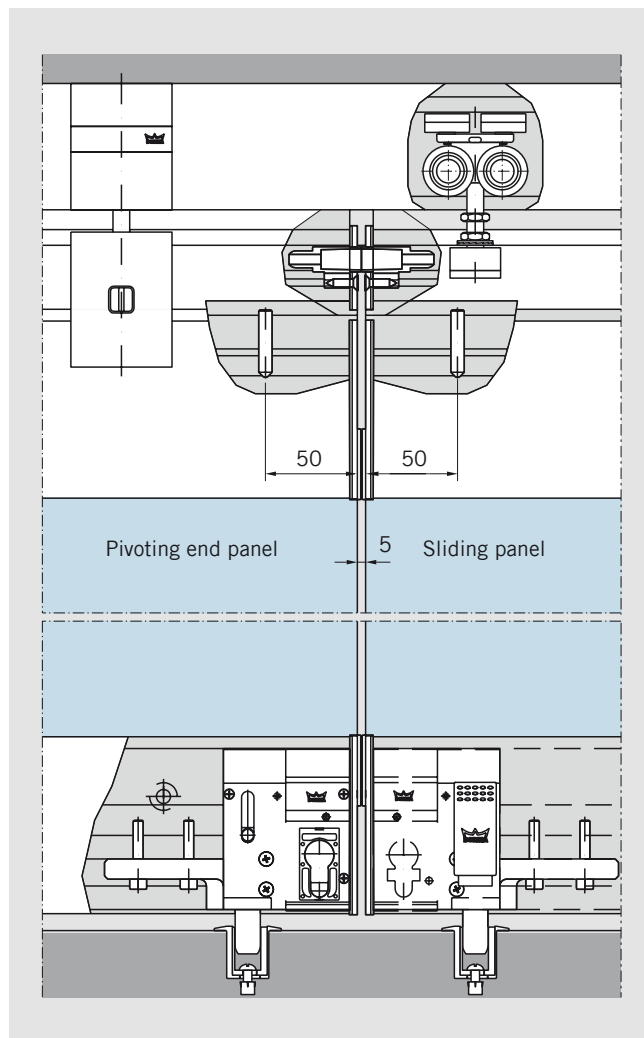
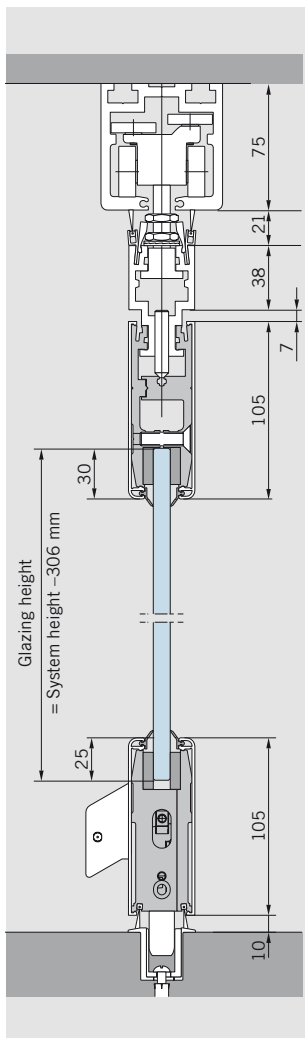
## SLIDING PANEL



Basic movable panel without additional function.

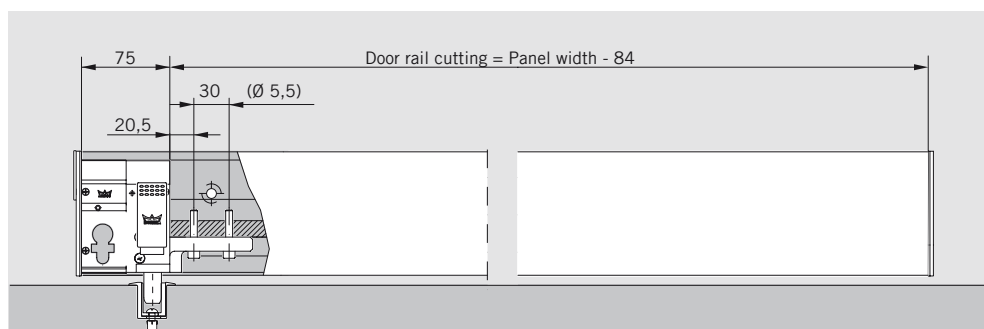
### Sliding panel

The sliding panels are the basic moving elements. Once in their closed position, they are locked. The locking components provided in the bottom door rail can be face-mounted slide bolts, end-mounted slide bolts, end pin bolts or deadlocks.

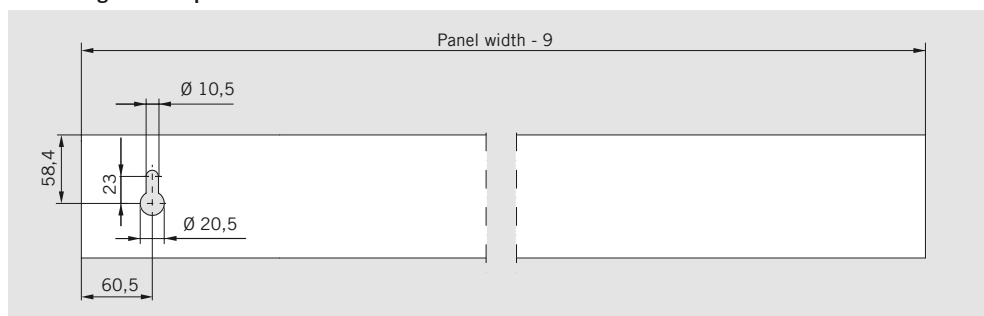


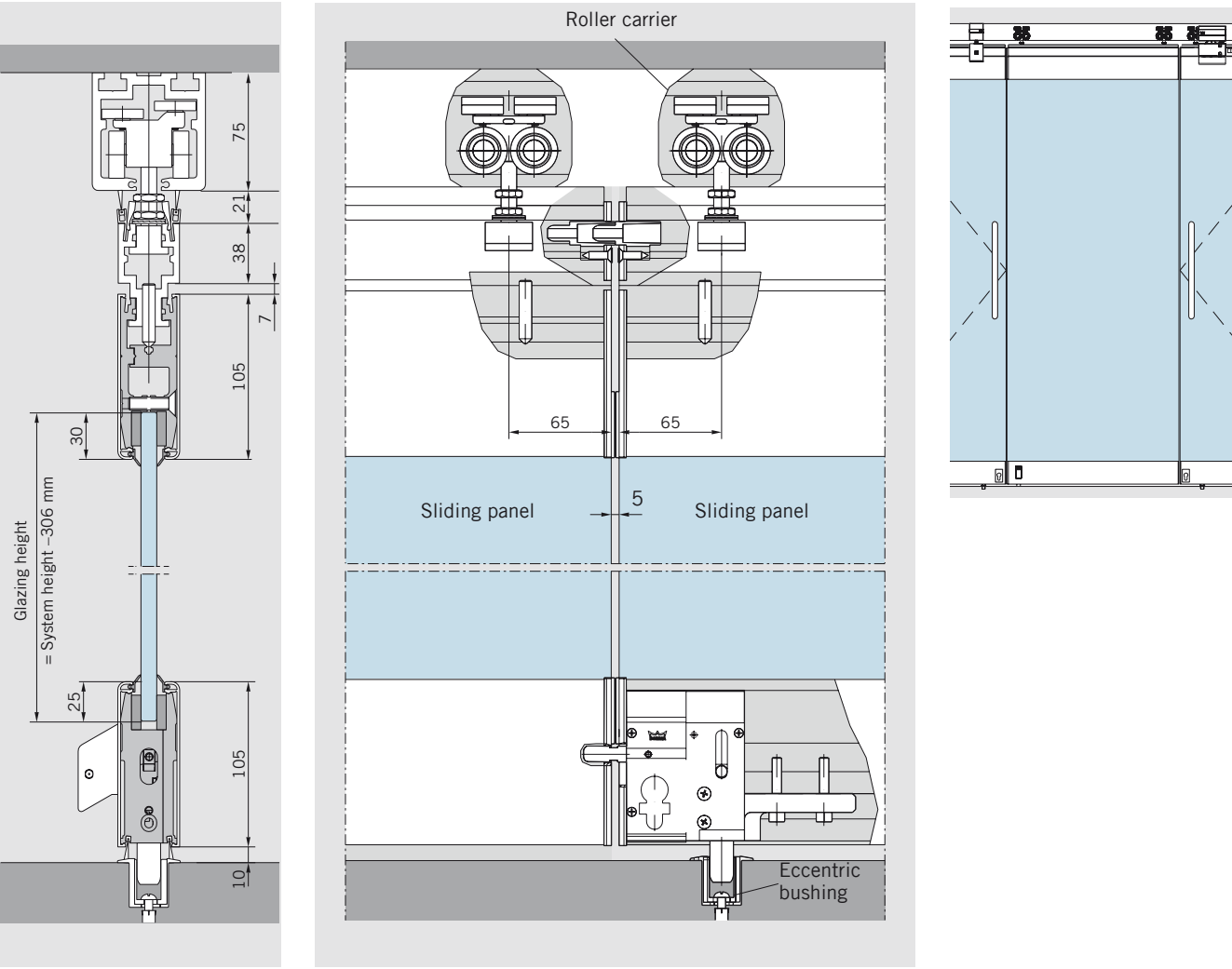
The structure of the bottom door rail applies also to single action / double action sliding panel.

### Bottom door rail with face-mounted slide bolt

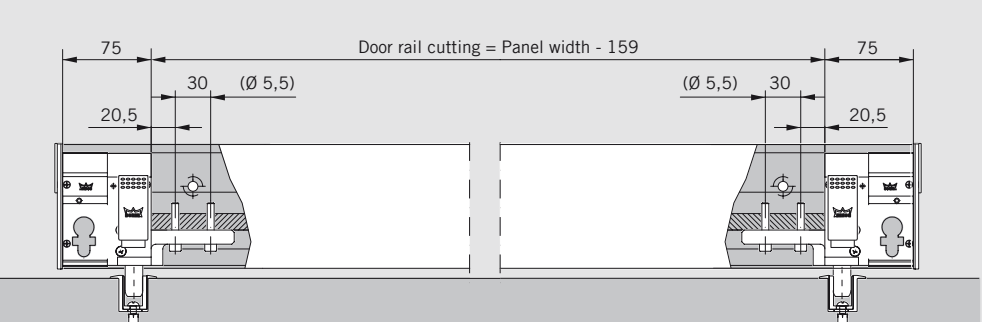


### Machining of cover profile

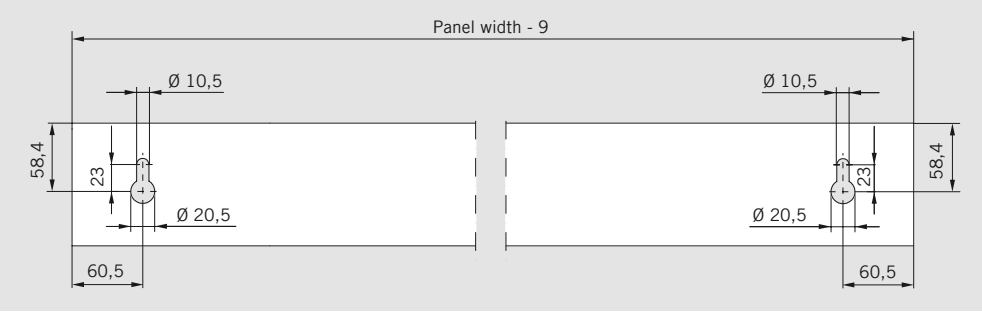




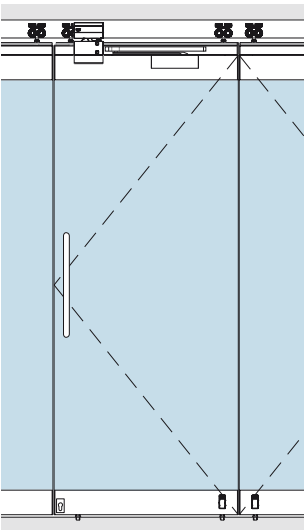
Bottom door rail with face-mounted slide bolt on both sides



Machining of cover profile



# SINGLE ACTION SLIDING PANEL WITH TS 92



**Single action sliding panel with DORMA TS 92 cam-action door closer**

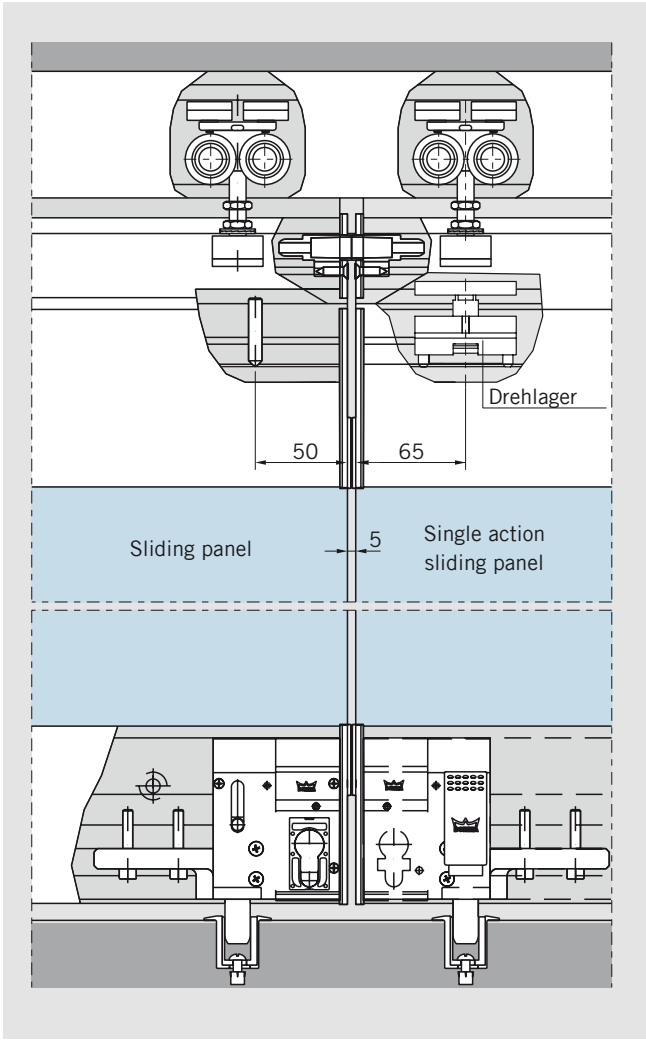
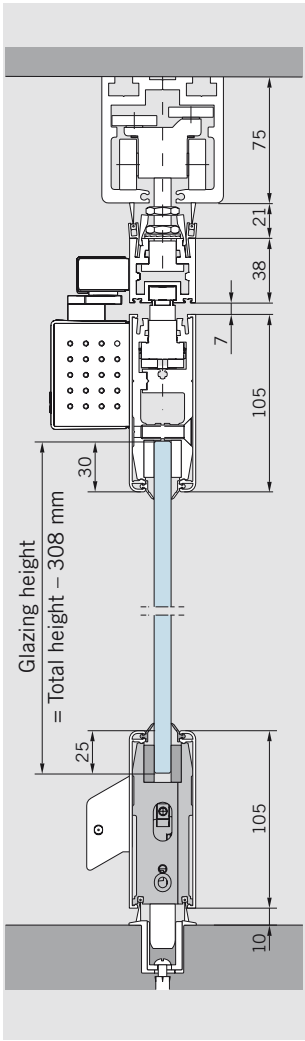
This panel type is installed where doors only need to be opened in one direction, either inward or outward. In both cases, the cam-action door closer is fixed to the internal side of the assembly. If you are considering this panel type, please note our advisories relating to portal systems on page 69.

**Standard assembly**

- top: Pivot bearing, TS 92 with slide channel, one locking device.
- bottom: Face-mounted slide bolt as pivot (released for sliding function), deadlock.

**Optional equipment**

- top: Additional locking device (upper locking unit) to secure the panel in the area of a reshuffle bypass or for more stability in closed position (Illustration see page 29).
- bottom: Second face mounted slide bolt instead of deadlock.



Status display			
Sliding function	locked	locked	open
Door function	open	locked	locked

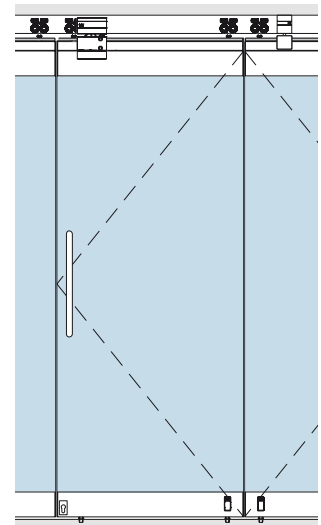
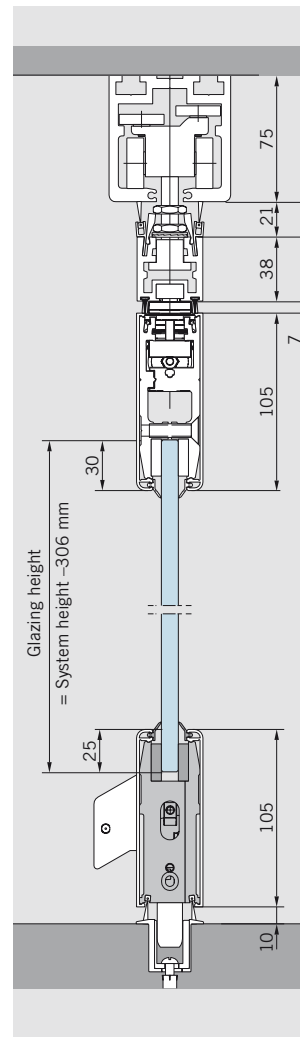
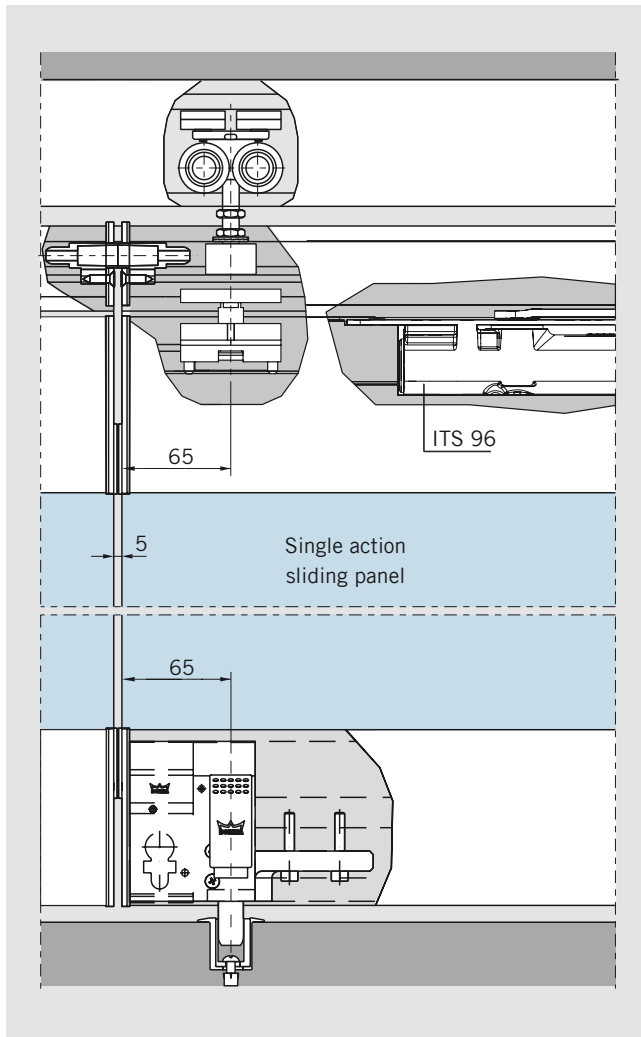
**Data and features: TS 92**

Closing strength / size	EN 2 – 4
Closing speed and latching action independently adjustable at two separate valves	180° - 15° 15° - 0°
Non-handed	•
Latching speed adjustment	by valve
Cushioned stay limit adjustment	80° - 120°

Hold-open adjustment	75°-150°
Weight	1.9 kg
Length	281 mm
Overall depth	47 mm
Height	65 mm



# SINGLE ACTION SLIDING PANEL WITH ITS 96



## Standard assembly

top: Pivot bearing, ITS 96 with slide channel, one locking device.

bottom: Face-mounted slide bolt as pivot (released for sliding function), deadlock.

