

# Horizontal sliding walls

HSW-ES (EASY Safe) | HSW-GP | HSW-R



# Horizontal sliding walls

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# HSW

## Transparent versatility

Horizontal sliding walls are used in a wide range of project types for both interior and exterior applications. These partitions can be designed with flexibility to suit the installation site, structural conditions, and

design concept. They can satisfy a broad spectrum of requirements in relation to styling, material and finish (color), and can also be equipped with individually fabricated panels to perform special

functions. Utilization of the dormakaba substructure ensures flexible planning for all system variants and provides simple installation, maximum reliability, and outstanding safety of the entire system.

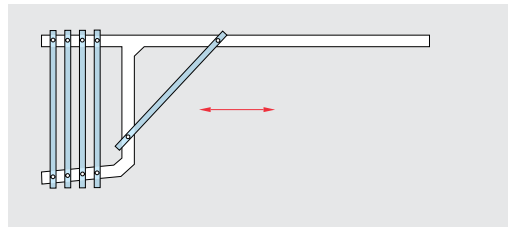
**HSW Horizontal Sliding Walls, with rails or frameless**

**HSW-ES**  
Glass assembly with top and bottom door rail

**HSW-GP**  
Glass assembly with single-point fixings



Panels slide individually—stacking track required. Glass door must use top and bottom rail (HSW-ES), or full glass/no rails (HSW-GP).

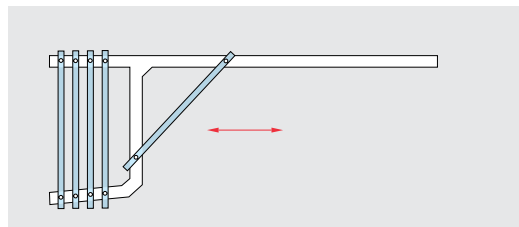


**HSW Horizontal Sliding Walls, fully framed**

**HSW-R**  
Fully framed panels for tempered monolithic, tempered laminate, or tempered double glazing.



Panels slide individually—stacking track required.



Note For exterior fully framed stile and rail horizontal sliding walls, see HSW-FT (Flex Therm) technical literature.



# HSW

## Product overview

### HSW-ES

With the HSW-ES system, panels create a continuous clear view without vertical stiles. An additional sealing profile can be ordered as an option to be applied to the glass panel vertical edges, acting as a thin vertical stile.

### HSW-GP

HSW-GP systems utilize single-point fixings to hold the glass in combination with the conventional track rail profile. With its high-quality stainless steel components and flush single-point fixings, the HSW-GP design perfectly complements contemporary architecture.

### HSW-R

The HSW-R sliding glass panel frontage is suitable for applications likely to be exposed to high wind loads— for example, shop windows and store entrances located in the façade or on a building exterior. Aluminum alloy frames clamp the glass on all sides, with lateral rubber lip seals and double brush seals top and bottom to provide added weather protection.

Use and features	HSW-ES	HSW-GP	HSW-R
Retail storefronts	●	○	●
Retail storefronts with climate barrier function			○
Interior room divider	●	●	○
Glass thicknesses in inches (mm ) Tempered monolithic glass	3/8", 1/2", 0.512", 5/8", 3/4" (10, 12, 13, 16, 19)	3/8", 1/2" (10/12)	5/16" –7/8" (8 – 22) <sup>2</sup>
Glass thicknesses in inches (mm ) Tempered laminated glass (comprising TLG sheets)	9/16", 11/16" (13.5, 16, 17)	9/16" (13.5)	
Assembly height [max. inches (mm )]	132" (3350) using 3/4" (19) thick glass	120" (3048) using 3/4" (19) thick glass	120" (3048) using
Panel width [max. inches (mm )]	49-7/32" (1250)	47-1/4" (1200)	43-5/16" (1100)
Panel weight [max. lb (kg)] <sup>1</sup>	330 lb (150 kg)	220 lb (100 kg)	220 lb (100 kg)
<b>Access panels (pivoting type)</b>			
– Pivoting end panel, single-acting	●	●	●
– Pivoting end panel, double-acting	●	●	●
– Offset hung end panel			○
– Single-acting sliding panel	●		●
– Double-acting sliding panel	●		●
– Concealed integrated door closer ITS 96	●		●

<sup>1</sup> Weight dependent on panel fittings    <sup>2</sup> Also usable for double glazing units.

● Standard    ○ Optional

# HSW

## Panel design

### HSW-ES panel features

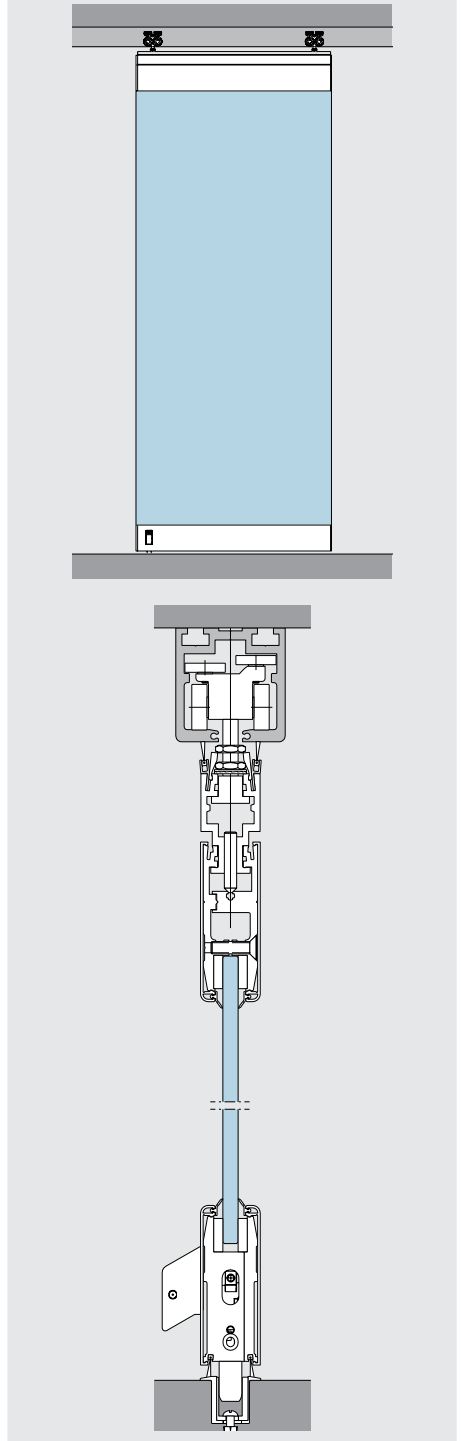
All panel types are provided with a top and bottom door rail, which safely holds the glass panel.

- The glass panes can have the following glass thicknesses: 3/8", 1/2", 0.512", 19/32", 11/16", 3/4" (10, 12, 13, 15, 17, 19), with a tolerance range of  $\pm -0.0312$  ( $\pm -0.793$ mm).
- For tempered laminated glass, the Clamp&Glue technology provides secure hold without the need for glass preparations.
- The top panel profile incorporates a double brush seal as standard. Double brush seals for bottom door rails are optional.
- Excellent draft protection is realized when additional sealing profiles with matching double brushes are used at the vertical glass edges.

HSW-ES is certified to the following European DIN standards:

- 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

HSW-ES sliding panel  
with carrier profile



# HSW

## Panel design

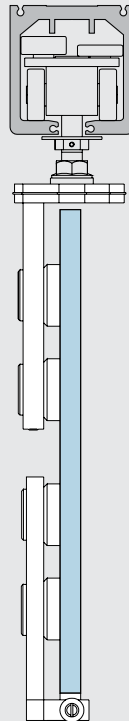
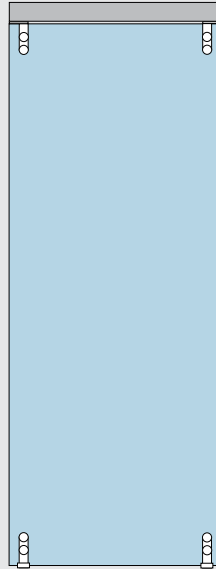
### HSW-GP panel features

In the all-glass version HSW-GP, panels form a continuous, transparent view, with the use of single-point fixings, creating a fine, elegant appearance.