## Optionale Ausstattung

top: Additional locking device (upper locking bolt) to secure the panel in the area of a reshuffle bypass or for more stability in closed position.

bottom: Second face mounted slide bolt instead of deadlock.

## Single action sliding panel with integrated door closer ITS 96 2 - 4

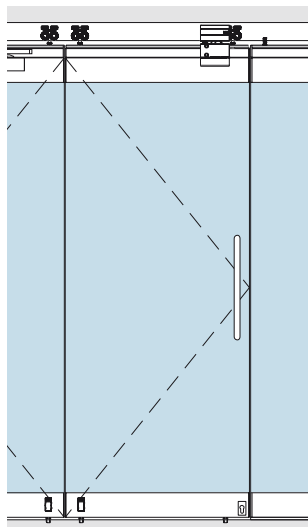
This panel variant is used where the door element is required to only open in one direction, either inward or outward. If you are considering this panel type, please note our advisories relating to portal systems on page 69.

## Data and features: ITS 96 Gr. 2 - 4

Closing strength / size	EN 2 - 4
Max. panel width	≤ 1,100 mm
Max. panel weight	≤ 100 kg
Closing strength continuously variable	Adjusting screw
Closing speed continuously variable	by valve
latching speed is adjustable from 15°-0°	by valve
Cushioned stay limit mechanically variable	yes

Max. opening angle	ca. 120°
Hold-open variable	yes
Weight	1.3 kg
Length	277 mm
Overall depth	32 mm
Height	42 mm
Door closer tested according to EN 1154	yes

# DOUBLE ACTION SLIDING PANEL WITH ITS 96



## Double action sliding panel with integrated DORMA door closer ITS 96, 2-4.

Being virtually invisible, its presence has no effect on the overall appearance of the partition.

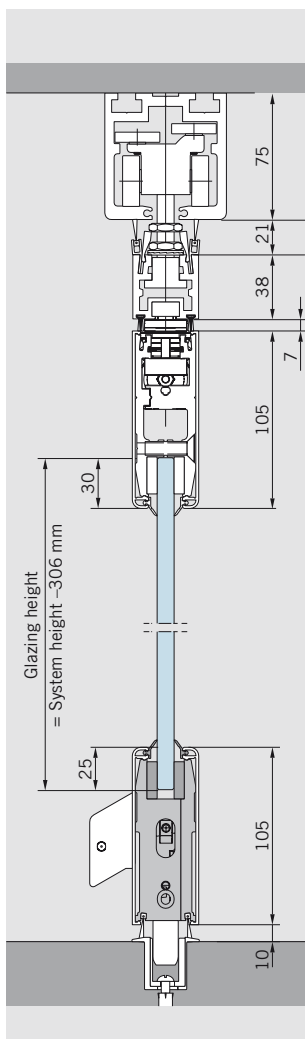
In its standard form, ITS 96 is provided with a 90° hold-open. If you are considering this panel type, please note our advisories relating to portal systems on page 69.

### Standard assembly

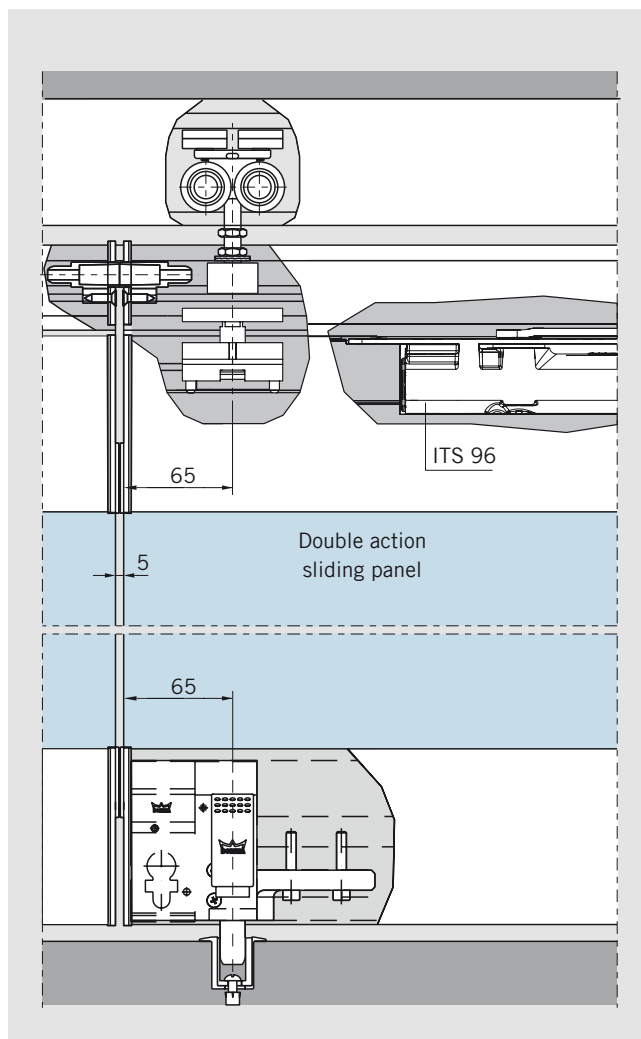
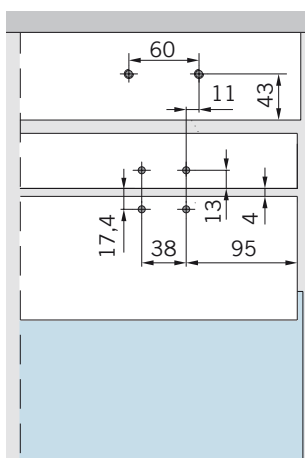
- top: Pivot bearing, ITS 96\* with slide channel, one locking device
- bottom: Face-mounted slide bolt as pivot (released for sliding function), deadlock

### Optional equipment

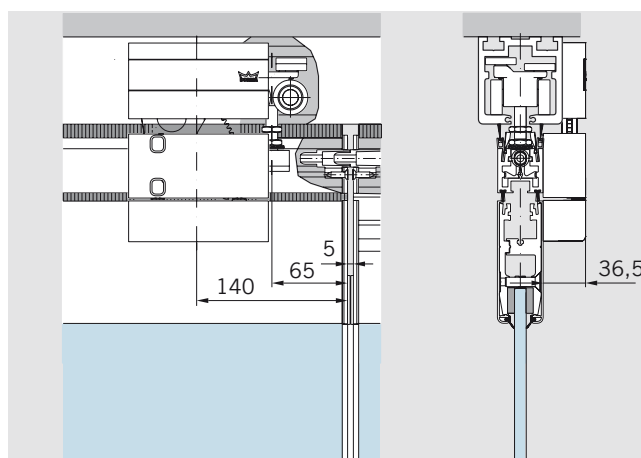
- top: Additional locking device (upper locking unit) to secure the panel in the area of a reshuffle bypass or for more stability in closed position.
- bottom: Second face mounted slide bolt instead of deadlock



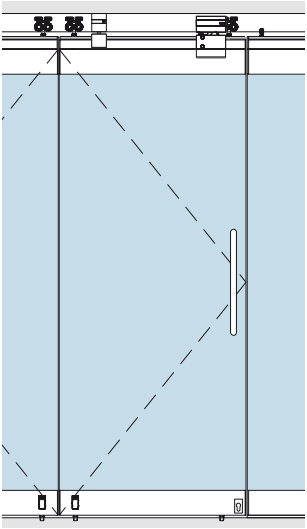
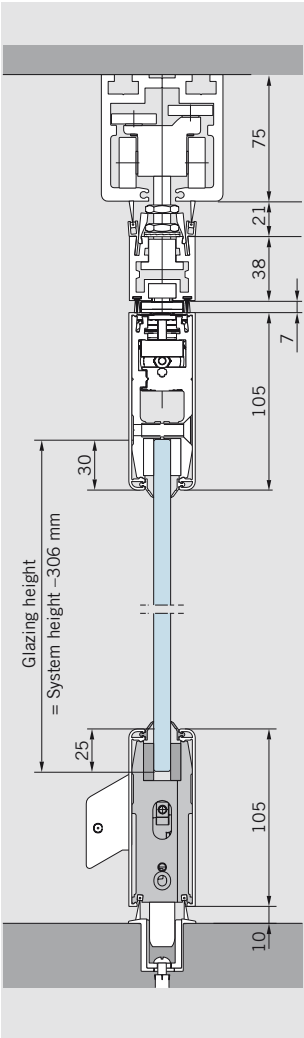
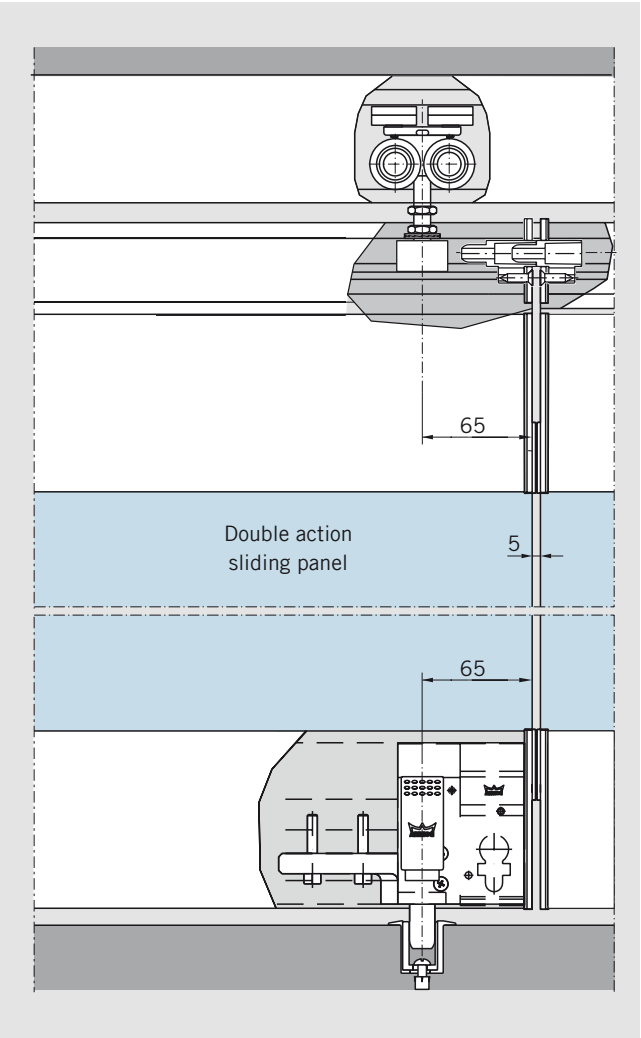
### Hole of pattern upper locking unit



### Upper locking unit

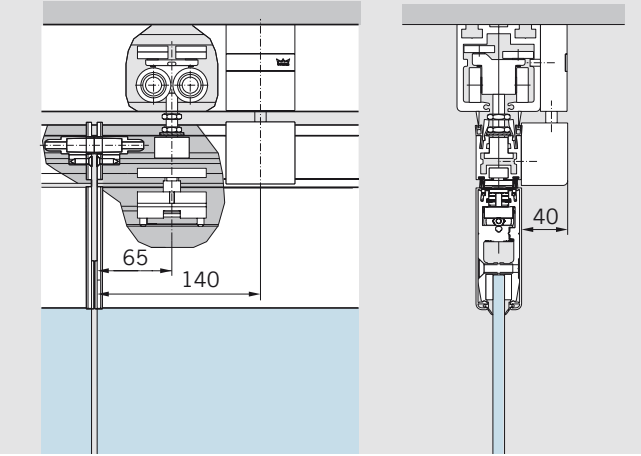


\* Data and features ITS 96 see page 37.

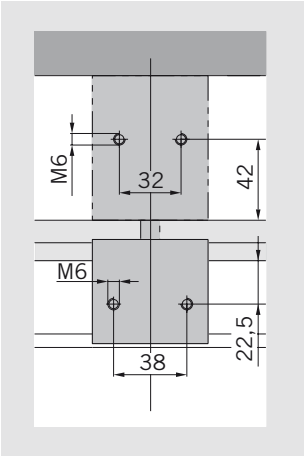


**Additional upper locking bolt**  
The additional upper locking bolt is used for single-action or double-action sliding panels as an optional addition to the upper locking unit at the other end of the door. In some cases it is recommended for additional stabilization of the carrier profile.

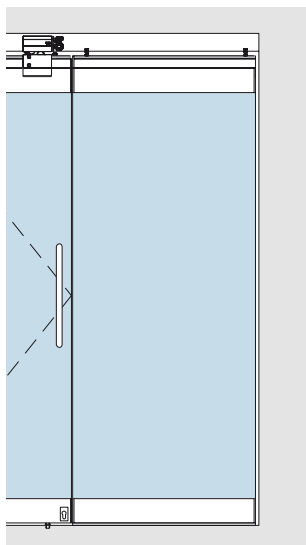
Additional locking bolt



Hole of pattern  
additional locking bolt



## FIXED PANEL



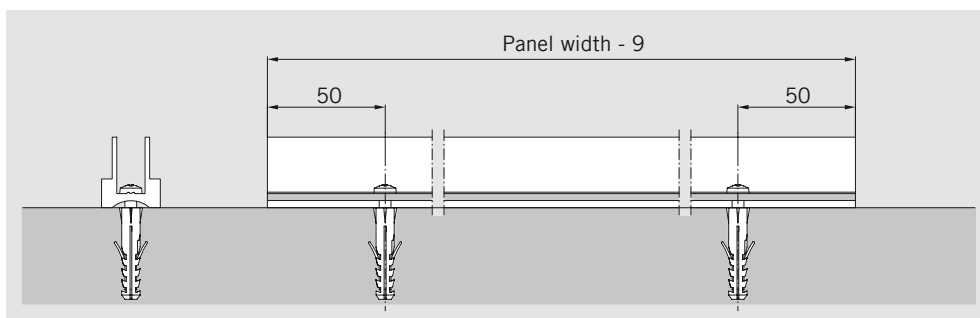
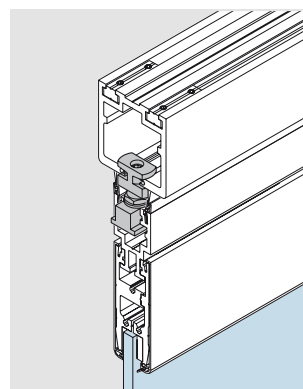
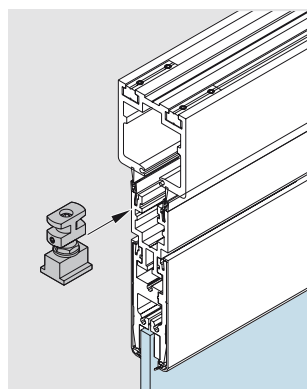
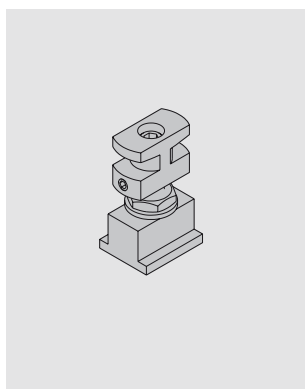
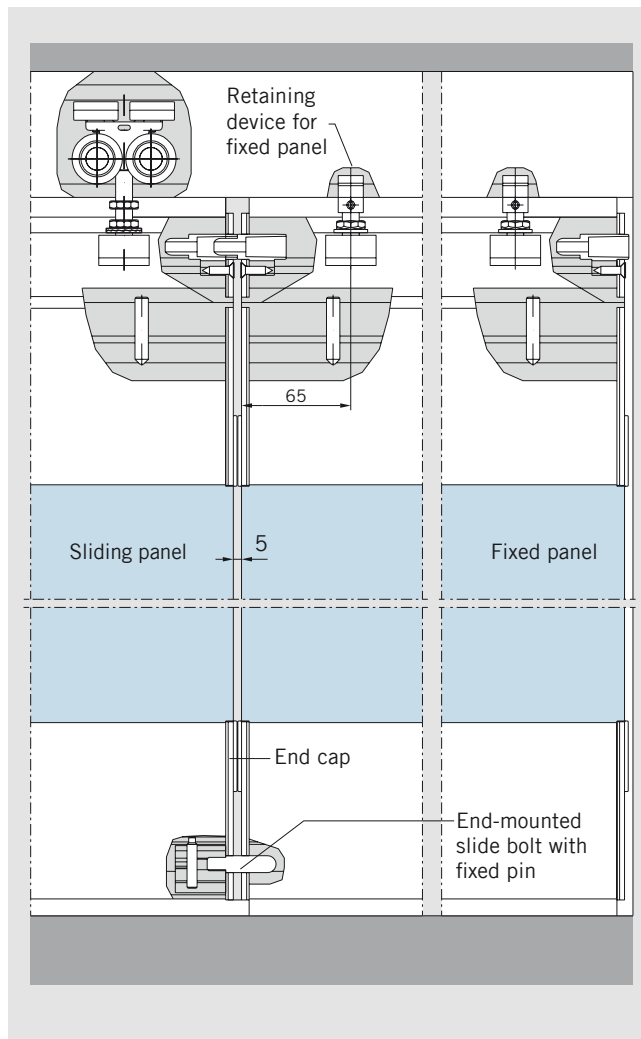
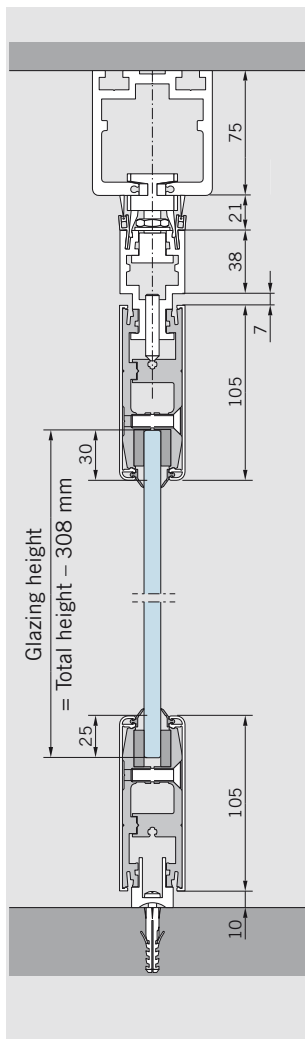
### Fixed side panel

Non-moving side panel, independent of the rest of the system.

The fixed side panels are of the same basic design as the sliding panels and continue the appearance of the movable part of the frontage without any optical break. If required, the retaining devices at the top can be replaced by a carrier system to convert such a panel into a sliding panel.

### Standard assembly

- top: Retaining devices fixed to the track rail.
- bottom: Spacer profile fixed to the floor; access for fixed end pin of the adjacent panel.



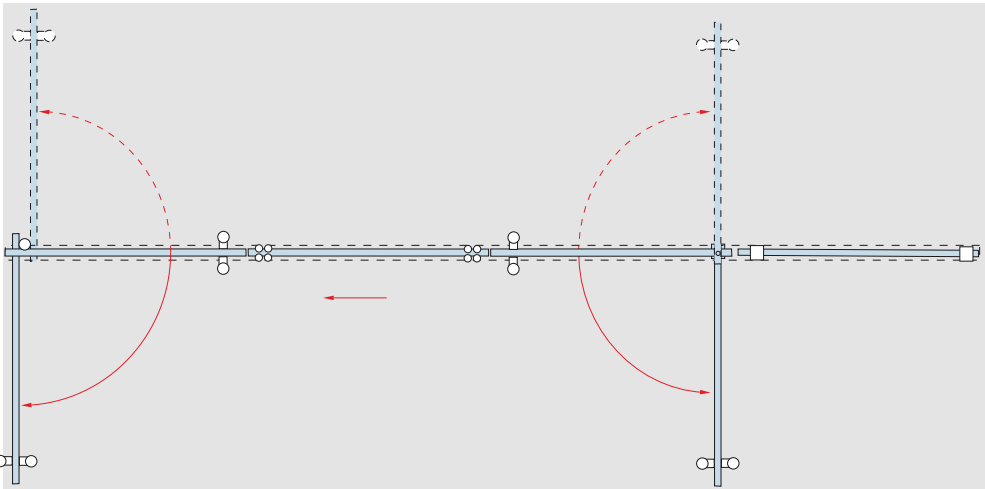
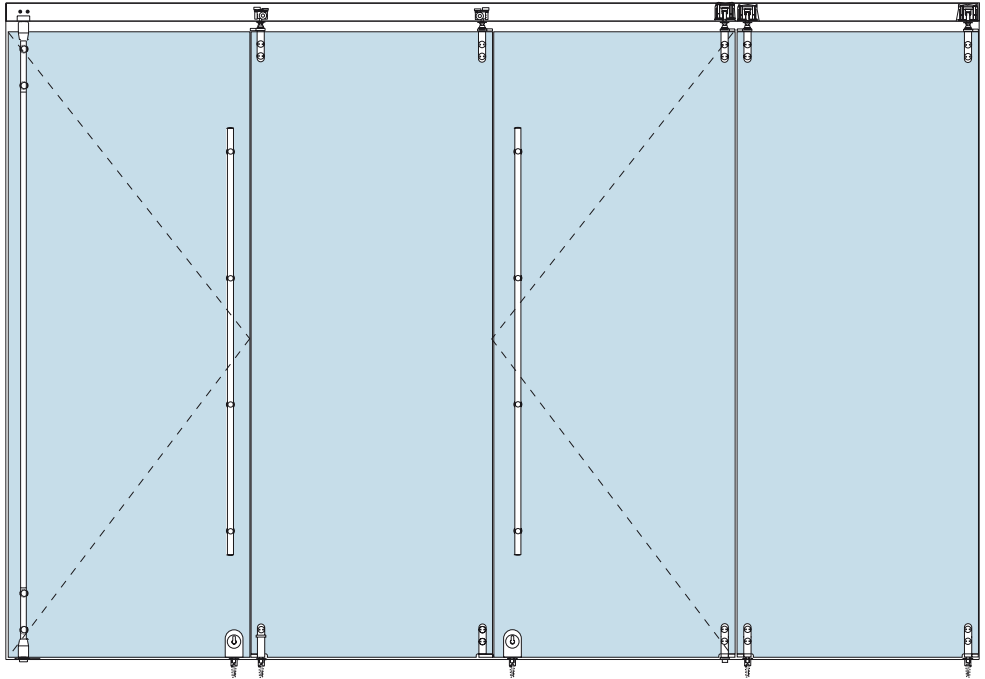


# HSW-GP PANELS AND FUNCTIONS

**Fully glazed sliding walls with point-fixed track roller carriers engaging in standard track rail.**

The characteristic features of HSW-GP systems are the single-point fixings of the glass panels in combination with a conventional track rail profile. The design, featuring a high-grade stainless steel finish and the distinctive flush-mounted or clamping disc attachments, coordinates perfectly with contemporary architecture. Even curved glazing can be securely held by this system. And this can also be combined with curved track rail profiles to produce unique configurations.

The standard glass thickness is 10/12 mm. Further glass thicknesses on request.



**Pivoting end panel, single or double action**

Non-sliding.  
With full-length pivot rod and offset pivot.  
Single action panel with floor pivot, round spindle and stop.  
Double action panel with floor pivot or BTS floor spring.

**Sliding panel**

Fixed when frontage closed.

**Pivoting end panel, single or double action**

Non-sliding.  
With centre pivot top and bottom.  
Single action panel with floor pivot, round spindle and stop.  
Double action panel with floor pivot.

**Fixed panel**

**Non-sliding.**  
**Fixed side panel with retaining pins at the top and fixed panel straps at the bottom.**

**Max. panel sizes and weights**

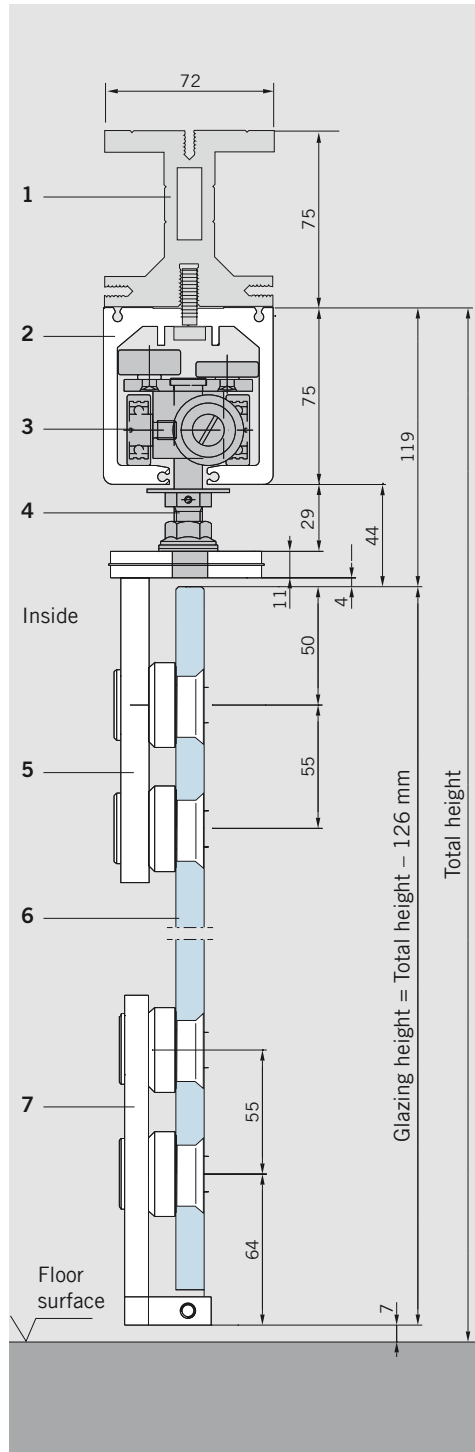
Max. system height	3,000 mm	3,000 mm	3,000 mm	3,000 mm
Max. panel width	1,200 mm	1,200 mm	1,200 mm	1,200 mm
Max. panel weight	100 kg	100 kg	100 kg	100 kg

The track roller position cannot be varied. The width of all panels in the system must be uniform.

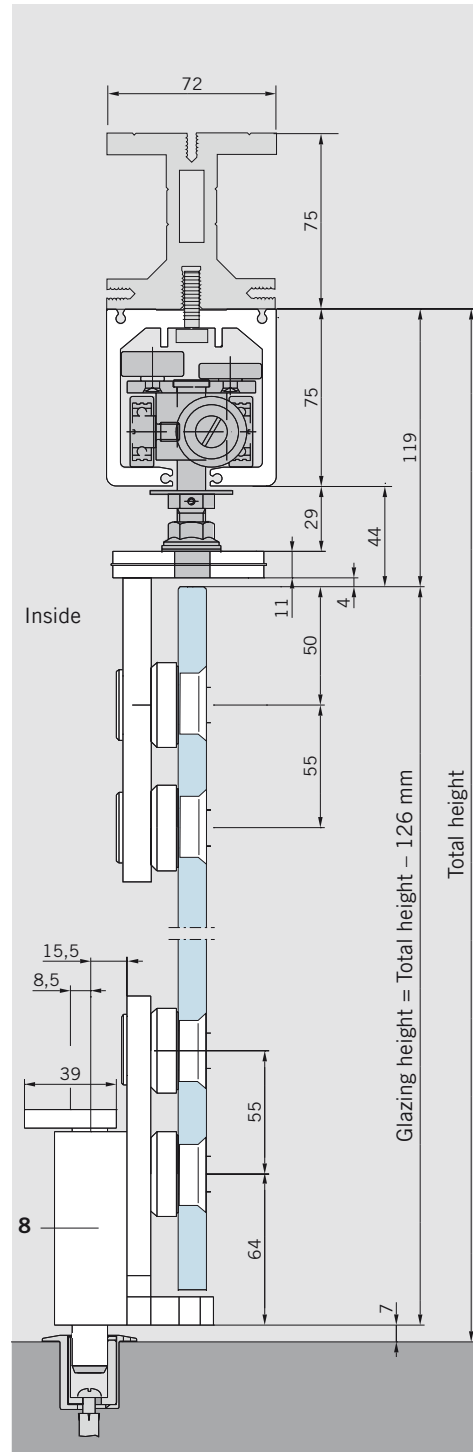
\* From a panel height of 2500 mm, we recommend a continuous pivot rod extending over the full height of the panel.  
From a panel height of 2700 mm, we recommend a fifth single-point fixing.

# SYSTEM DESIGN

Sliding panel with bottom end-mounted pin



Sliding panel with bottom face-mounted slide bolt

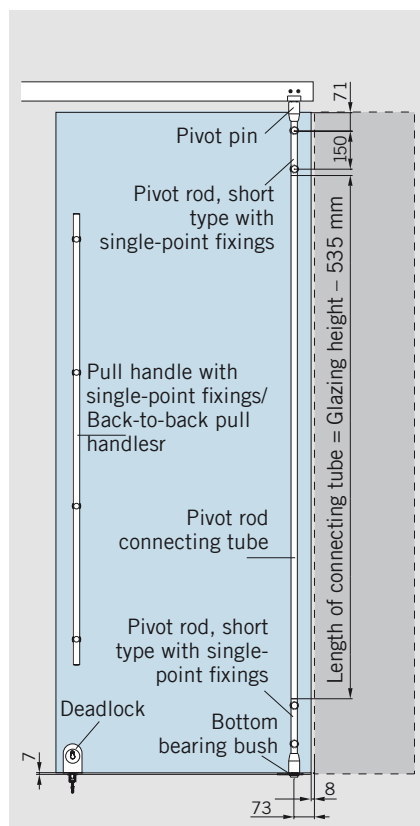


The HSW-GP system consists of the following basic components:

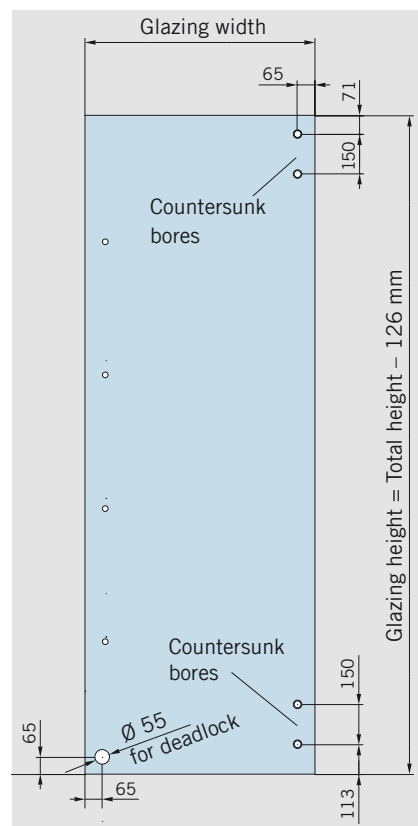
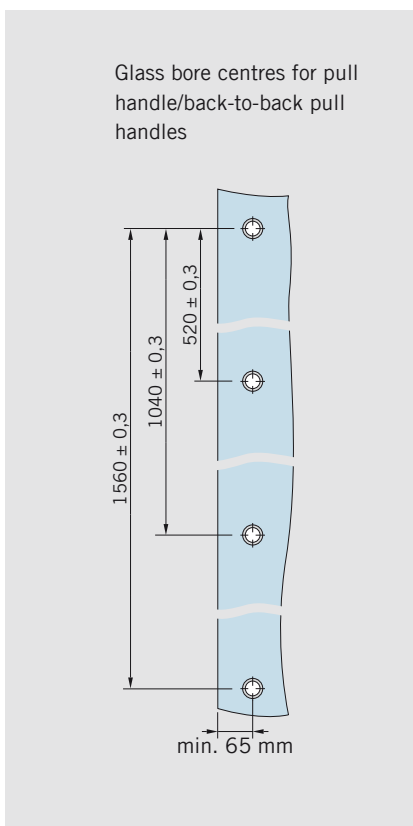
- 1 installation-efficient DORMA substructure to accommodate track rail mounting requirements (optional).
- 2 track rail for bolting to the substructure.
- 3 roller.
- 4 suspension assembly.
- 5 strap with single-point fixings.
- 6 toughened safety glass or toughened laminated safety glass (by others).
- 7 bottom strap with end-mounted pin.
- 8 bottom strap with face-mounted slide bolt.

## TYPES AND GLASS PREPARATION

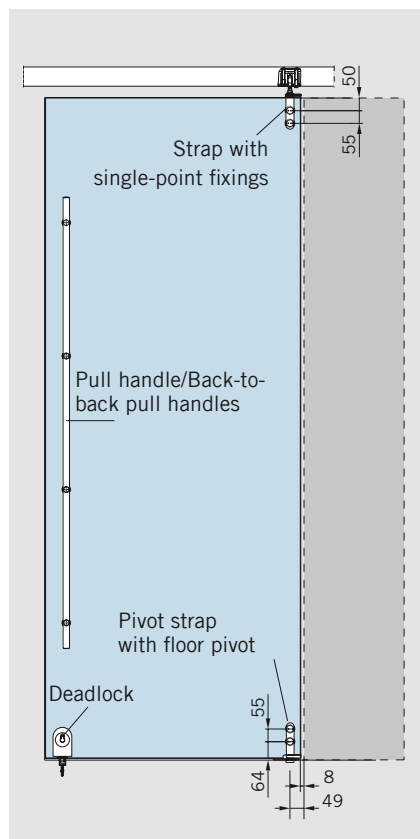
Pivoting end panel, single or double action, with pivot rod



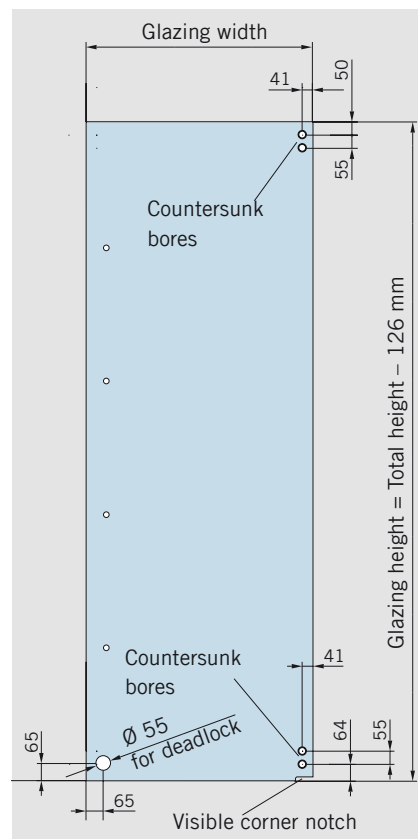
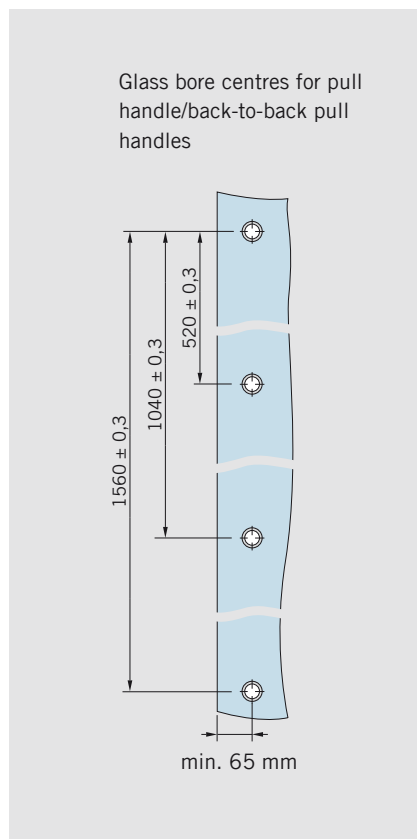
Glass preparation



Pivoting end panel, single or double action

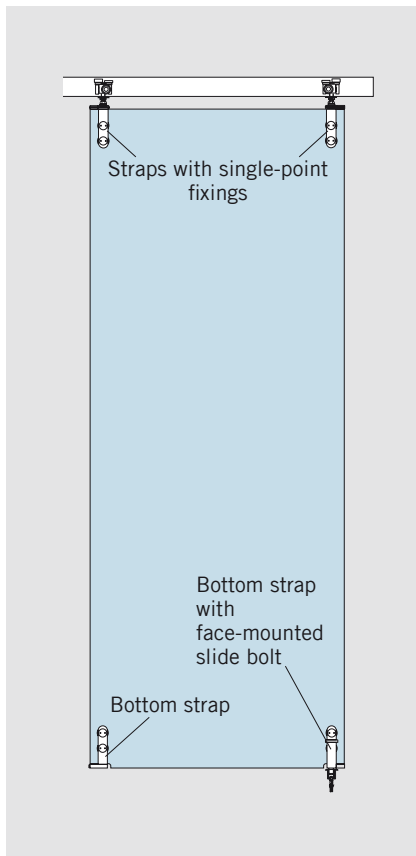


Glass preparation

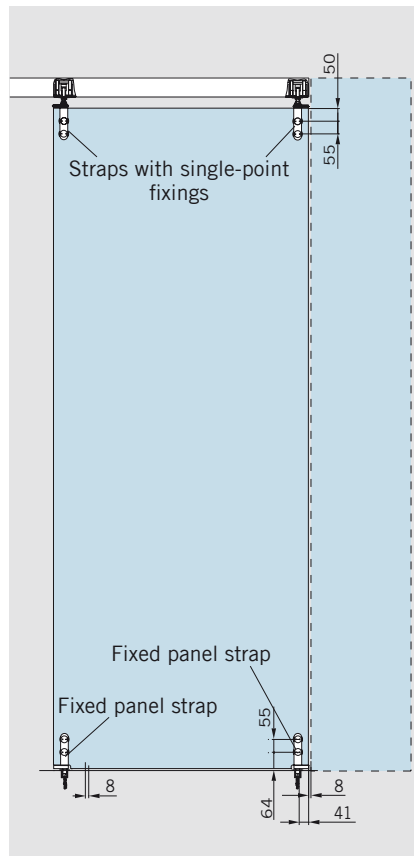




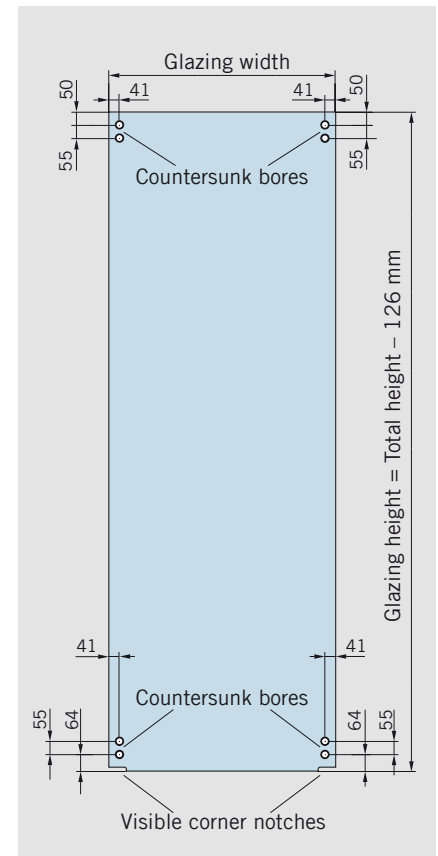
### Sliding panel



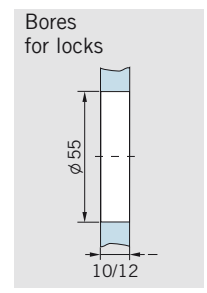
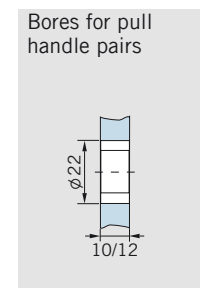
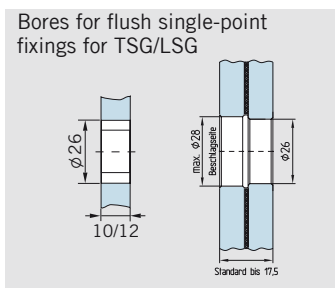
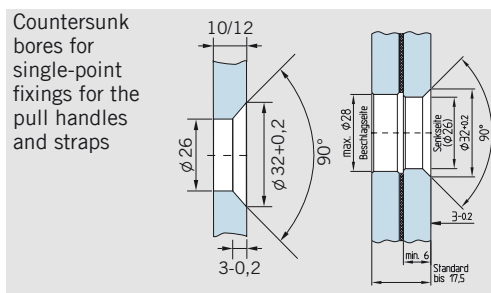
### Fixed panel