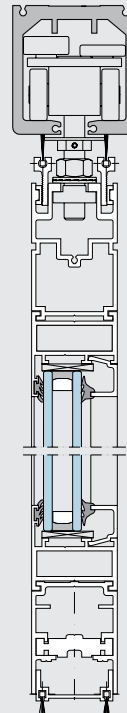
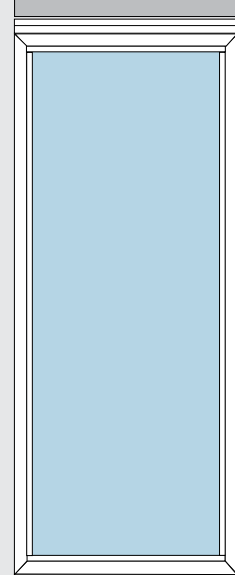
### HSW-R panel features

The fully framed individual panels of the HSW-R system offer not only high stability but also effective protection against external influences such as wind, weather, or air handling systems. Glass options include tempered laminated glass (TLG), tempered monolithic glass (TMG), or insulated glass units.

**HSW-GP** Frameless all-glass system with single-point fixings



**HSW-R** Fully framed stile and rail panels







# Stacking

## 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. dormakaba HSW systems can be parked in a range of different positions. The stack of panels can be aligned parallel or perpendicular to the frontage, be readily visible for effect or hidden behind columns. Another possibility is to park the system in line but out of the way behind a wall or in a garage (see pages 10–16).

The panels can also perform certain functions when the frontage is open, such as acting as the internal store window and glass showcase, in addition to providing an area for decorative printing on the glass for artistic value, branding, or advertising. The following pages demonstrate some system solutions available for solving a range of application challenges.



# Stacking

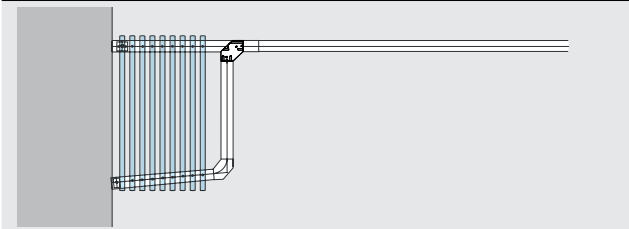
## Example stacking arrangements

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Panels stacked 90° angle perpendicular to travel direction

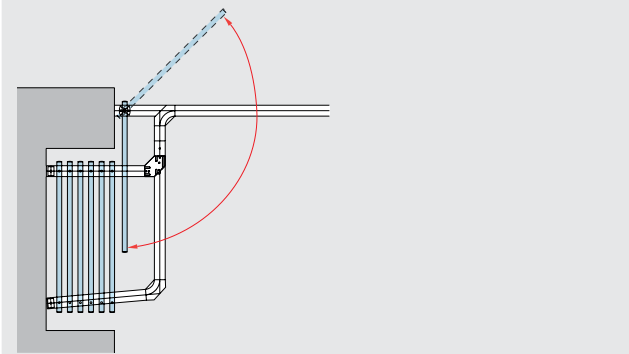
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**Product description**



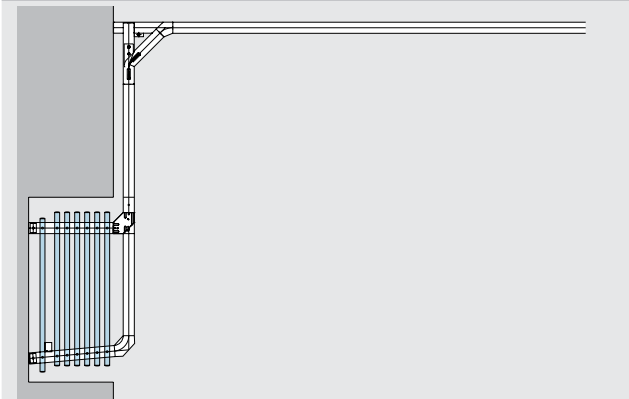
**Standard stacking arrangement.**

With pivoting end panel, single- or double-acting, to use as possible access panel (left or right, or left and right).



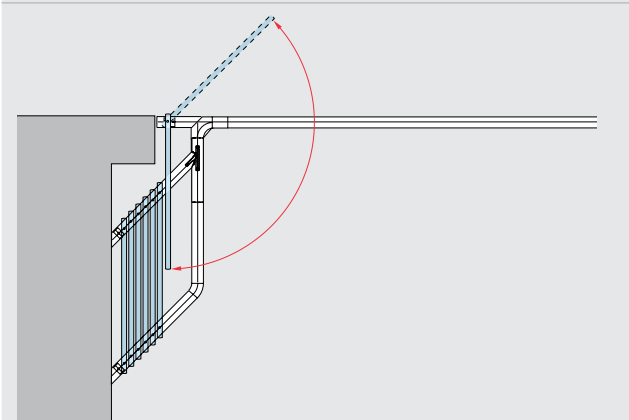
**Garage stacking.**

With pivoting end panel, single- or double-acting, to use as possible access panel (left or right, or left and right).



**Stacking in a box/pocket.**

For sliding panels or double-acting sliding panels (left or right, or left and right).



**Stacking behind column.**

**Stacking legs at 135° angle.**

With pivoting end panel, double-acting, to use as possible access panel (left or right, or left and right).

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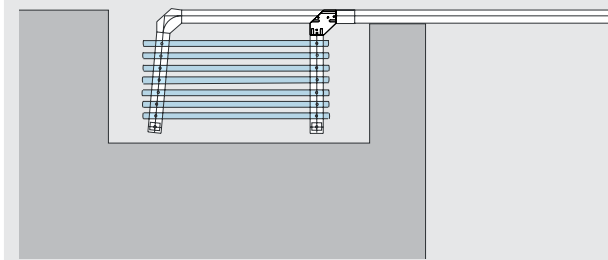


# Stacking

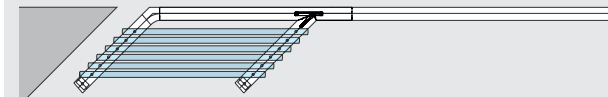
## Example stacking arrangements

### Panels stacked parallel to travel direction

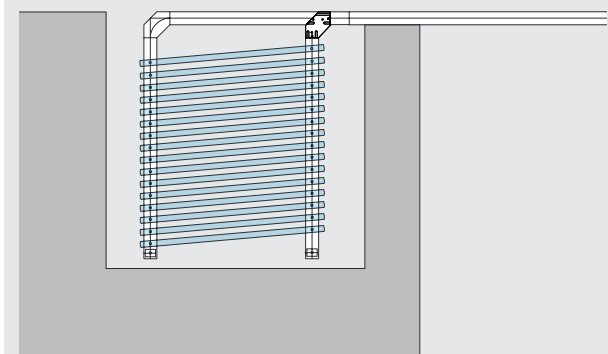
#### Product description



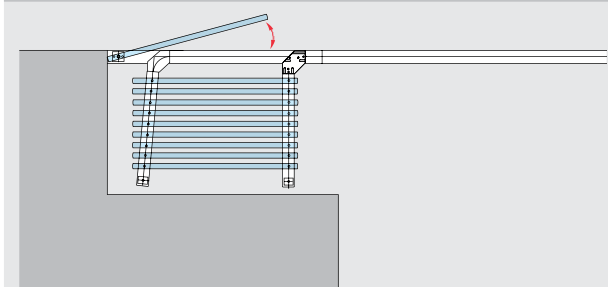
**Stacking in a garage, outer stacking leg at 95° angle**  
for small number of panels (up to 6) (left or right, or left and right).