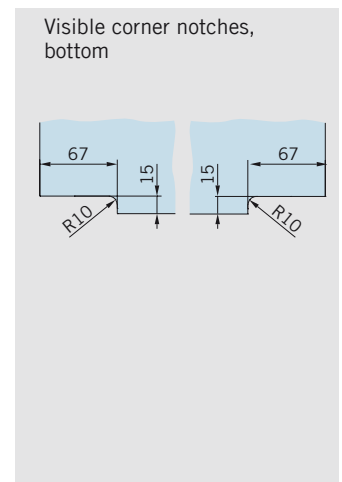
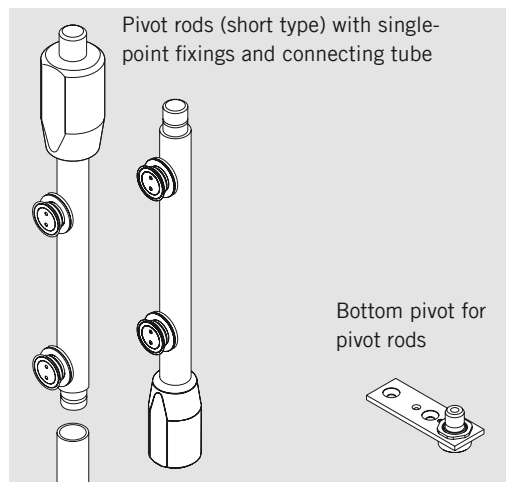
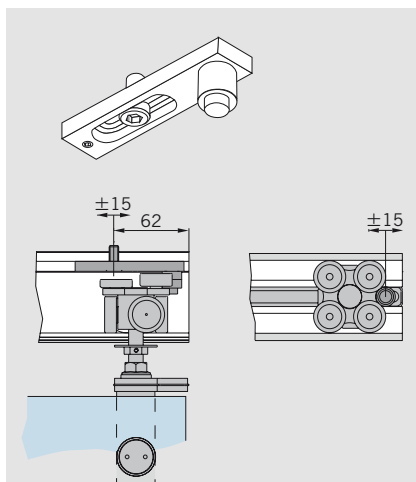
### Glass preparation



### Glass bores and notches



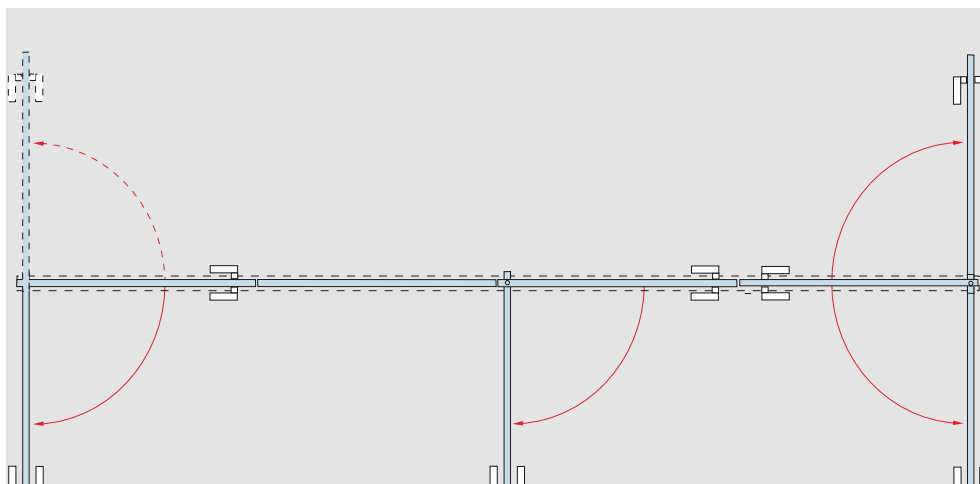
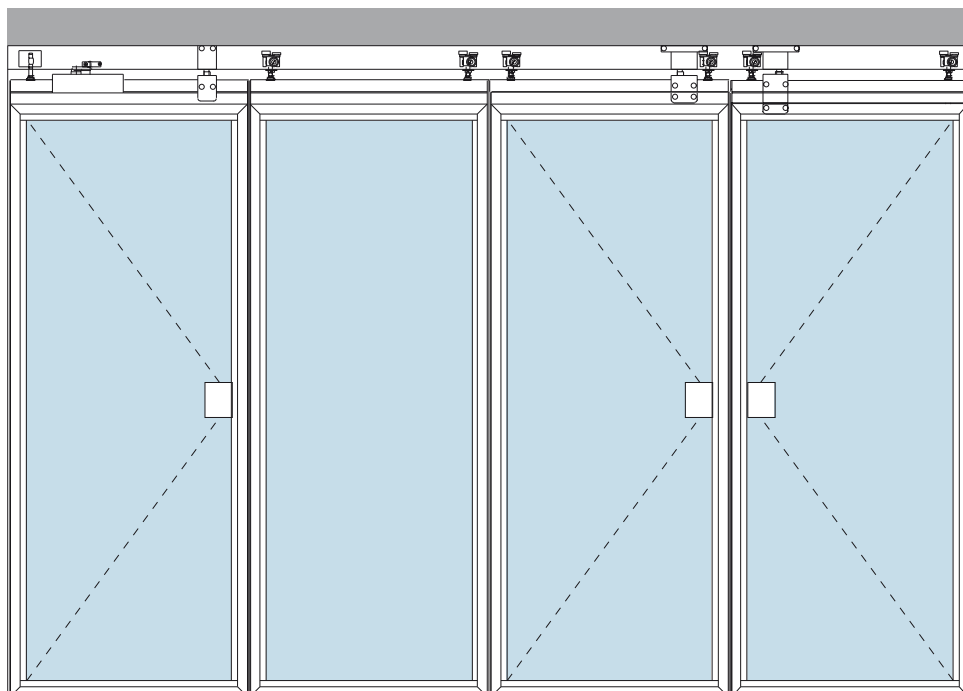
### Special stop



## TYPES AND FUNCTIONS

### Horizontal sliding walls, framed all round for toughened safety glass, laminated safety glass or double glazed units

Resistant to mechanical stress, protect against the influences of the weather, heat loss and drafts thanks to sturdy profile frames with brush seals top and bottom and laterally arranged rubber lip seals. Optionally prepared for single pane toughened safety glass (TSG) or laminated safety glass (LSG), insulating glass/double glazing or special glass. Standard door rails for 8 to 24 mm. Other glass thicknesses on application.



#### Pivoting end panel, single or double action

Non-sliding.  
Pivoting end panel, double action, with floor bearing and top pivot. Optional with floor spring BTS 80 / 84. Or as pivoting end panel, single action, with stop and BTS 80 / 84 or TS 92 / TS 73.

#### Sliding panel

Fixed when frontage closed.

#### Pivoting end panel, single or double action

With integrated concealed door closer type ITS 96, Size 3–6; operational when frontage closed. Minimal panel width 870 mm.

#### Double action sliding panel \*

With integrated concealed door closer type ITS 96, Size 3–6; operational when frontage closed. Minimal panel width 870 mm.

#### Max. panel sizes and weights

Max. system height	3,000 mm	3,000 mm	3,000 mm	3,000 mm
Max. panel width	1,100 mm	1,100 mm	1,100 mm	1,100 mm
Max. panel weight	100 kg	100 kg	100 kg	100 kg

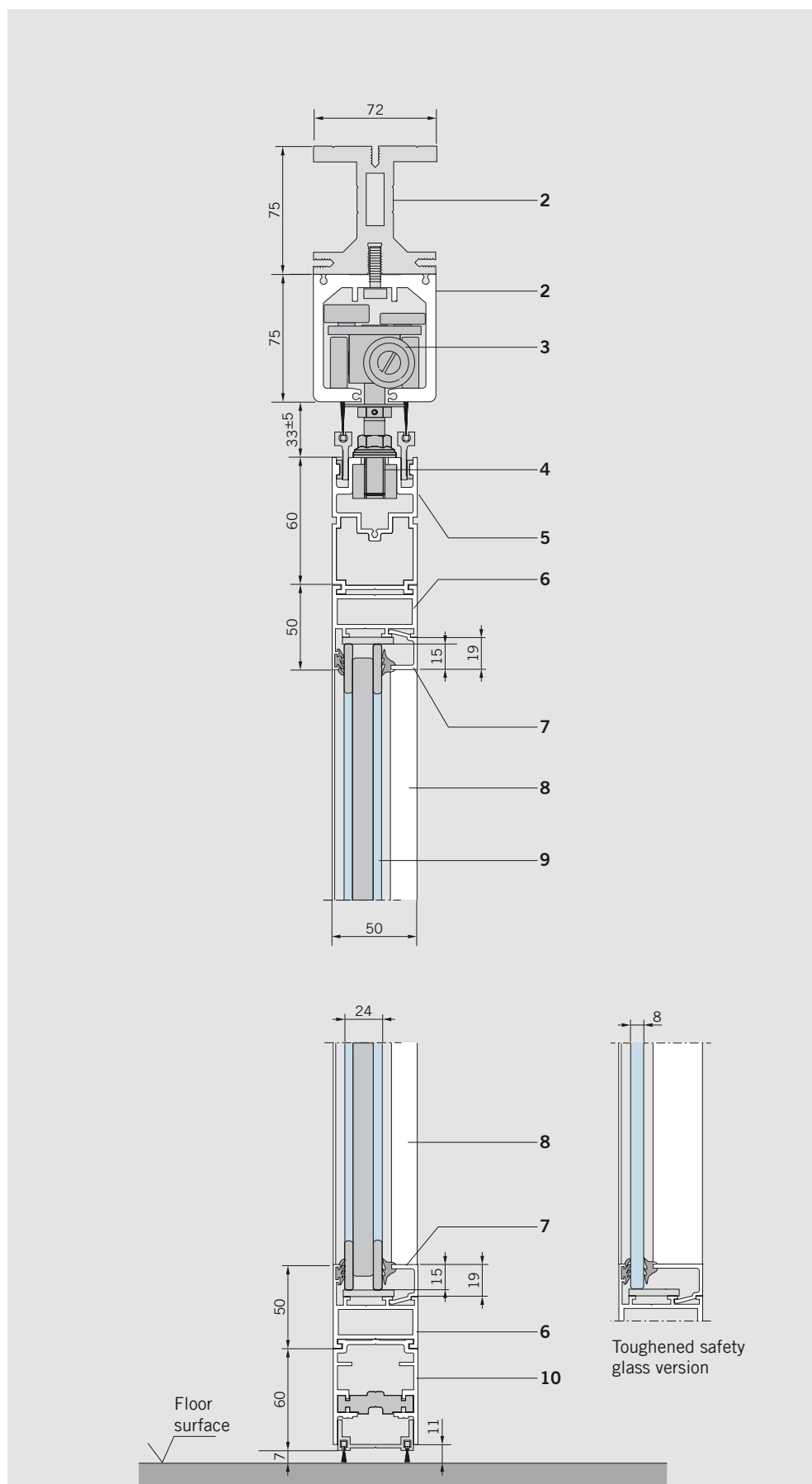
The individual panels can also be of differing widths. The largest width should not exceed max. 115% of the smallest width.

\* For these panel types please consider our notes on portal systems on page 69.

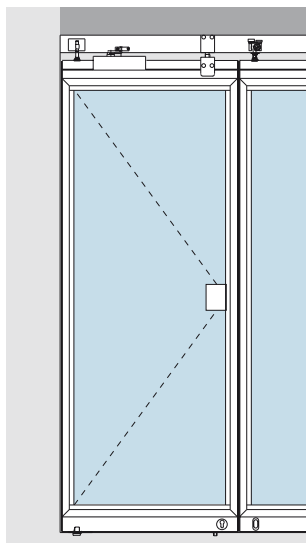
# SYSTEM DESIGN

Irrespective of the function of the individual panels, an HSW-R system comprises the following components:

- 1 Installation-efficient DORMA substructure to accommodate track rail mounting requirements (optional)
- 2 Track rail for bolting to the substructure
- 3 Carrier
- 4 Suspension assembly
- 5 Adapter frame
- 6 Glazing frame profile, horizontal
- 7 Glazing rail
- 8 Glazing frame profile, vertical
- 9 Toughened safety glass, laminated safety glass or sealed double glazing units (by others)
- 10 Bottom frame profile.



# NON-SLIDING SINGLE / DOUBLE-ACTION PANELS



## Pivoting end panel, single or double action, with floor pivot

Non-moving and always equipped with bottom deadbolt with the option of a top bolt or side action deadlock. Single action or double action options.

## Pivoting end panel, double action

Assembly types:

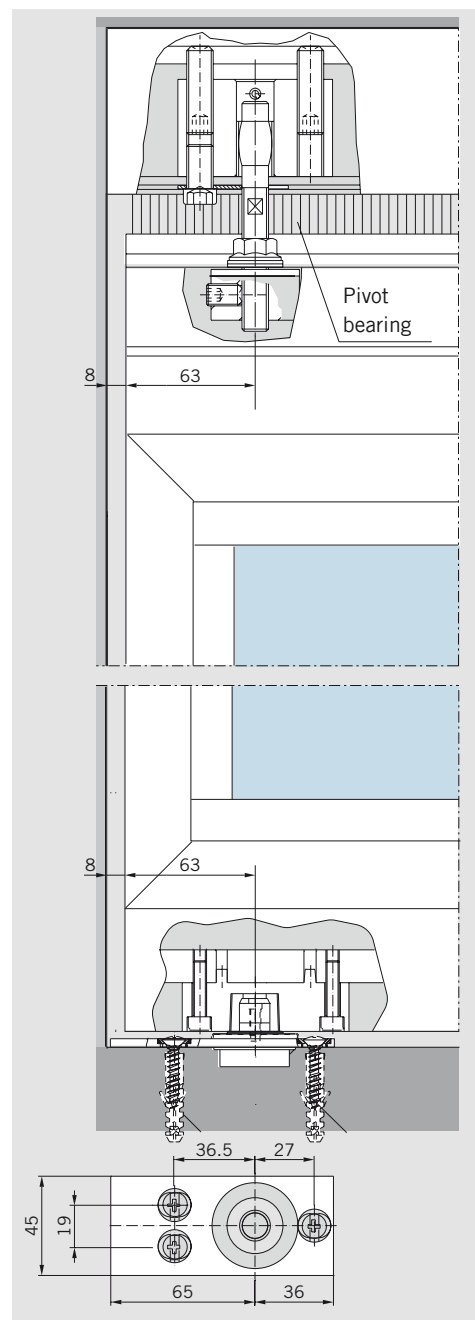
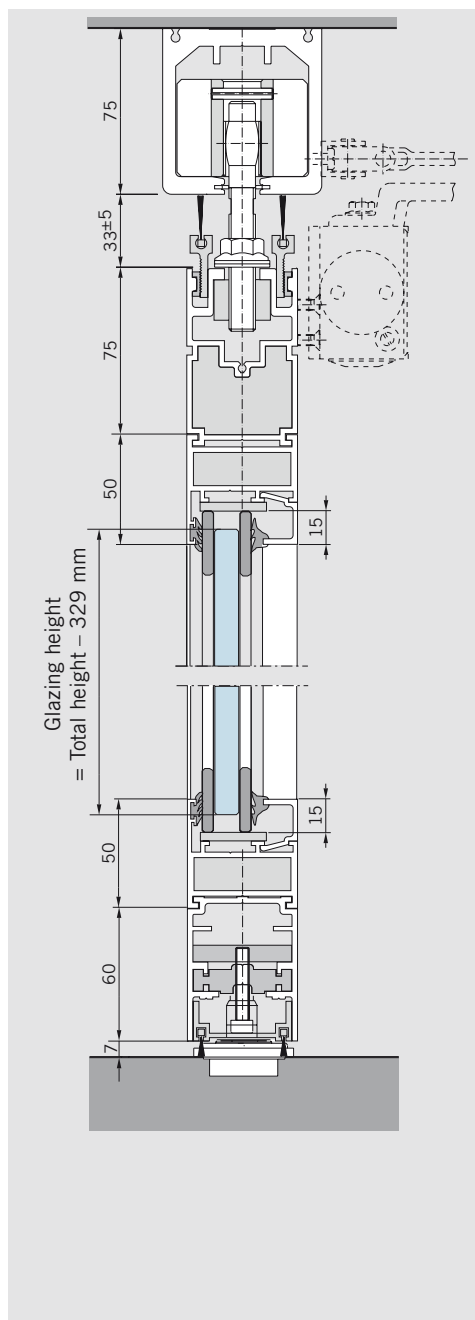
- Floor pivot with round spindle
- BTS 84 for panels up to 100 kg, with optional hold-open at 90° door opening angle
- BTS 80 for panels of 100–150 kg, provided with hold-open as standard

## Pivoting end panel, single action

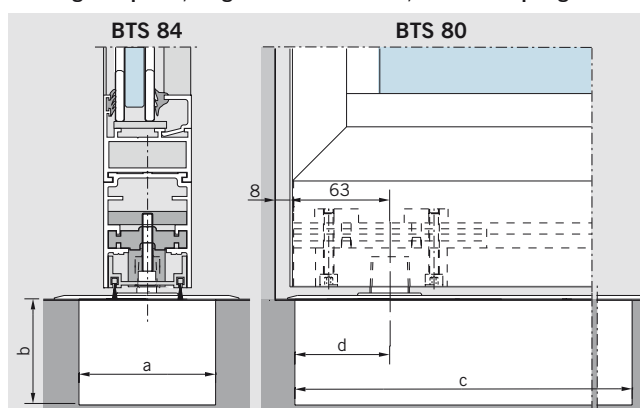
with stop plates at the top bolt.

Assembly types:

- Floor pivot with round spindle
- As above, but with DORMA TS 73 or TS 92 overhead door closer
- BTS 84 for panels up to 100 kg, with optional hold-open at 90° door opening angle
- BTS 80 for panels of 100–150 kg, provided with hold-open as standard



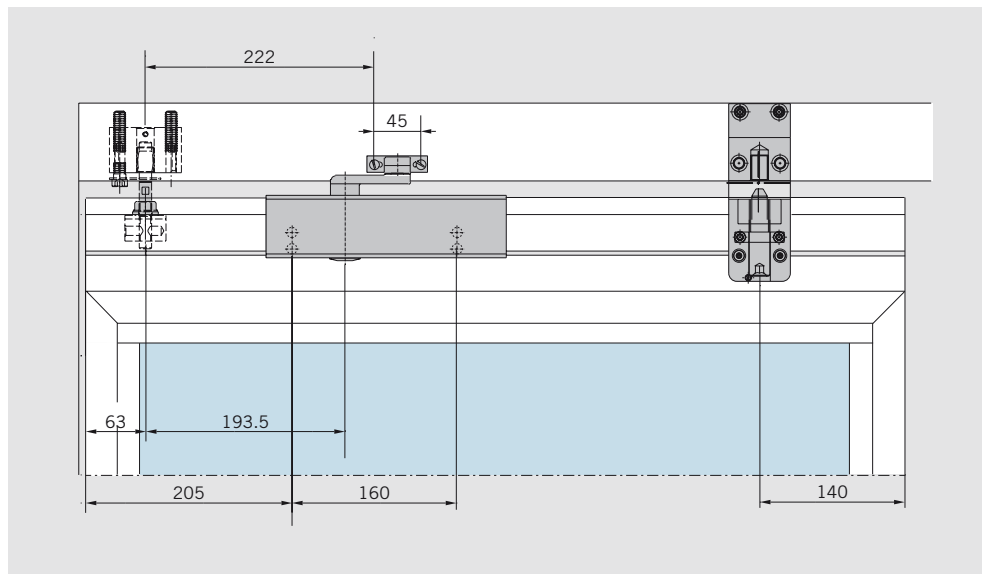
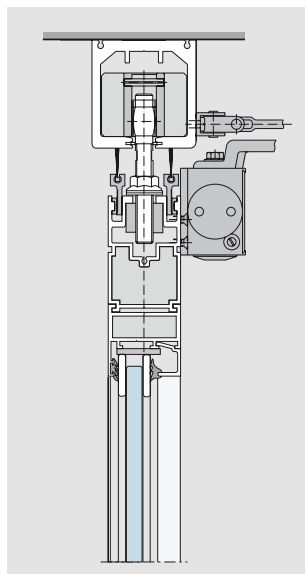
## Pivoting end panel, single or double action, with floor spring



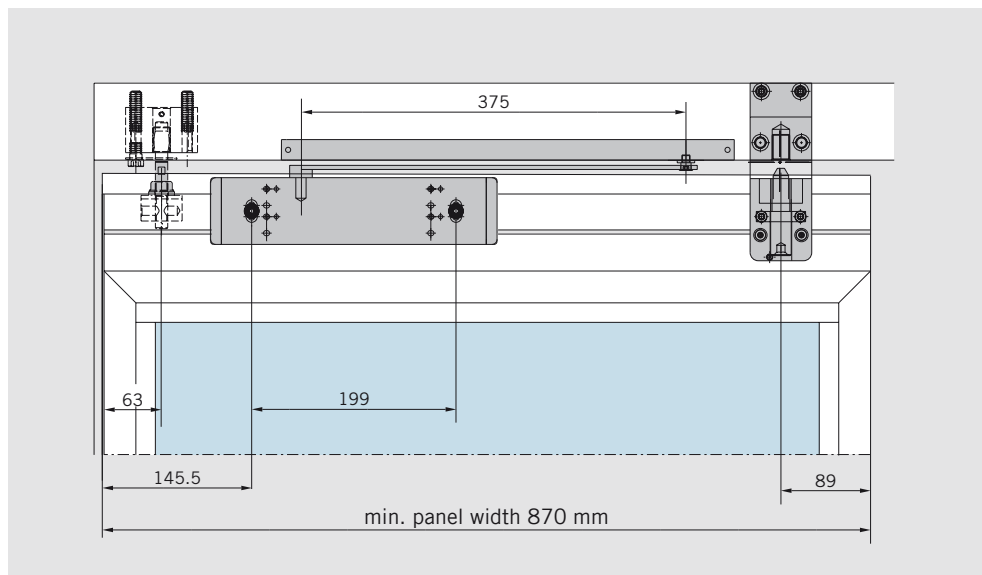
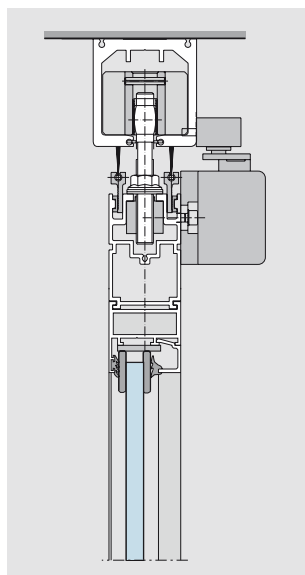
## Mounting dimensions

	BTS 80	BTS 84
a	78	108
b	60	40
c	341	306
d	51 – 57	51 – 58

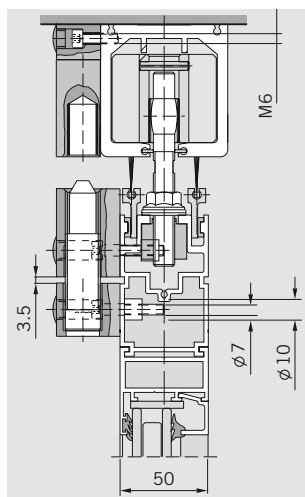
Pivoting end panel, single action, with TS 73 overhead door closer and additional locking device and door stop



Pivoting end panel, single action, with TS 92 overhead door closer and additional locking device

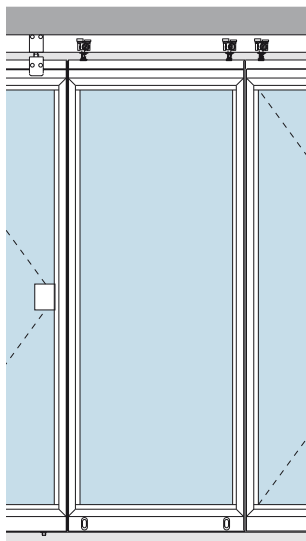


Additional locking device



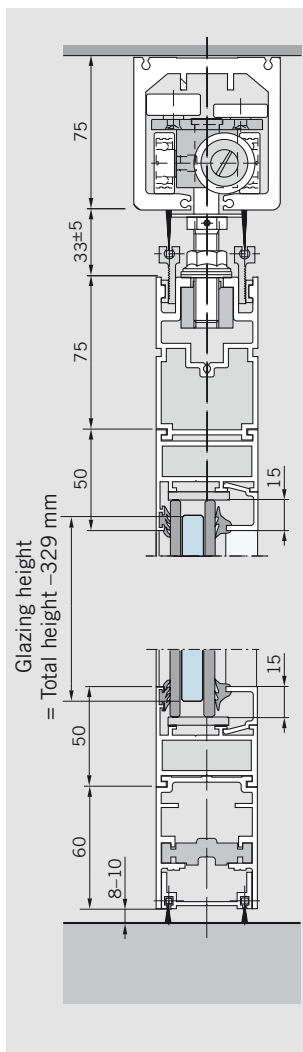
Data and features	TS 73 V	TS 92
Closing strength/size	EN 2 – 4	EN 2 – 4
Closing strength, variable	via adjusting screw and arm hinge	via adjusting screw and arm hinge
Closing speed adjustment	via valve	via valve
Non-handed	●	●
Latching speed adjustment	via arm	via arm
Cushioned stay limit adjustment	75° – 180°	80° – 120°
Hold-open adjustment	75° – 160°	75° – 150°
Weight	1.8 kg	1.9 kg
Length	233 mm	281 mm
Overall depth	42.50 mm	47 mm
Height	60 mm	65 mm

# SLIDING PANELS AND CONNECTIONS

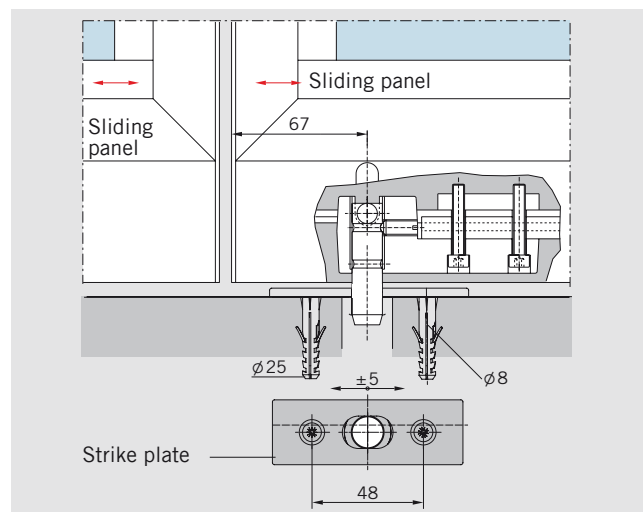


## Sliding panel

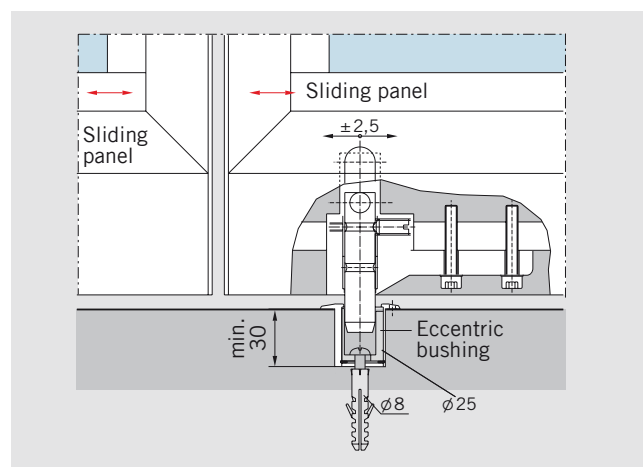
Fixed when partition is closed.  
The sliding panels are moving elements. Once in their closed position, they are locked down. The components available for this are provided in the bottom rail in the form of face-mounted floor bolts or deadlocks.



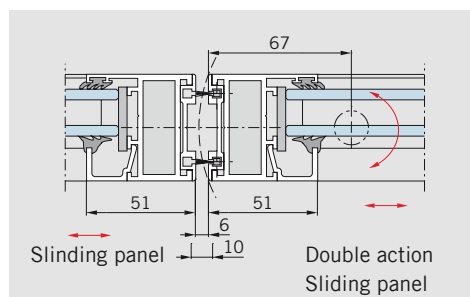
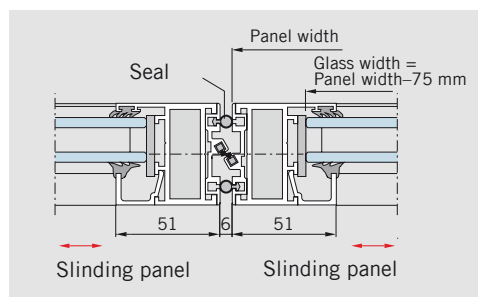
## Engaging the panel in the strike plate



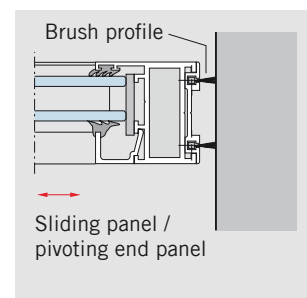
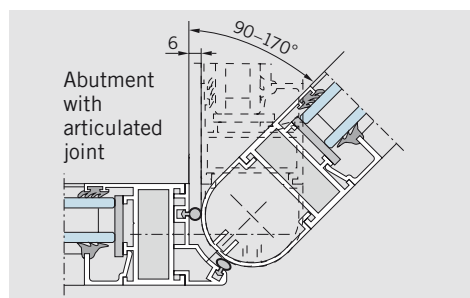
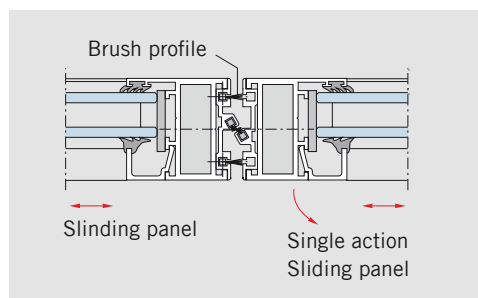
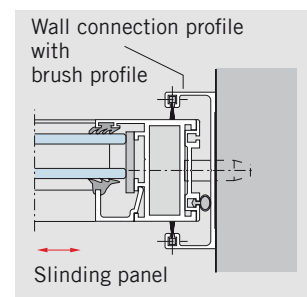
## Engaging the panel in eccentric bushing



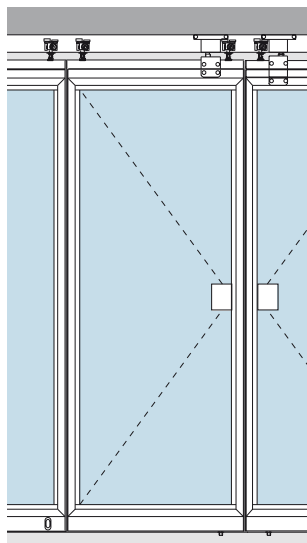
## Sliding panel to panel connections



## Panel to wall connection

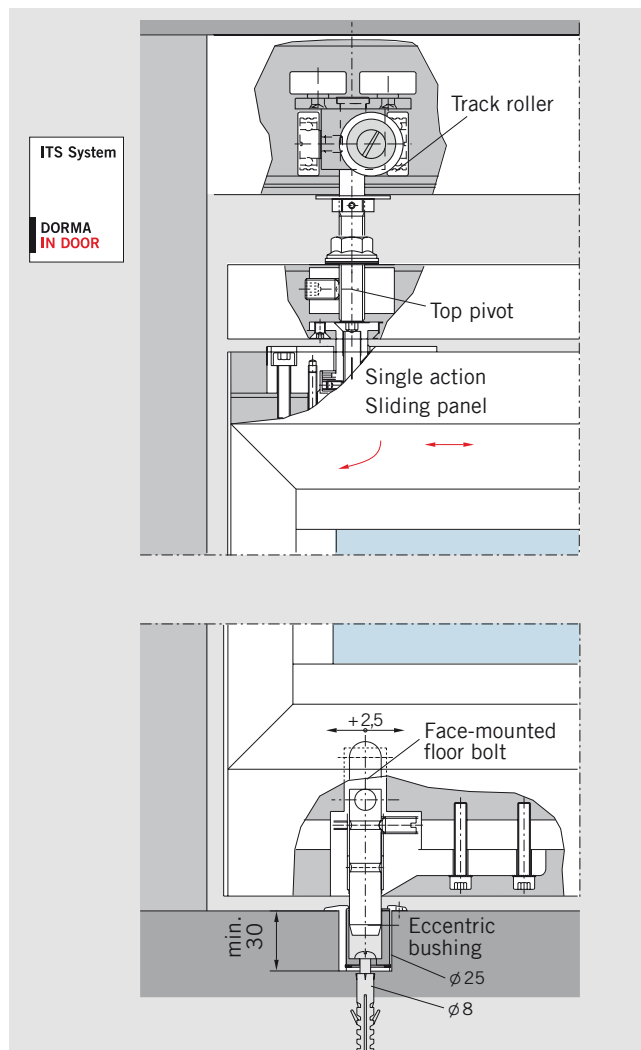
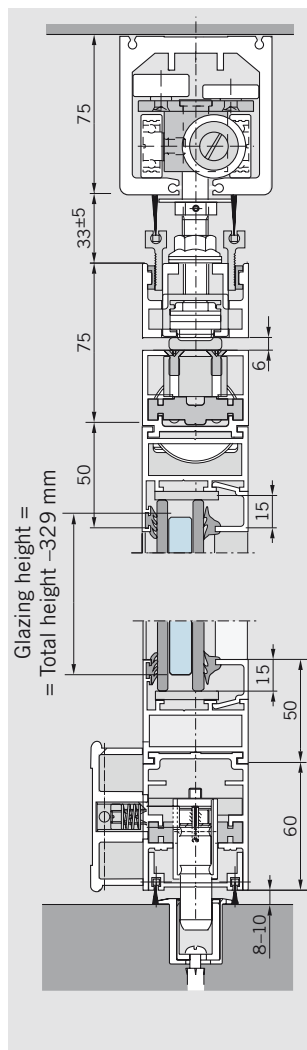


# SINGLE ACTION SLIDING PANEL WITH ITS



## Single action sliding panel with integrated DORMA ITS 96 concealed door closer, size 3 – 6

This panel type is used where passdoors only need to be opened in one direction. The single action sliding panel can be configured for either inward or outward opening.