**Stacking legs at 135° angle**  
(left or right, or left and right).



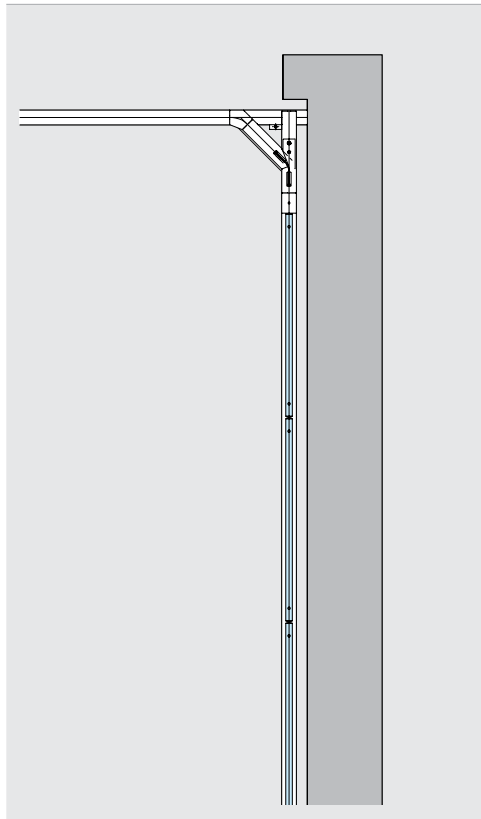
**Stacking legs at 90° angle**  
for large number of panels (more than 6) (left or right, or left and right).



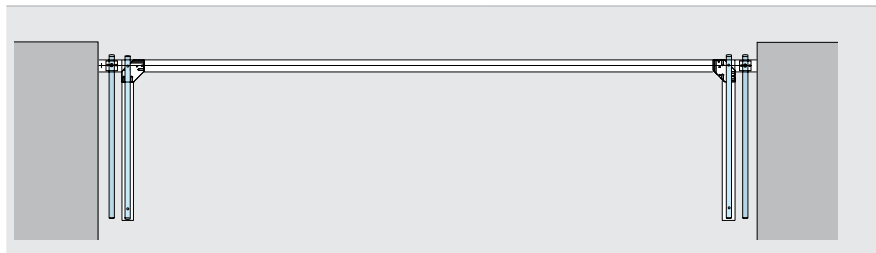
**Stacking behind pivoting end panel**  
**Outer stacking leg at 95°**  
(left or right, or left and right).

# Stacking

## Special stacking arrangements



Stacking in front of 90° wall with reshuffle bypass.

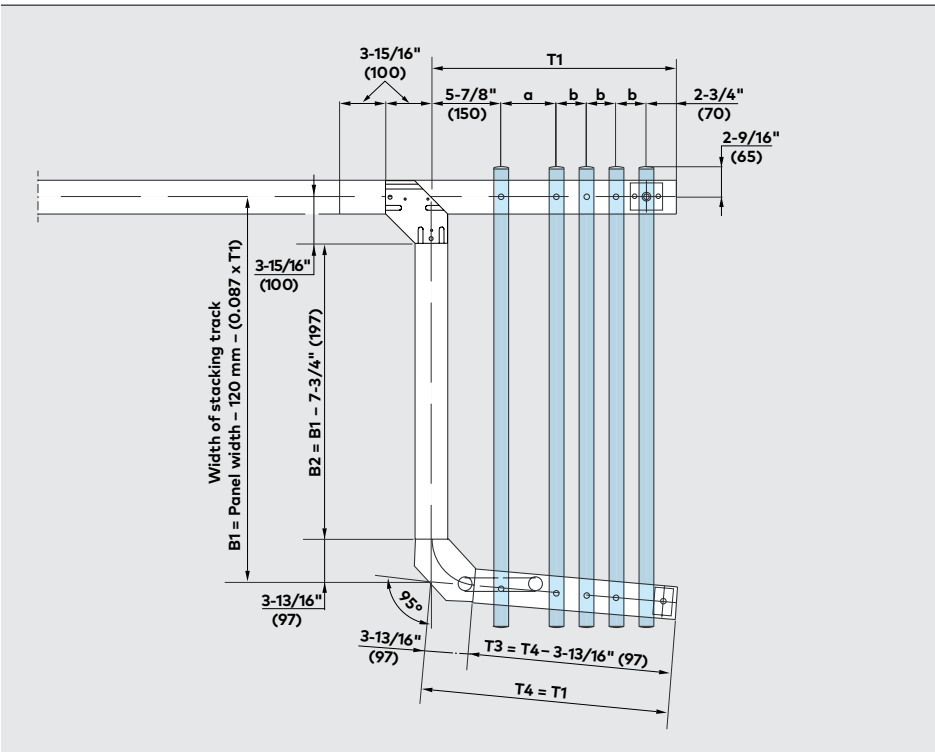


Stacking with one stacking leg for sliding panels in front of the pivoting end panel, single- or double-acting, on each side (2 pivoting end panels / 2 sliding panels).

# Stacking

## Stacking arrangement calculations

Panels stacked 90° angle perpendicular to travel direction (left or right, or left and right)

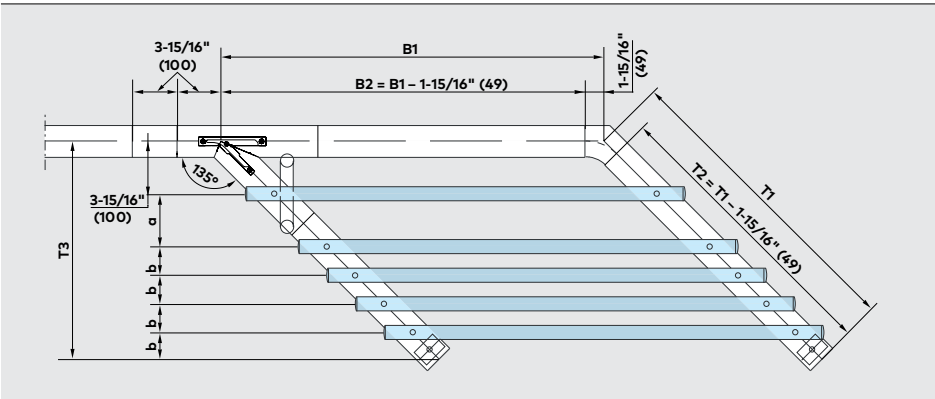


**a** = depending on pull handle depth

**b** = 2-9/16" (65) for HSW-ES  
3-5/32" (80) for HSW-R

HSW-GP cannot be configured with a 95° angled leg.

Stacking legs at 135° angle (left or right, or left and right).



**a** = depending on pull handle depth

**b** = 2-9/16" (65) for HSW-ES  
3-5/32" (80) for HSW-GP and HSW-R

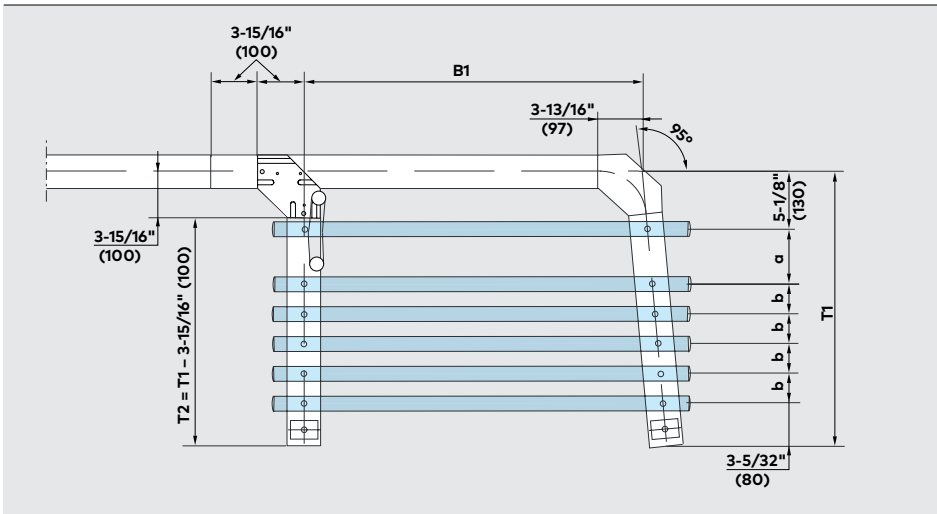
**B1** = Panel width - 5-1/8" (130)  
**T1** =  $T3 \times 0.056$  (1.414)



# Stacking

## Stacking arrangement calculations

Stacking in a closet/pocket, outer stacking leg at 95° angle for small number of panels (up to 6) (left or right, or left and right).