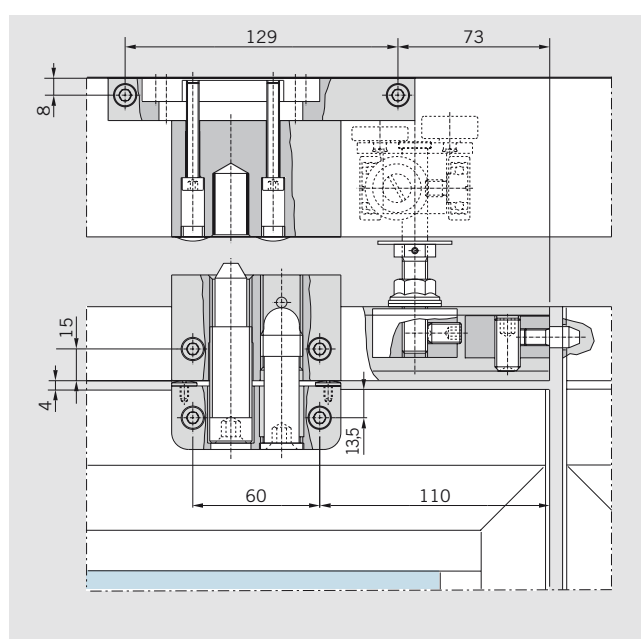
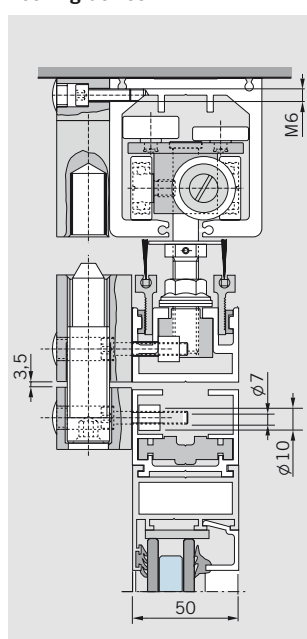
## Standard assembly

- top: Pivot bearing, ITS 96, size 3 – 6, one locking device
- bottom: Face-mounted floor bolt as pivot (released for sliding function)

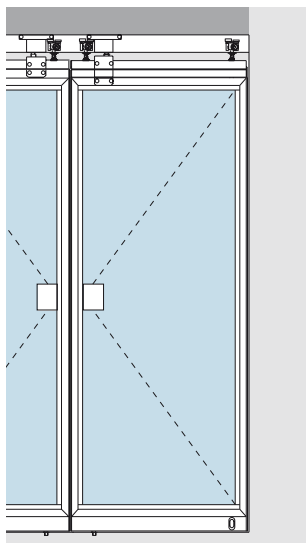
## Optional equipment

- top: Second locking device (for reshuffle bypass stacking)
- bottom: Optional second face-mounted floor bolt or deadlock

## Locking device



# DOUBLE ACTION SLIDING PANEL WITH ITS

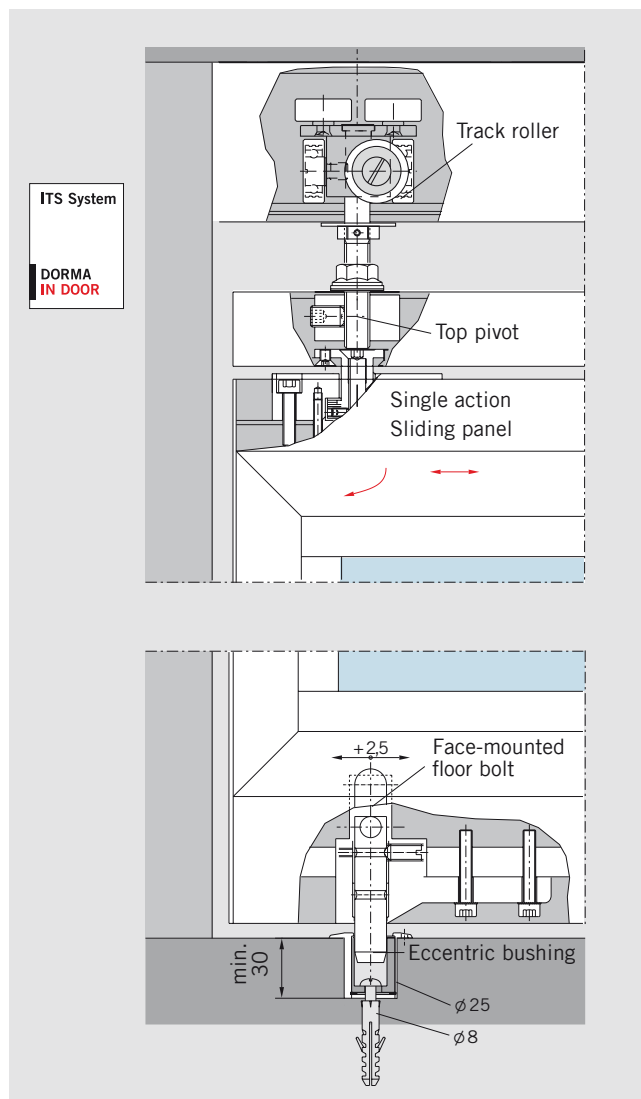
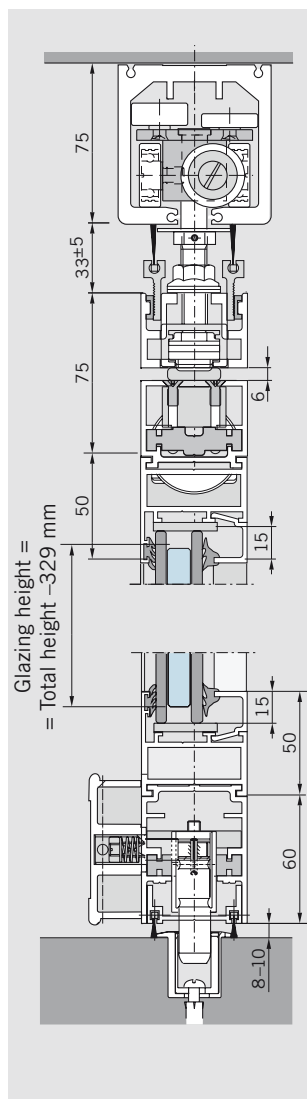


## Double action sliding panel with integrated DORMA ITS 96 concealed door closer, size 3 – 6

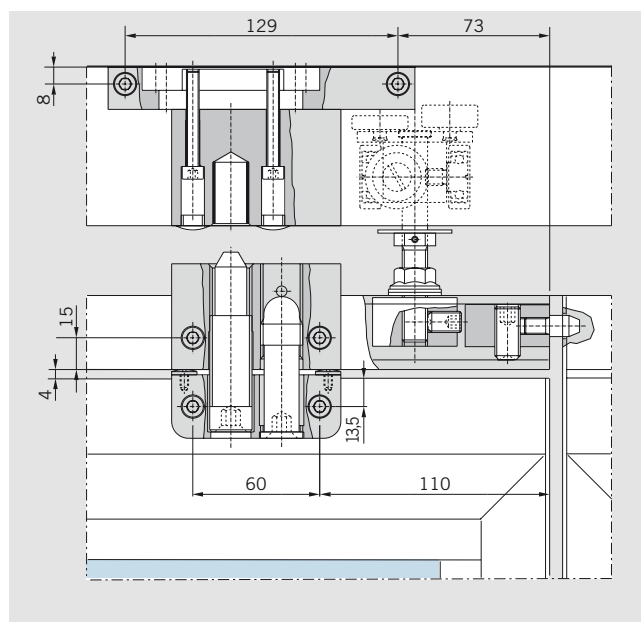
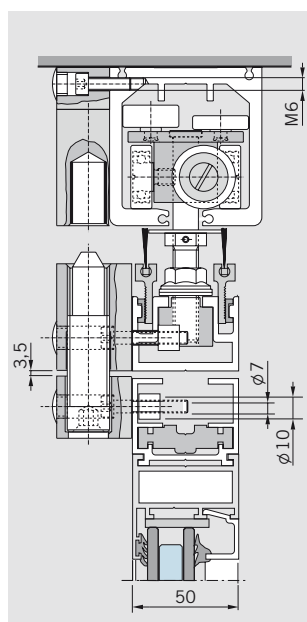
Double action sliding panels with DORMA ITS 96, size 3 – 6 door closers are characterised by their exceptional ease of installation and operation. These passdoor panels are generally equipped with a bottom deadlock and top locking device plus a bottom floor bolt operating as the pivot bearing (released for the sliding function).

The ITS 96 does not feature a hold-open function as standard.

For these panel types please consider our notes on portal systems on page 69.



## Locking device







## ACCESSORIES

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### **Vertical seals – Overview**

56 – 57

### **Vertical sealing profiles – General preparation**

58

### **Vertical sealing profiles – Panel types**

59 – 64

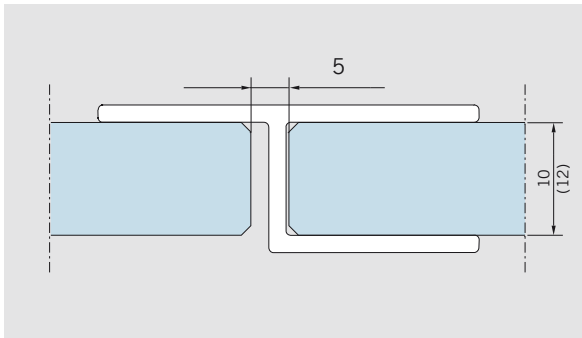


## VERTICAL SEALS – OVERVIEW

The vertical seals provide protection of the lateral glass edges of the panels. With regards to material, fixing and the grade of draft-proofing different solutions are available.

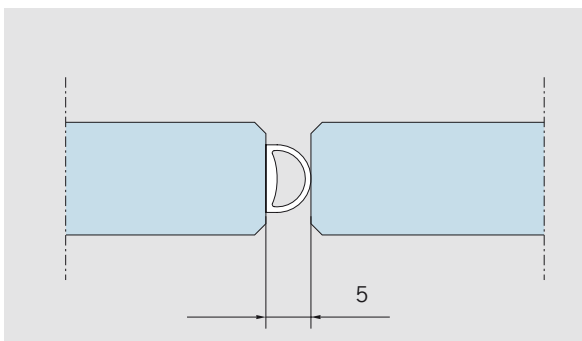
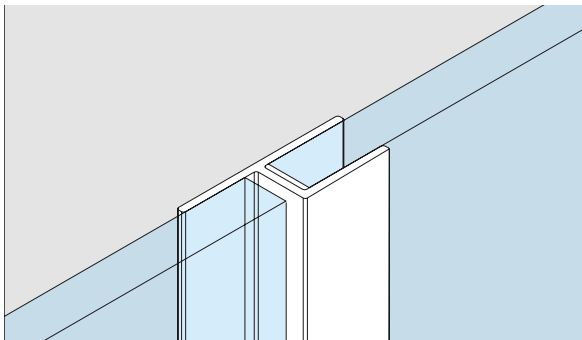
### Retrofittable seals

The plastics profiles shown below provide an unobtrusive and retrofittable solution for draft protection at the glass edges.



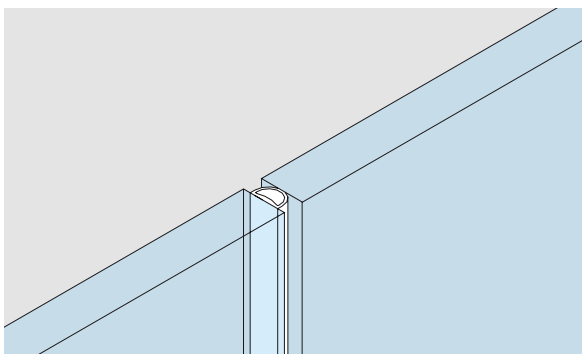
### h-profile

Push on clear plastic for 10 and 12 mm glass thickness (not for pivoting end panel, double action, or double action sliding panels).



### Glass joint gasket

Milky transparent rubber, self adhesive for 10 – 19 mm glass thickness.



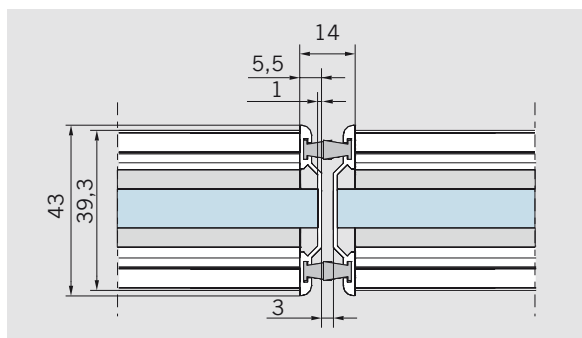
# VERTICAL SEALING PROFILES WITH BRUSHES

The aluminium sealing profiles are fixed to the full height of the panels, replacing the end caps at the top and bottom door rails. They are individually tailored to the requirements of the bottom

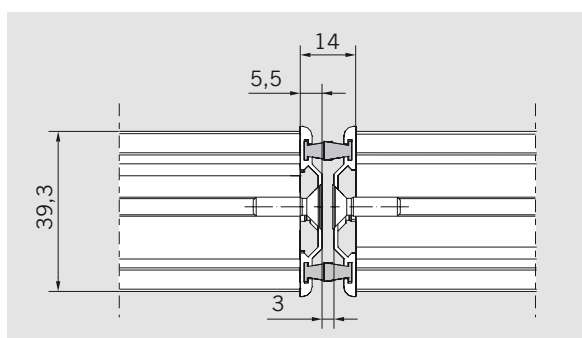
door rails, so they are already prepared for the locking devices such as floor bolts, end pins and vertically engaging deadlocks when delivered by DORMA. At the top, a degree of

extra length is provided to enable precise sealing profile adaptation to the exact panel height on site once the system has been vertically aligned. The double brush seals

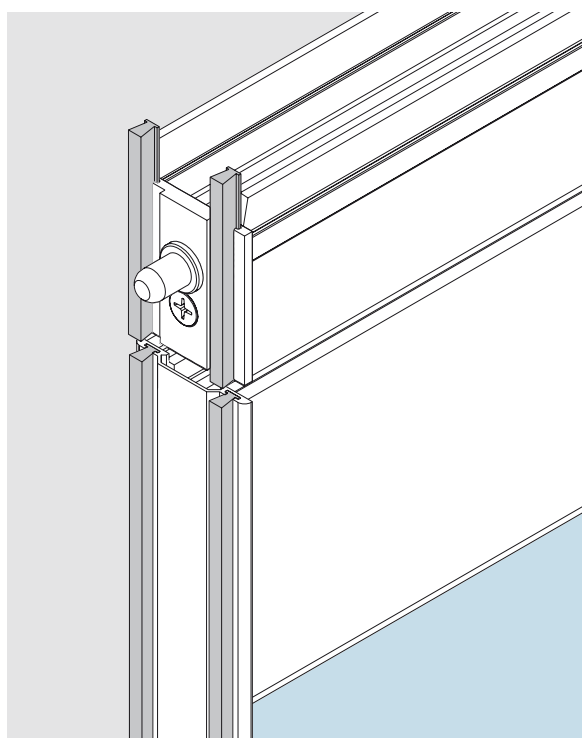
interlock with those at the adjacent panel and continue in line with the double brush seals at the top and bottom door rails. This ensures excellent draft proofing



Vertical Sealing Profile



Vertical Sealing Profile

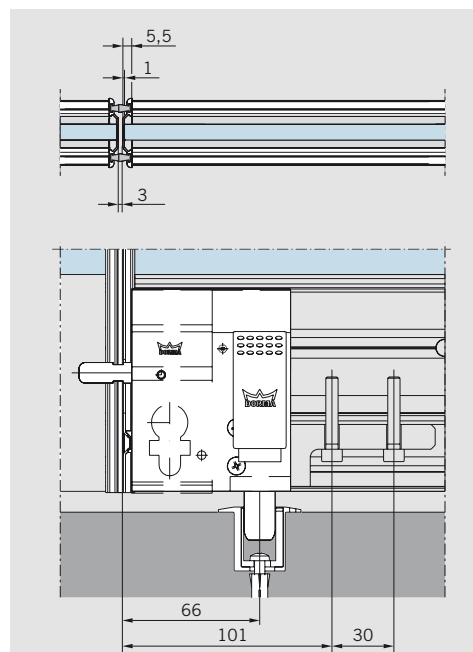
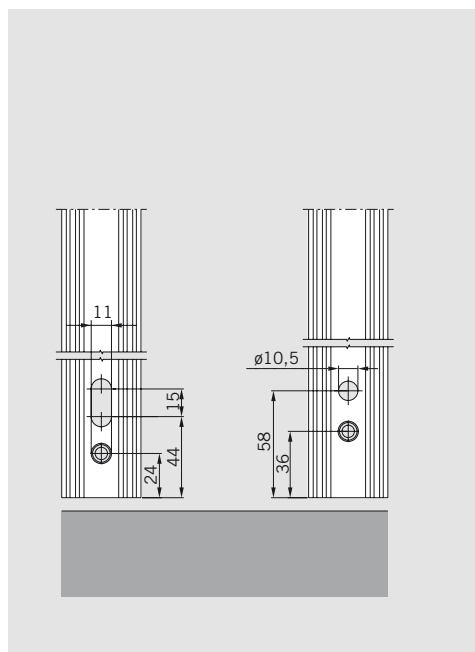


## VERTICAL SEALING PROFILES – GENERAL PREPARATION

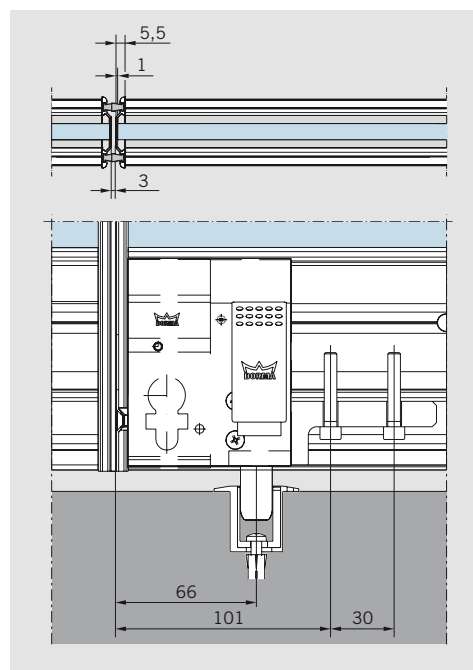
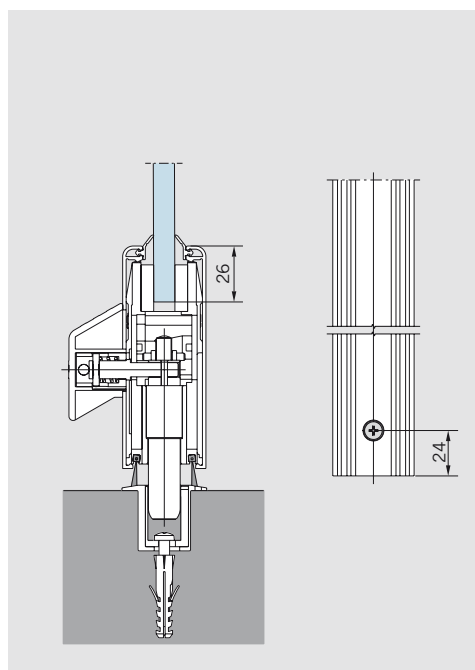
### Profile machining

for end-mounted and face-mounted slide bolts performed by DORMA.

Preparation and mounting of vertical sealing profile for end-mounted slide bolt

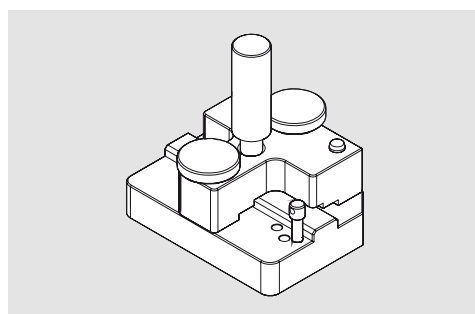


Preparation and mounting of vertical sealing profile for face-mounted slide bolt

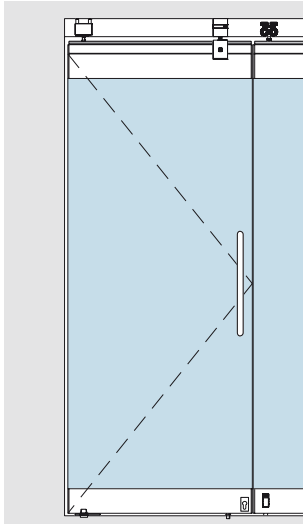


### Tool for preparing the top of the vertical sealing profiles on site

Article number  
8.40.070.000.99



# VERTICAL SEALING PROFILES – PANEL TYPES

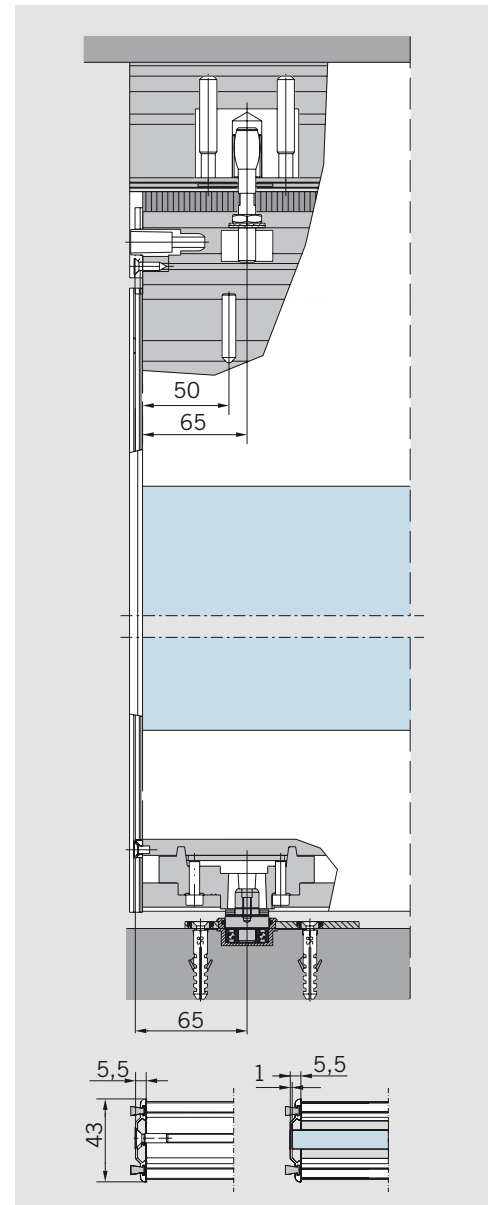
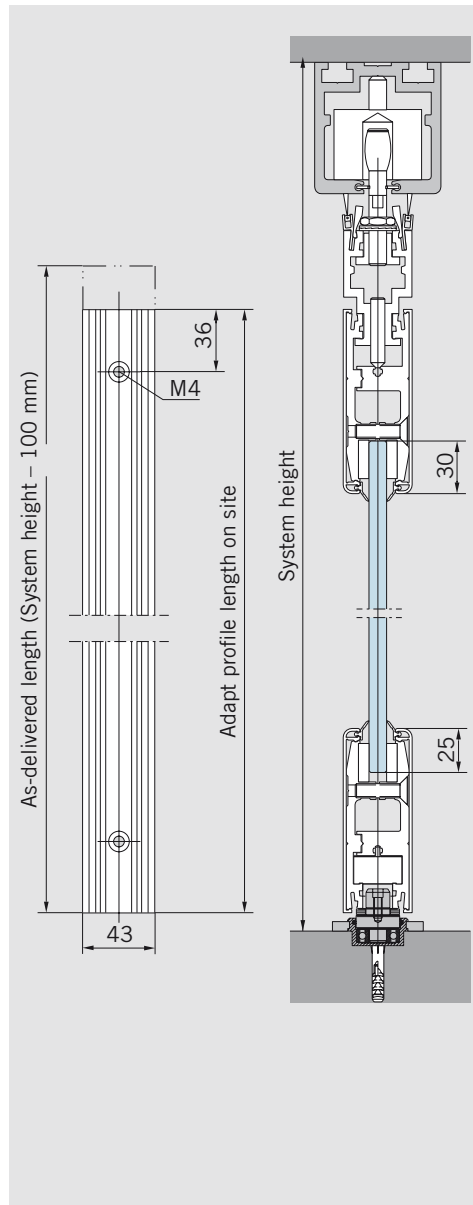


## Single-End-/Double-Action Panels

### As-delivered condition of the vertical sealing profiles:

Cut lengths supplied from factory  
= System height – 90 mm

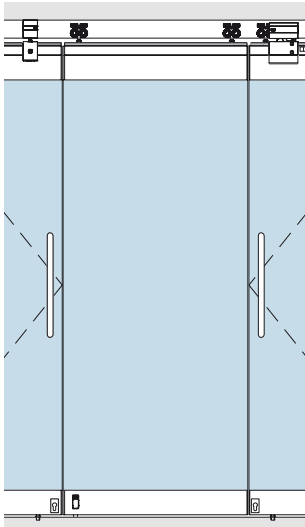
Holes and recesses are pre-machined in the profile for the bottom door rail only. Any further machining work required for connection to the top door rail has to be performed on site.



## Installation instructions

When fitting the top and bottom door rails please ensure that the protrusion of the glass width on either side of a door rail is even. In case the panels incorporate a carrier profile a proper section of the double brush sealing profile is fixed to the carrier profile by a fixing cartridge. Prior to machining the sealing profile at the top for the exact length from the bottom to the top door rail, first hang the panels from the track rail and align.

## VERTICAL SEALING PROFILES – PANEL TYPES

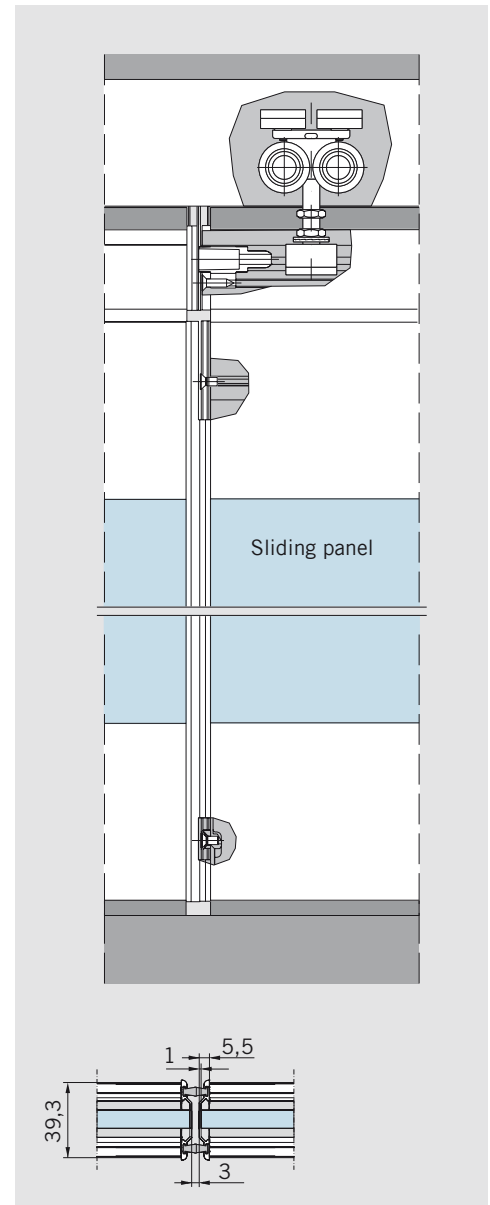
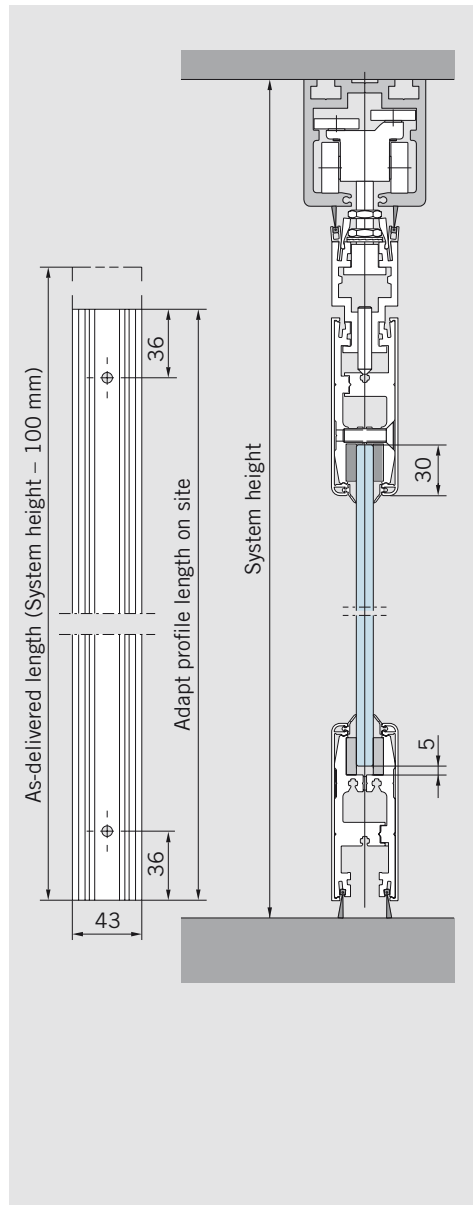


### Sliding panels

#### As-delivered condition of the vertical sealing profiles:

Cut lengths supplied from factory  
= System height – 100 mm.

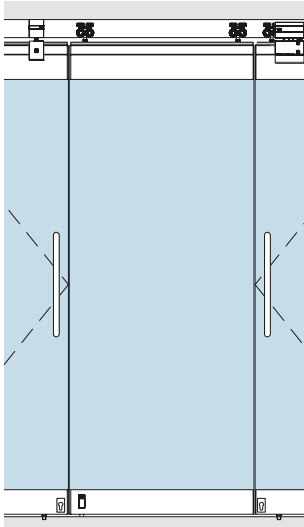
Holes and recesses are pre-machined in the profile for the bottom door rail only. Any further machining work required for connection to the top door rail has to be performed on site



### Installation instructions

When fitting the top and bottom door rails please ensure that the protrusion of the glass width on either side of a door rail is even. In case the panels incorporate a carrier profile a proper section of the double brush sealing profile is fixed to the carrier profile by a fixing cartridge. Prior to machining the sealing profile at the top for the exact length from the bottom to the top door rail, first hang the panels from the track rail and align.



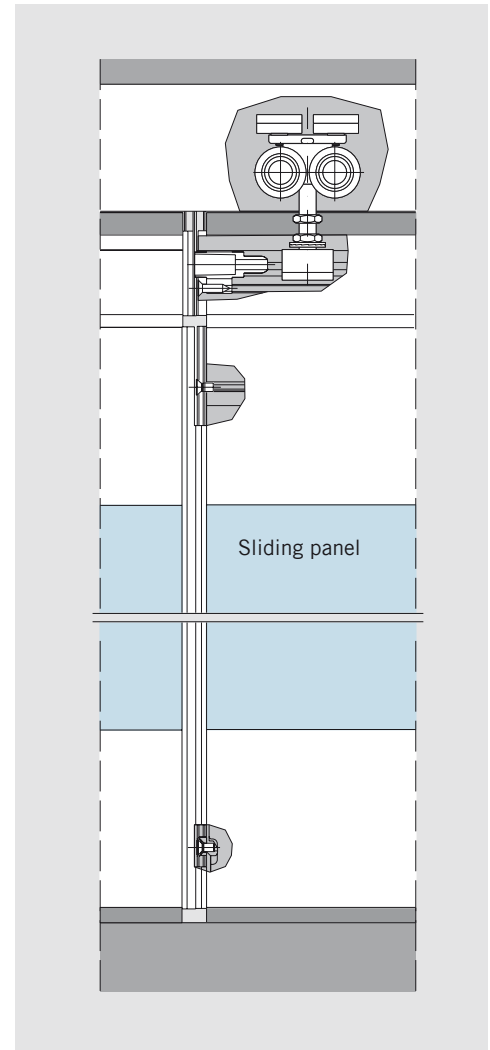
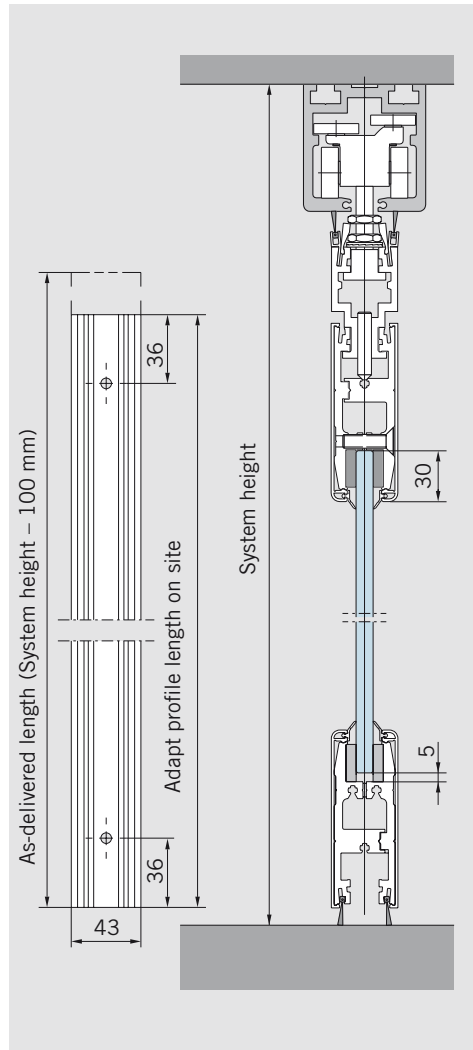


### Sliding panels in segmented configurations

#### As-delivered condition of the vertical sealing profiles:

Cut lengths supplied from factory = System height – 100 mm.

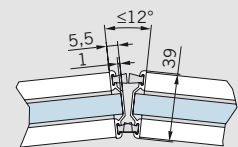
Holes and recesses are pre-machined in the profile for the bottom door rail only. Any further machining work required for connection to the top door rail has to be performed on site.



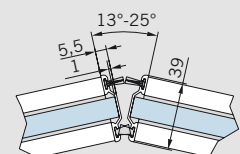
### Installation instructions

When fitting the top and bottom door rails please ensure that the protrusion of the glass width on either side of a door rail is even. In case the panels incorporate a carrier profile a proper section of the double brush sealing profile is fixed to the carrier profile by a fixing cartridge. Prior to machining the sealing profile at the top for the exact length from the bottom to the top door rail, first hang the panels from the track rail and align.

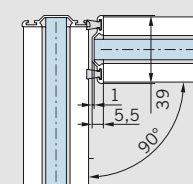
Sealing profiles with the standard short type brushes in both brush channels.



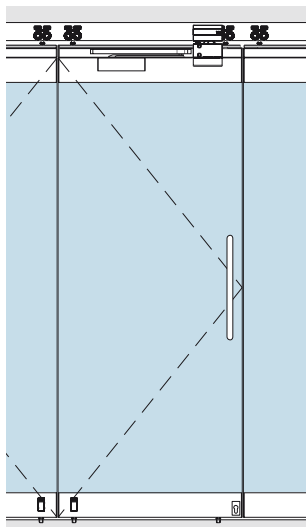
Sealing profiles with short type brushes in the inner brush channels and long type brushes in the outer brush channels.



Sealing profile without brushes at the panel's free edge; sealing profile with short type brushes at the 90° adjoining panel.



## VERTICAL SEALING PROFILES - PANEL TYPES

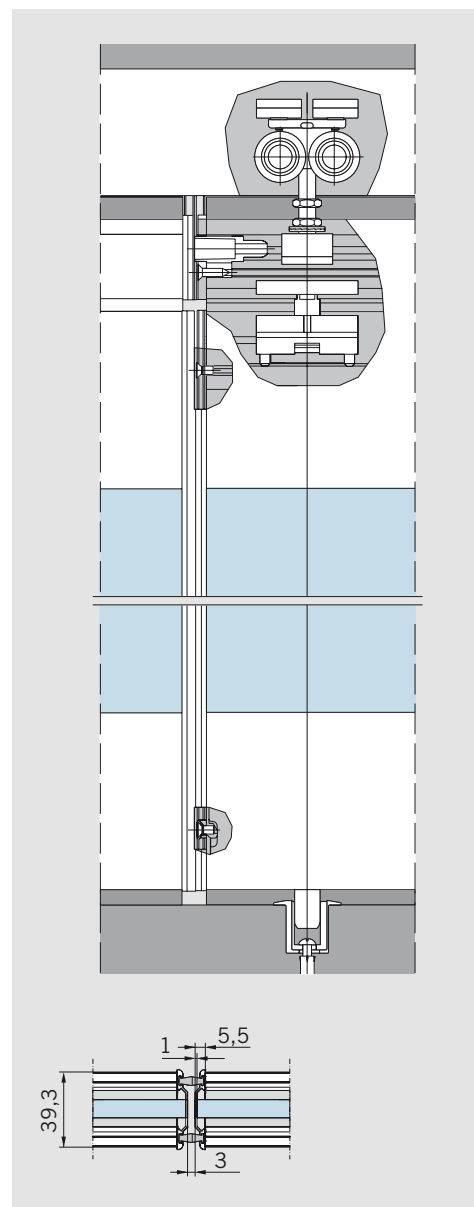
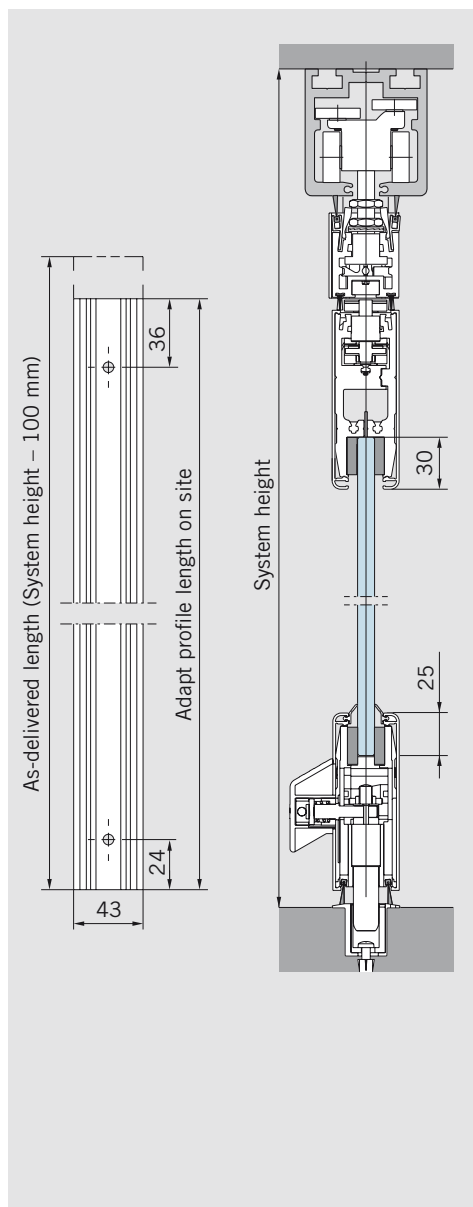


**Single action sliding panels  
(with TS 92 or ITS 96) /  
double action sliding panels  
(with ITS 96)**

**As-delivered condition of the  
vertical sealing profiles:**

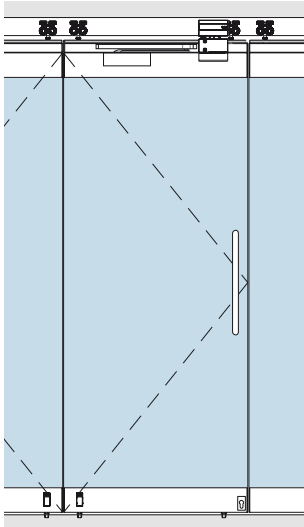
Cut lengths supplied from factory  
= System height – 100 mm.

Holes and recesses are  
pre-machined in the profile for  
the bottom door rail only.  
Any further machining work  
required for connection to the  
top door rail has to be  
performed on site.



### Installation instructions

When fitting the top and bottom door rails please ensure that the protrusion of the glass width on either side of a door rail is even. In case the panels incorporate a carrier profile a proper section of the double brush sealing profile is fixed to the carrier profile by a fixing cartridge. Prior to machining the sealing profile at the top for the exact length from the bottom to the top door rail, first hang the panels from the track rail and align.