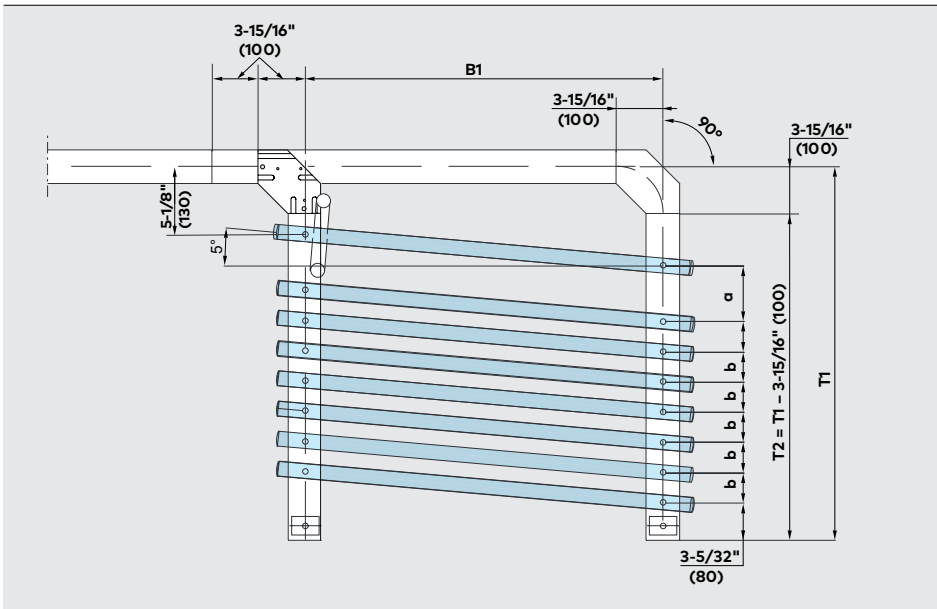
$a$  = depending on pull handle depth

$b$  = 2-9/16" (65) for HSW-ES  
3-5/32" (80) for HSW-R

$B1$  = Panel width - 5-1/8" (130) -  
[( $T1$  - 3-5/32" (80))] × 0.087

HSW-GP cannot be configured with a 95° angled leg.

Stacking legs at 90° angle for large number of panels (left or right, or left and right).



$a$  = depending on pull handle depth

$b$  = 2-9/16" (65) for HSW-ES  
3-5/32" (80) for HSW-GP and HSW-R

$B1$  = Panel width - 5-9/32" (134)

# Connections

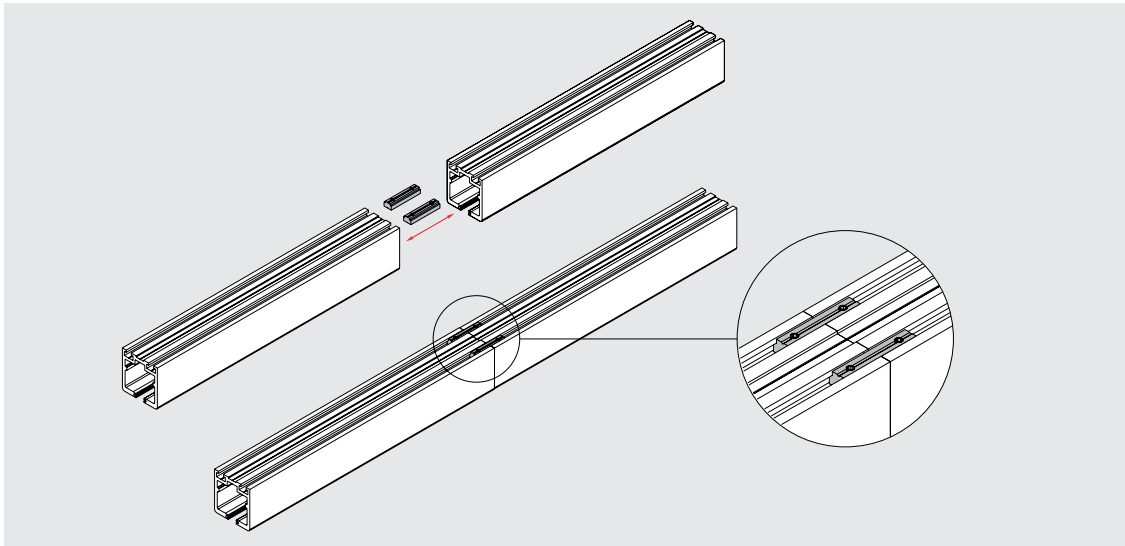
## Simple, secure, and removable connections

### Easy and secure track and module connection.

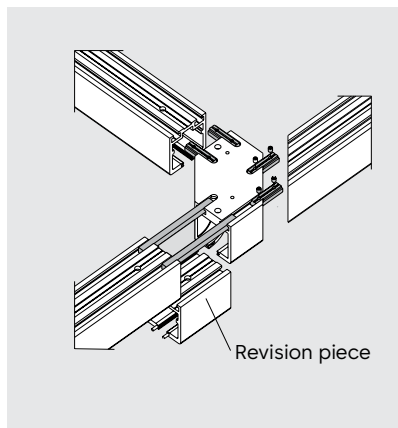
Fast, easy, flexible installation of track rail and parking modules. The special HSW track rail design with two parallel channels at the top (suitable for M 10 screws) simplifies the work on site.

- The single track sections and module connection profiles are connected to each other by special clamp inserts fitted in the provided channels, delivering secure connection.
- If size adjustments are necessary, track can be cut on site.
- In the lower part of the track rails, additional pins provide smooth and even surface for the roller carriers.
- 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-assembled.
- Track segments or joints are configured and supplied using miter cuts and welded connections. The adjacent track rail section can be easily assembled in a straight line by use of clamp inserts and pins. Welding may be recommended to increase roller life, depending on daily intended usage.

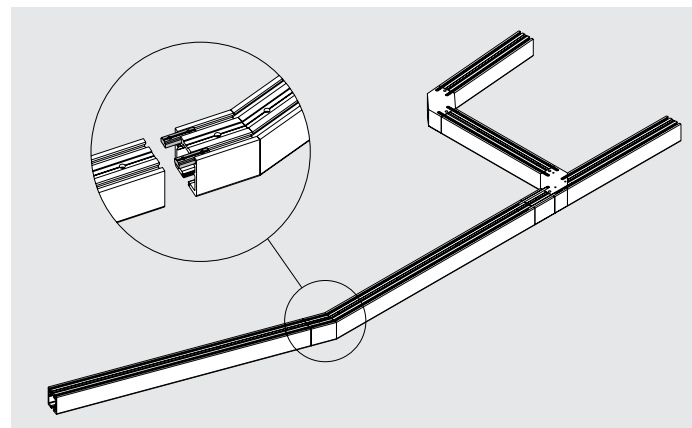
### Single track rail section



### Stacking construction



### Segmented track rail section



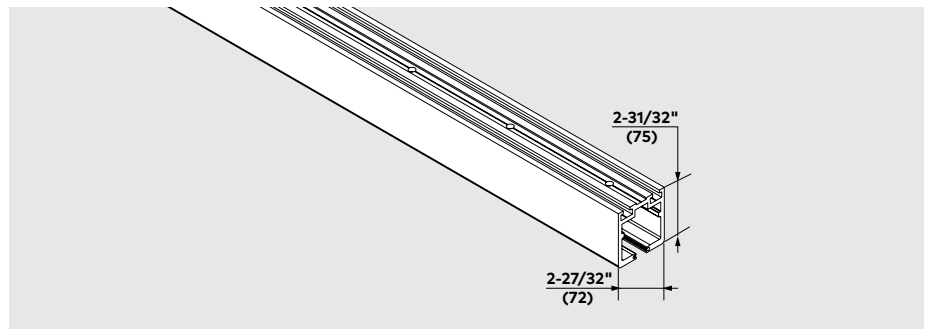
# Connections

## Track rails

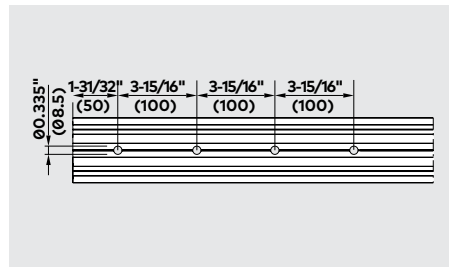
### Flexible and stable

Horizontal sliding walls can be constructed in a wide range of different configurations to suit the installation site, prevailing structural conditions, and the planning concept. With dormakaba HSW systems, a variety of designs can be implemented with ease. Straight and segmented track rails can be combined to produce virtually any bend or curve shape required. The track rails in the form of hollow sections combine all the virtues of light weight, stability, and torsional stiffness. When combined with the HSW substructure, installation becomes easier. Flexibility and stability mean that even unusual system configurations can be implemented without problem and give maximum functional reliability.