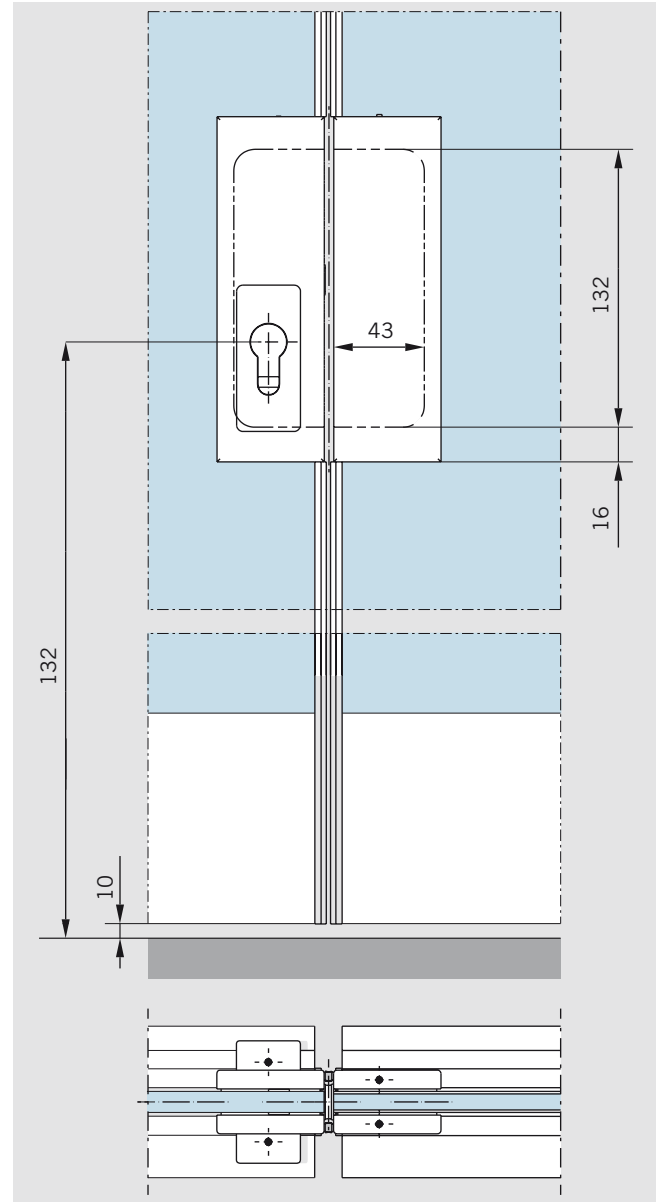
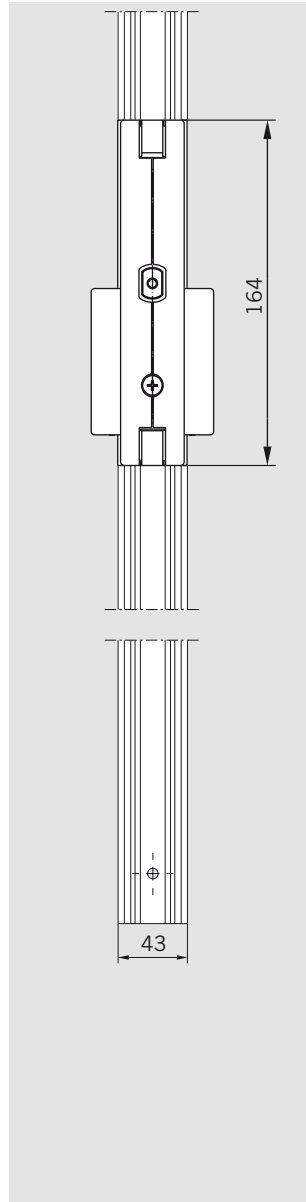


**Single action sliding panels  
(with TS 92 or ITS 96) /  
double action sliding panels  
(with ITS 96) with UNIVERSAL  
centre lock and UNIVERSAL  
strike box**

**As-delivered condition of the  
vertical sealing profiles:**

Cut lengths supplied from factory  
= System height – 100 mm.

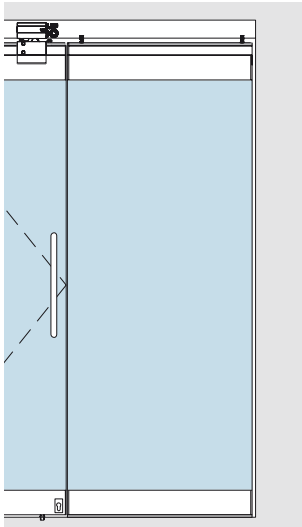
Holes and recesses are  
pre-machined in the profile for  
the bottom door rail only.  
Any further machining work  
required for connection to the  
top door rail has to be  
performed on site.



**Installation instructions**

When fitting the top and bottom door rails please ensure that the protrusion of the glass width on either side of a door rail is even. In case the panels incorporate a carrier profile a proper section of the double brush sealing profile is fixed to the carrier profile by a fixing cartridge. Prior to machining the sealing profile at the top for the exact length from the bottom to the top door rail, first hang the panels from the track rail and align.

## VERTICAL SEALING PROFILES – PANEL TYPES

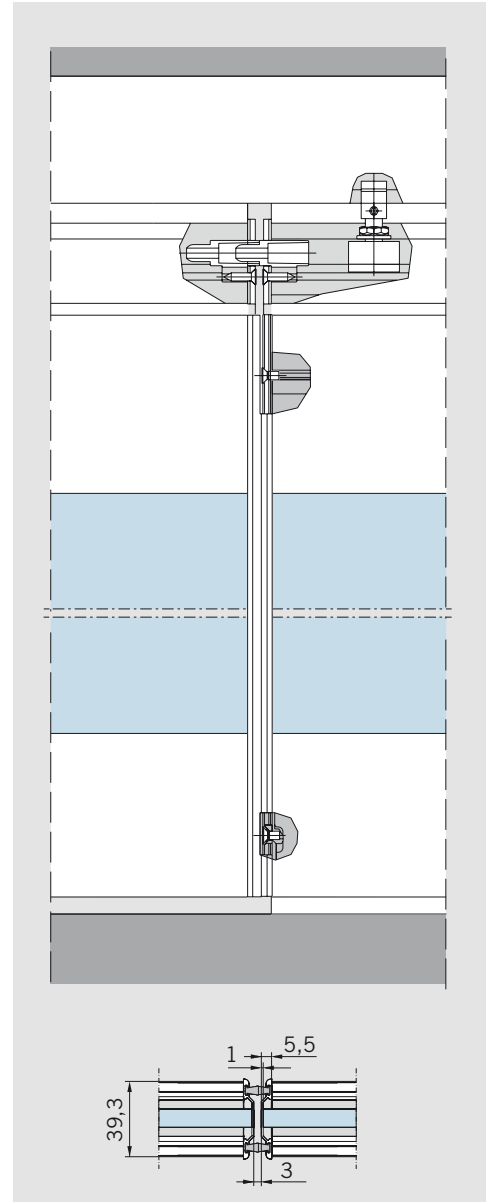
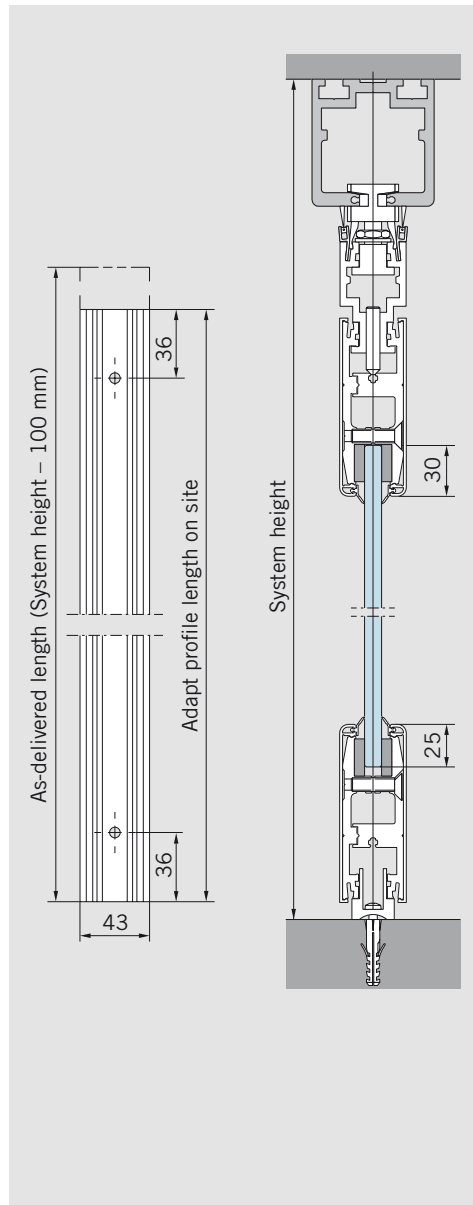


### Fixed panels

#### As-delivered condition of the vertical sealing profiles:

Cut lengths supplied from factory  
= System height – 100 mm.

Holes and recesses are pre-machined in the profile for the bottom door rail only. Any further machining work required for connection to the top door rail has to be performed on site.



### Installation instructions

When fitting the top and bottom door rails please ensure that the protrusion of the glass width on either side of a door rail is even. In case the panels incorporate a carrier profile a proper section of the double brush sealing profile is fixed to the carrier profile by a fixing cartridge. Prior to machining the sealing profile at the top for the exact length from the bottom to the top door rail, first hang the panels from the track rail and align.





## GENERAL INFORMATION

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### **Measuring up**

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### **General information**

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### **Safety-related information**

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## SAFETY-RELATED INFORMATION

**Important safety-related information for the mounting and use of DORMA glass fittings**  
(Follow these instructions in addition to the mounting and operating instructions in order to avoid damage of product and damage to person or property.)  
**Important:** All users have to be informed about relevant points mentioned in these safety-related information and the mounting and operating instructions!

### General information

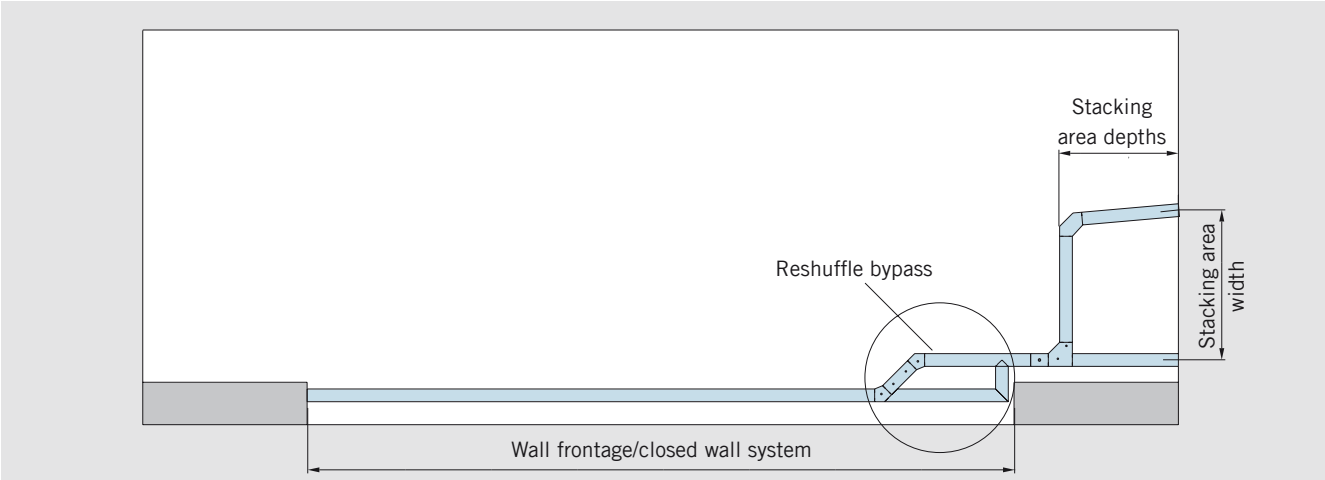
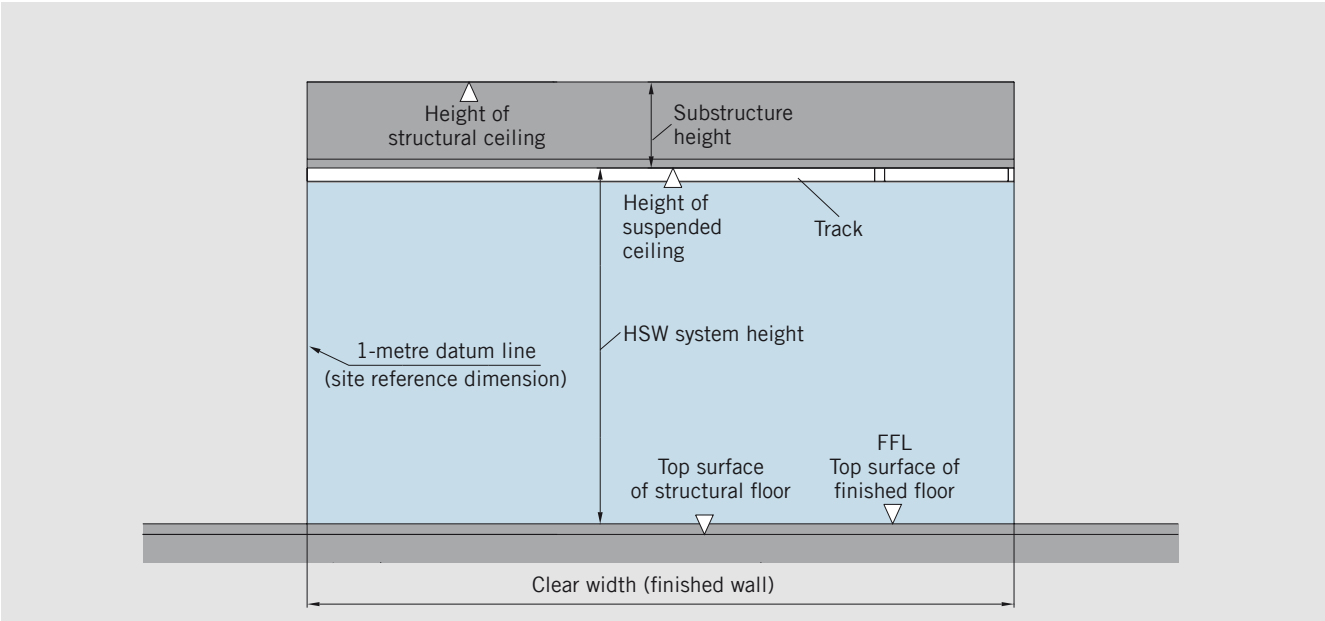
1. DORMA recommends using of:
  - TSG-H (heat soaked toughened safety glass) according to DIN EN 12150-1
  - LSG (laminated safety toughened glass) according to EN ISO 12543-1
2. DORMA glass fittings are not suitable for application in rooms where chemicals (e. g. chlorine) are used such as indoor swimming pools, saunas or salt-water pools.
3. Never move sliding panels faster than walking speed and always stop the door manually before it reaches end position.
4. Do not shut swing doors with excessive force. Install door stop to prevent door from opening too far.

### Mounting

1. Only properly qualified persons are allowed to mount DORMA glass.
2. Never use glass with secondary crushing hazards of glass closing edge – (especially during mounting).
3. Clean clamping area and protect with fat so cleaning agent) before mounting on satined glass) or glass of heavily used.
4. Never use clamping shoes on structural glass elements, always use a corresponding levelling layer.
5. When adjusting glass elements, always leave a clearance for the respective fitting.
6. Make sure glass does not touch heavy concrete.
7. (avoid ...)

# MEASURING UP

Important site measurements





## NOTES ON PORTAL SYSTEMS

### Maintenance recommendation for high-frequency HSW systems

Horizontal sliding walls with glass panels have been developed in order to provide retail outlets with generous and enticing frontages – entrances that offer easy accessibility and an inviting appearance for customers. When the frontages are closed, they can double up as expansive shop windows.

In cases where double-action sliding panels are used for main entrances as a portal system (i. e. in shopping malls or as similar operated HSW systems) they are submitted to very high daily traffic volumes and usage frequency rates. The door closers and pivot bearings used by DORMA have been successfully tested in accordance with the requirements of EN 1154. EN 1154 specifies 500,000 test cycles for manually operated closing devices. High-frequency portal systems such as the above can reach this number of cycles after just a few months. Consequently, DORMA recommends that such units be regularly maintained. The higher the usage levels, the more frequently the equipment should be serviced by either the installation firm or a similarly specialized fitter.

In addition to any door closer that may be fitted, a suitable opening limitre (to be provided on site) will also be required as protection for single action and double action sliding panels.

In the case particularly of public and highly frequented entrance systems, door closers are unsuitable as opening limitres as any excess pressure applied to doors will lead to high stress forces being applied at the sweep maximum.

## FINISHES

### Deviations in colour due to production procedures cannot be totally excluded.

HSW systems with surface finishes 150, 157 and 700 contain different component materials. In the case of FSW (folding sliding walls) systems, for example, the folding hinges are always of aluminium, while the standard surface finish for brush profiles and end covers is black anodised (E6/C35). These various components can also optionally be anodised or powder-coated so that they resemble the ordered surface finish. The standard surface of upper locking units and upper locking bolts is a powder-coated RAL colour. Please find below a table with the standard surface combinations within the range of the different surface varieties. Typical manufacturing flow marks appear when anodising the milled area of the track rail modules. As an alternative to the anodized EV 1 surface finish, we therefore offer modules and track rails in all lengths in a powder-coated version similar to EV 1 for visual reasons.

#### Finishes

Aluminium	DORMA-Glas Nr.	Sim. to Eloxal I	Sim. to Eloxal II
Aluminium mill finish	100		
Aluminium, silver	101	EV1	C 0
Aluminium similar satin stainless steel	107		
Aluminium similar satin stainless steel (for profile material)	113		C 31
Special anodised	199		
Powder coated colours	DORMA-Glas No.	Sim. to HEWI-No.	Sim. to RAL
Aluminium, white	300	99	9016
Special colour	399		
Stainless steel	DORMA-Glas No.		
Satinised stainless steel	700		

#### Finishes HSW EASY Safe

Aluminium	DORMA-Glas No.
Aluminium mill finish	100
Aluminium, silver	150
Aluminium, dark s/s	157
Aluminium, special SE (anodised finish)	199
Coloured coatings	DORMA-Glas No.
Black	304
Sim. to EV 1	318
White	350
Highly weather resistant	398
Special colours	399

# SAFETY-RELATED INFORMATION

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Important safety-related information for the mounting and use of DORMA glass fittings. (Follow these instructions in addition to the mounting and operating instructions in order to avoid damage of product and damage to person or property.)

Important: All users have to be informed about relevant points mentioned in these safety-related information and the mounting and operating instructions!

## General information

1. DORMA recommends using TSG-H (heat soaked toughened safety glass) to DIN EN 12150-1.
2. DORMA glass fittings are not suitable for application in rooms where chemicals (e. g. chlorine) are used such as indoor swimming pools, saunas or salt-water pools.
3. Never move sliding panels faster than walking speed and always stop the door manually before it reaches end position.
4. Do not shut swing doors with excessive force. Install door stop to prevent door from opening too far.

## Mounting

1. Only properly qualified and specially trained staff is authorised to mount DORMA glass fittings.
2. Never use glass with conchoidal fractures and/or damaged edges.
3. Due to crushing hazards – among others in the area of the secondary closing edge – and possible injury caused by breakage of glass during mounting, corresponding protective clothing (especially gloves and protective goggles) is required.
4. Clean clamping area with fat solvent (standard commercial cleaning agent) before mounting the glass fitting.
5. Never use clamping shoes on structured glass surfaces (except on satined glass) or glass of heavily varying thickness unless with a corresponding levelling layer.
6. Never use clamping shoes on self-cleaning coatings.
7. When adjusting glass elements, always stick to the required clearance for the respective fitting. Adjust clearance so that the glass does not touch hard components such as glass, metal or concrete.
8. Make sure not to use excessive force when installing the glass (avoid local stress resulting from very tight screws).

## Maintenance

Check fittings at regular intervals for proper positioning and smooth running and door for correct adjustment. Especially highly-frequented door systems require inspection by properly qualified staff (specialised companies or installation firms). Immediately replace damaged glass elements (no glass flaking and/or conchoidal fractures)!

## General care instructions

The surface finishes of the fittings are not maintenance-free and should be cleaned according to their material and design.

- For metallic surfaces (anodised finishes, stainless steel) please use appropriate cleaning agents without abrasive additives only.
- For varnished surfaces please use appropriate solvent-free cleaning agents only.
- Brass surfaces (without surface protection) have to be treated with an appropriate maintenance agent on occasion, to avoid tarnishing.

**For practical planning, please use our drawings DORMA-Glas DETAIL.**