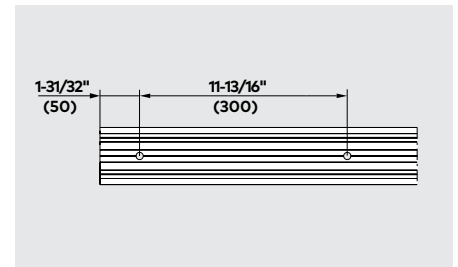
Straight track rail



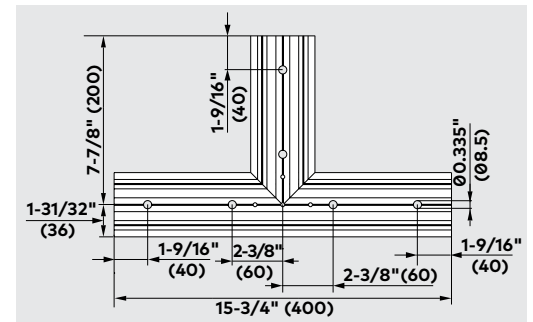
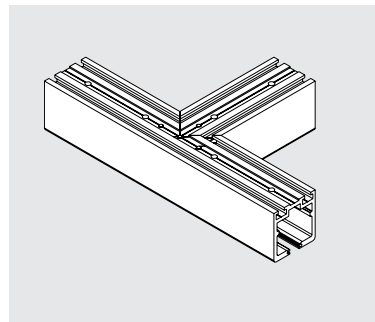
Track rail at stacking area



Track rail at assembly frontage



90° T-piece



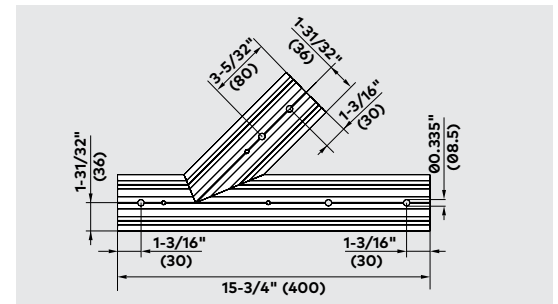
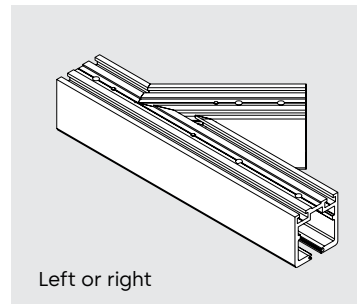
# Connections

## Track rails

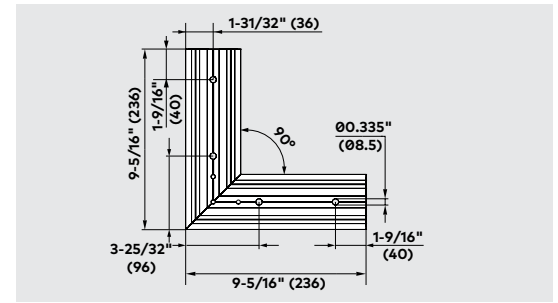
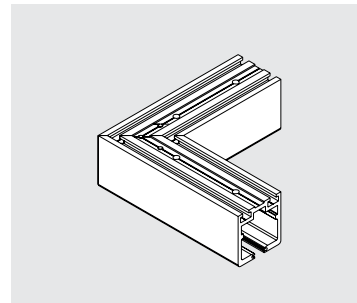
### Straight track rail

For a straight-line system configuration, a drill hole interval of 11-13/16" (300) in the track rail is sufficient, while the stacking area requires an interval of 3-15/16" (100). 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.

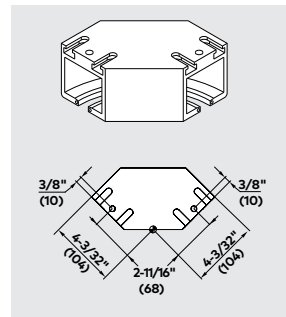
### 135° T-piece



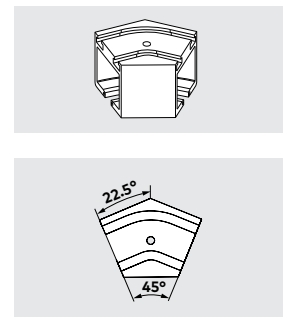
### 90° L-piece



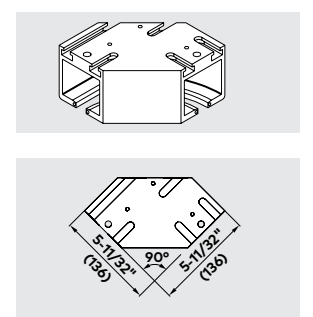
### Module 07/09 for 90°/95° angle



### Module 06 for 45° angle



### Module 04/05 90° angle left/right

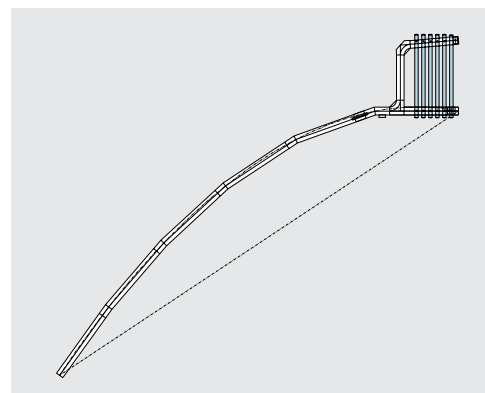


### Segmented track rail

With the segmented track rail, it is possible to implement the dormakaba HSW as a geometric 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.
- It is important to ensure that the opening sweep of single-acting and double-acting panels do not give the opportunity for collisions.

### Segmented track rail



# Substructure

## The system

### Solutions

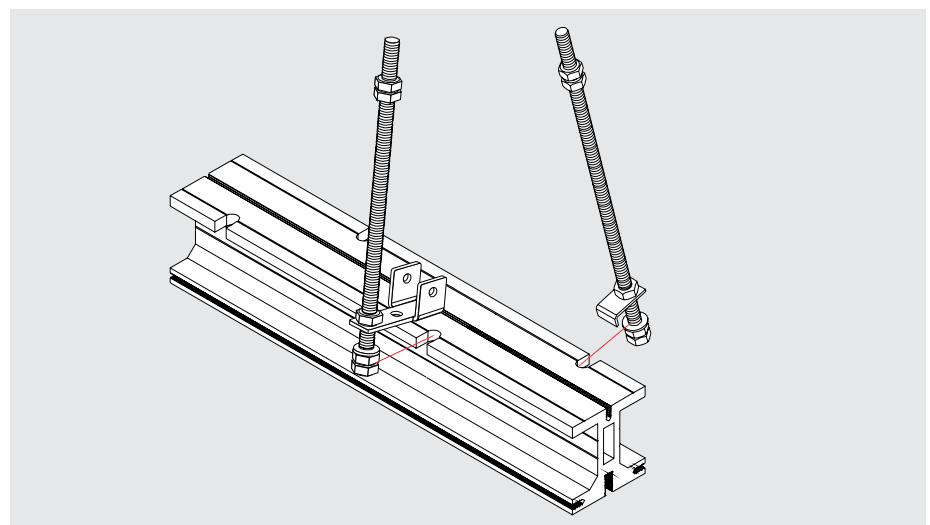
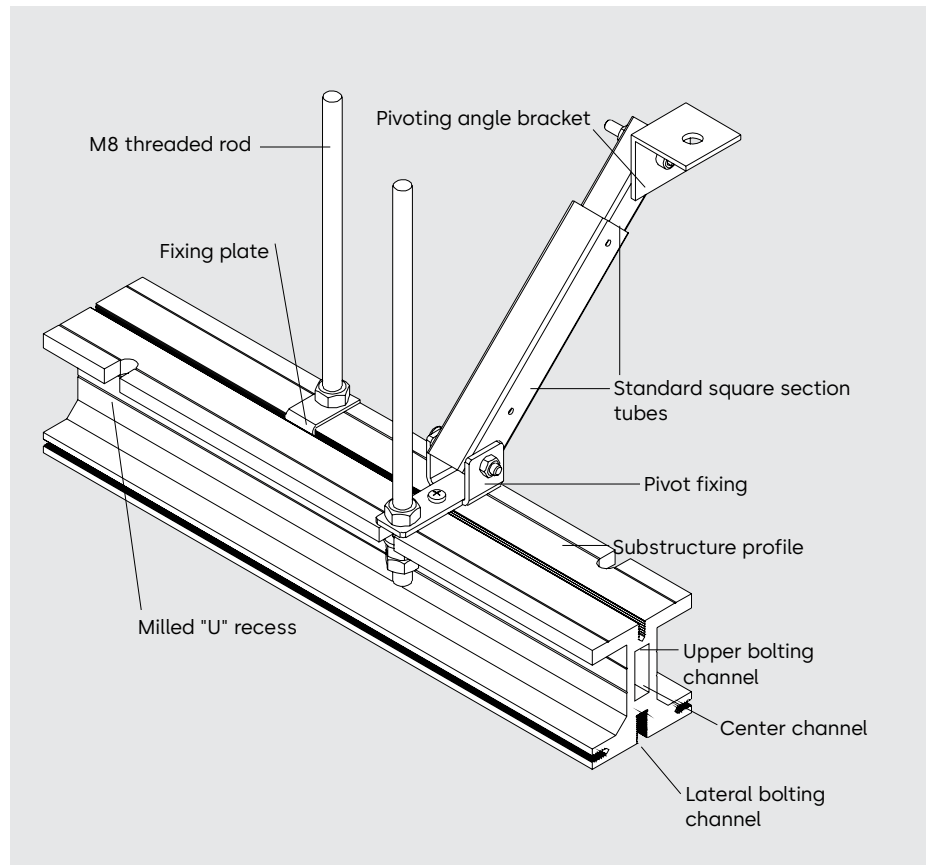
Installing a horizontal sliding wall system invariably requires a certain set of structural conditions to be established. Prior to installation, the system must be accurately and precisely configured and aligned vertically, in addition to detailing a structurally sound and secure location for substructure.

Because dormakaba 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 integration within the ceiling. The structural planning process may require hiring a structural engineer to perform calculations relative to the individual current building design, to assist in determining the ideal location within a facility as applicable or not, and to aid in identifying if or what additional structural components may be required for the location chosen. The dormakaba technical service department will assist the architect, designer and/or structural engineer through this process while designing the system, substructure, and location.

The new dormakaba substructure system is a modular construction designed to significantly reduce on-site installation cost and time. The modular HSW design offers the 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 dormakaba 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 fittings and ceiling brackets for bracing and stiffening the construction.





# Substructure

## The system

### Safety and flexibility

The dormakaba 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 debris and metal shavings from the track rails is 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 dormakaba system to be utilized for additional customer-specific applications.

The substructure profile is suspended from threaded rods. The rods 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  $3\text{-}15/16"$  (100) 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  $82\text{-}11/16"$  (2100) between two suspension points.

The center channel can be fitted with two flat aluminum bars to provide additional rigidity in the area of butt joints between profiles. This makes it possible to replace the requirement for the dual suspension arrangement with one suspension point either side of the joint. This design provides considerable flexibility to accommodate existing ceiling components overhead.

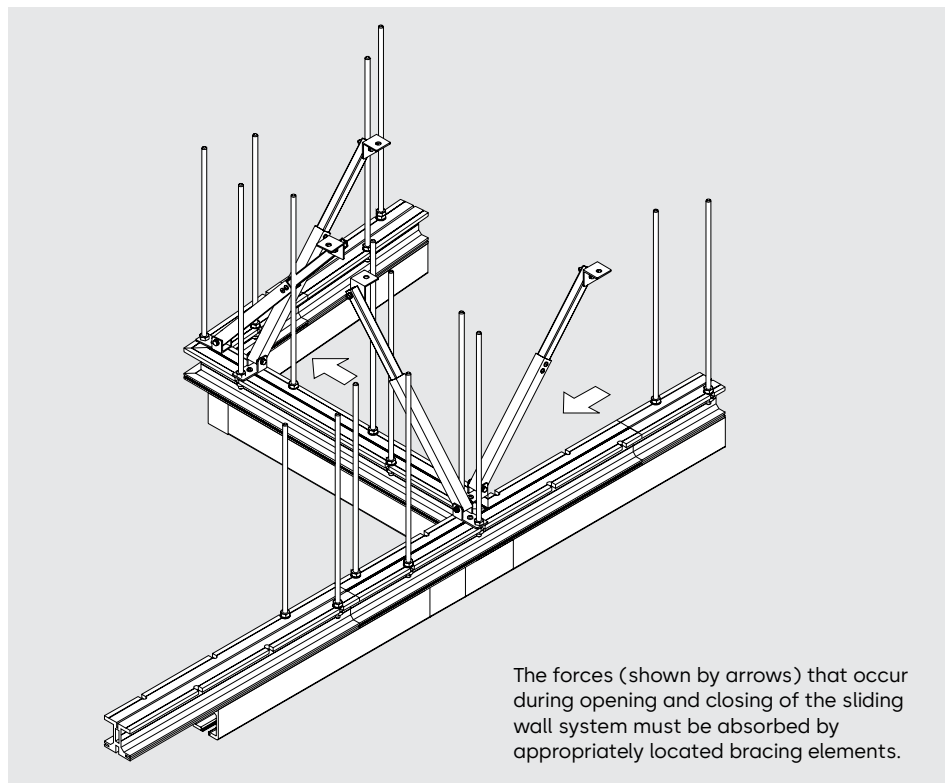
Once the substructure has been installed, the HSW system is vertically aligned and fixed by bolts through pre-drilled holes in the track, and threaded into the existing spline in bottom center of the sub-structure. Subsequent adjustments, e.g. after the building has settled, can also be carried out by 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 stabilize the system in the area of the stacked panels. The telescopic square section tubes are connected as additional bracing elements (struts) to the substructure by a pivot fixing. The struts are bolted to the ceiling using the appropriate angle brackets.

The modular design of the dormakaba substructure is precisely matched to the modules of the dormakaba 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 dormakaba to supplement the HSW system drawing always supplied with the quotation.

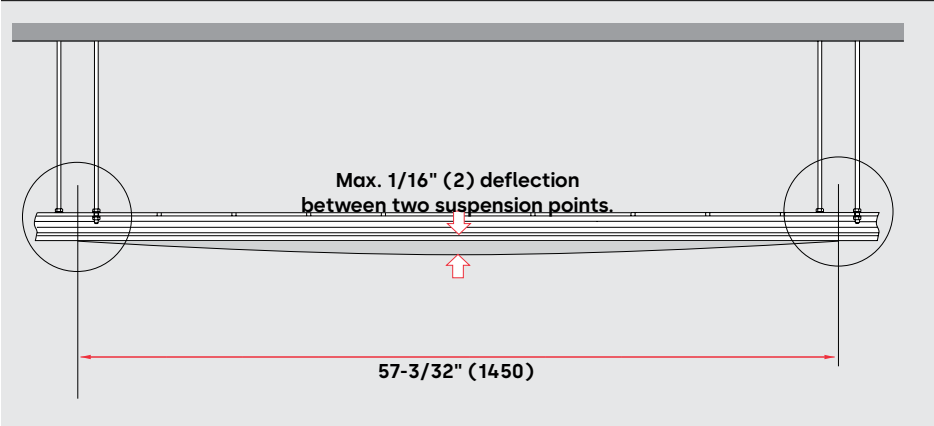


The forces (shown by arrows) that occur during opening and closing of the sliding wall system must be absorbed by appropriately located bracing elements.

# Substructure

## Planning details

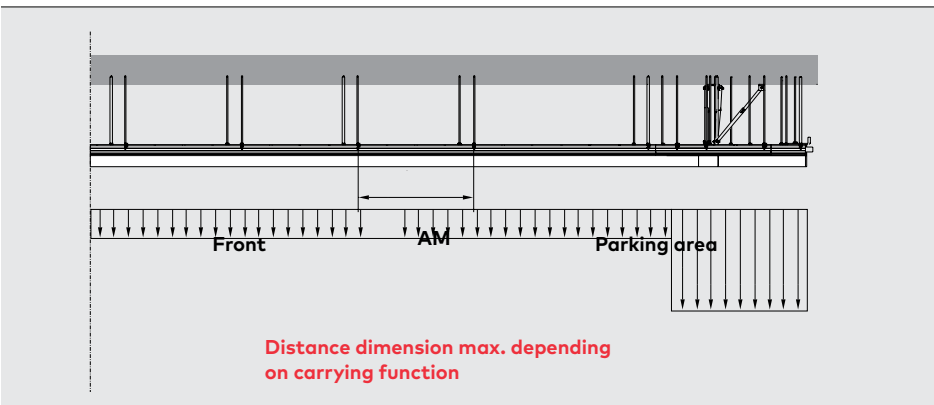
### Calculating the suspension intervals



With a maximum load (panel weight) of 330 lb/ft (150 kg/m) and a permitted deflection of the substructure with track of 1/16" (2), the interval between two suspension points must be no greater than 57-3/32" (1450). The table below shows other values for different loads.

In order to prevent system sway, every second suspension point must be reinforced by a strut. The substructure profile ends (travel path and stacking area) should ideally be directly connected to the masonry or to existing structural members.

### Illustrative example of load values



#### HSW-ES characteristic values

Formula for calculating the:  
 Glazing height  
 = system height – 12-5/32" (309)  
 = panel height – 7-19/32" (193)

Glazing weight  
 Glass 3/8" (10) = 5.11 lb/sq. ft (25 kg/sq. m)  
 Glass 1/2" (12) = 6.4 lb/sq. ft (32 kg/sq. m)

Door rail weight  
 Aluminum = 8.047 lb/ft (12 kg/m)  
 Brass = 9.72 lb/ft (14.5 kg/m)  
 Stainl. steel = 8.88 lb/ft (13.25 kg/m)

#### Example system

HSW-ES system in stainless steel  
 System height 137-3/4" (3500)  
 Glazing thickness 1/2" (12)

#### Calculation

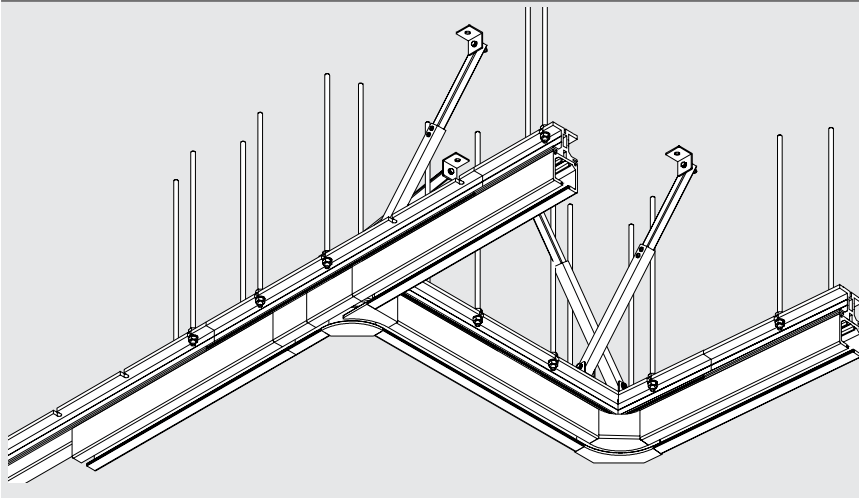
Load  
 = glazing weight x glazing height + door rail weight  
 = 6.14 lb/sq. ft (30 kg/sq. m) x (137-3/4" [3500] – 12-5/32" [309]) + 8.88 lb/ft (13.25 kg/m)  
 = 6.14 lb/sq. ft (30 kg/sq. m) x 125-5/8" (3191) + 8.88 lb/ft (13.25 kg/m)  
 = 73.08 lb/ft (108.98 kg/m)

F	AM	F = Force AM = Distance dimension
132 lb/ft (60 kg/m)	80-3/4" (2050)	
165 lb/ft (75 kg/m)	74-13/16" (1900)	Force example: The distance dimension of 73.08 lb/ft (108.98 kg/m) = 67-5/16" (1710) (can be linearly interpolated)
198 lb/ft (90 kg/m)	68-29/32" (1750)	
231 lb/ft (105 kg/m)	68-29/32" (1750)	
264 lb/ft (120 kg/m)	63" (1600)	
297 lb/ft (135 kg/m)	63" (1600)	
330 lb/ft (150 kg/m)	57-3/32" (1450)	

# Substructure

## Stacking area design

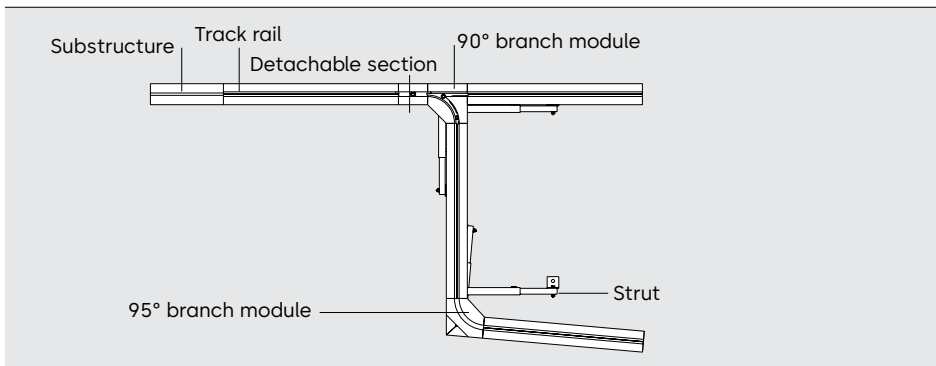
View from below



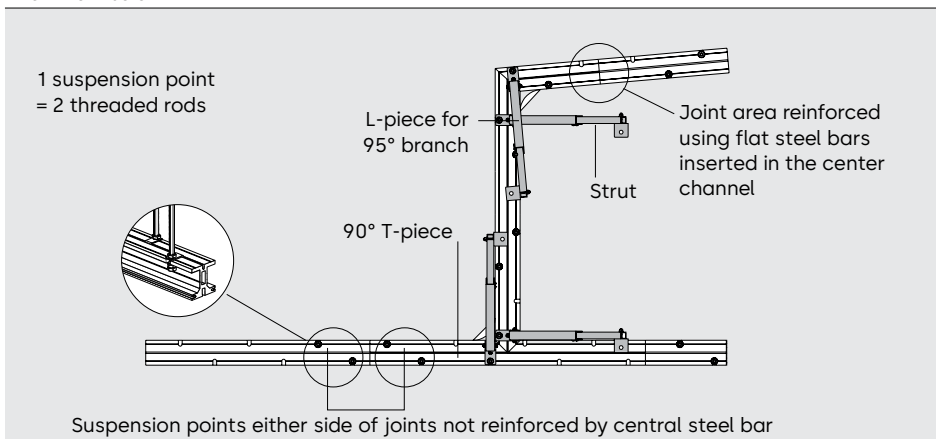
The construction of the stacking area, assembled from substructure and track rail modules, provides a good illustration of how this robust system can be utilized. The individual components are coordinated to ensure safe integration. Joints in the substructure are offset to those in the track rails so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

Provided that the track rails are adequately bolted to the substructure, gaps of up to 15-3/4" (400) measured from one suspension point to the next are permitted in the substructure.

View from below



View from below

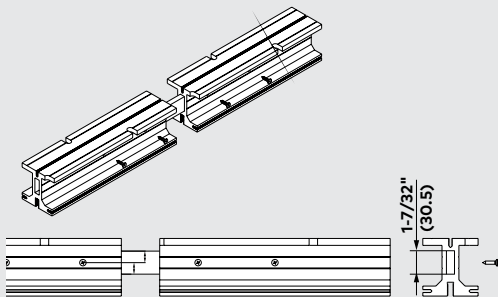
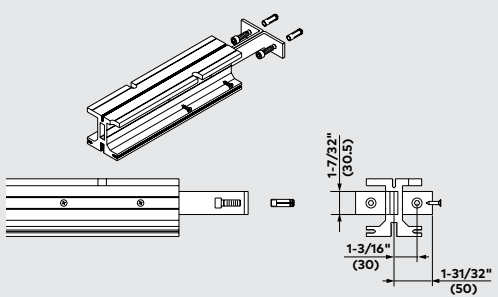
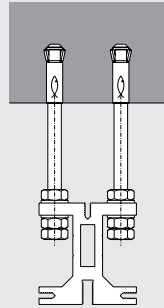
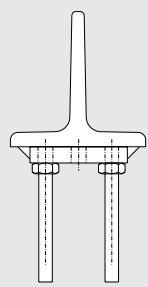
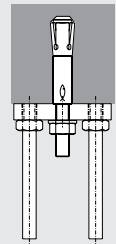
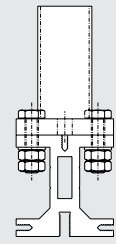
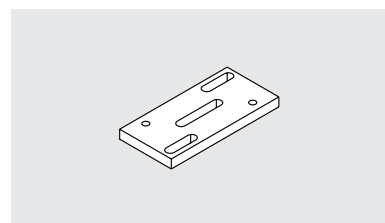


Joints reinforced by central steel bar only require one local suspension point.

# Substructure

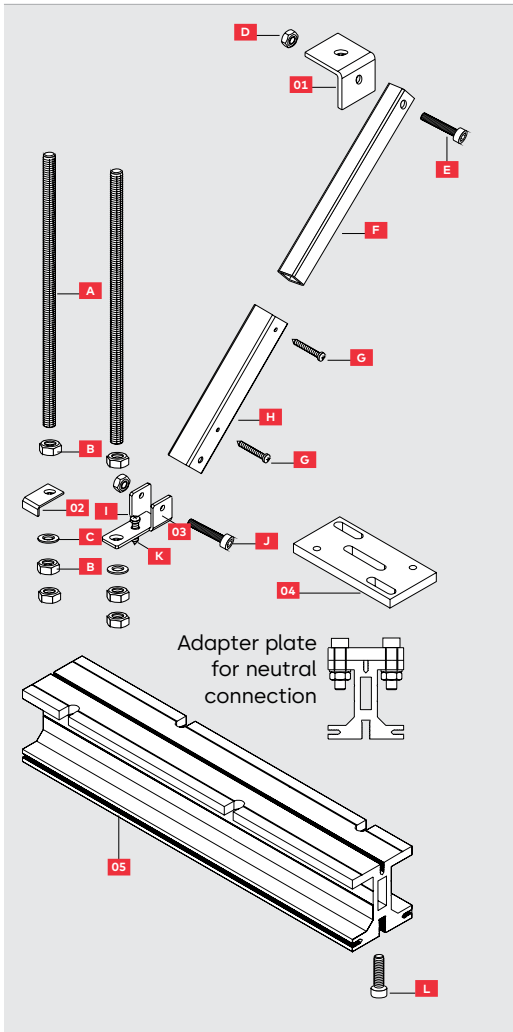
## Connection details

### Substructure profile

		Product description	Ref. No.
		<b>Profile connection</b> with connection lug.	<b>815.442.001.40</b>
		<b>Wall connection with angled connection lugs.</b> Bending of connection lug on site according to need.	<b>815.442.001.40</b>
		Product description	
<b>Direct connection to ceiling</b> 	<b>Welding connection to steel</b> 	Existing bearing structure such as ceiling, bulkhead, steel girder by addition of adapter plate.	<b>Ref. No.</b> <b>815.435.001.40</b>
<b>Flexible connection to ceiling</b> 	<b>Connection to steel construction</b> 	<b>Adapter plate</b>	<b>Ref. No.</b> <b>815.435.001.40</b> 

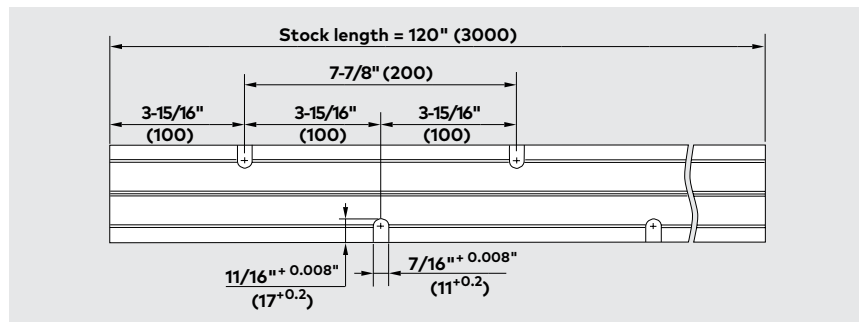
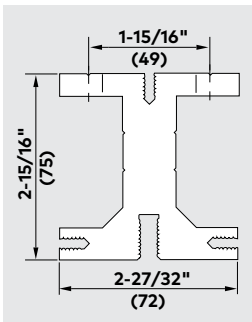
# Substructure

## Component parts, accessories



Component parts	Product description	Ref. No.
01	Pivoting angle bracket	815.437.001.40
02	Fixing plate	815.434.001.40
03	Pivot fixing	815.436.001.40
04	Adapter plat	815.435.001.40
05	Basic substructure profile, stock length 120" (3000) Fixed length	815.658.000.99 815.659.000.99
Component parts	Product description	Ref. No.
A	Threaded rod M10 x 39-3/8" (1000)	800.01.470.3.30
B	Hex nut DIN 439-2 M10	800.03.001.3.30
C	Washer ISO 7089-10	800.04.009.3.30
D	Hex nut DIN 934-M6	800.03.005.3.30
E	Hex socket screw DIN 933-M6 x 1-3/8" (35)	800.01.337.3.30
F	Telescopic strut top section, square section tube, galvanised steel 25/32" x 25/32" x 1/16" (20 x 20 x 2)	800.16.025.4.32
G	Drilling screw DIN 7504 ST4 5/16" x 5/8" (8 x 16)	800.01.286.3.30
H	Telescopic strut bottom section, square section tube, galvanised steel 1" x 1" x 1/16" (25 x 25 x 2)	800.16.026.4.32
I	Hex nut DIN 934-M6	800.03.005.3.30
J	Hex socket screw DIN 933-M6x40	800.01.319.3.30
K	Self-tapping screw ISO 7049-St4.0189"x 0.512" (4.8x13)-C-H	800.01.493.3.30
L	Cylindrical head screw for fixing track rail to substructure profile DIN 912-M8x25	800.01.018.3.30

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





# HSW-ES Features

## Security in use and elegance in design

### Outstanding strengths of the HSW-ES system

- The optional use of tempered laminated glass increases the creative possibilities for panel design and branding, in addition to potentially adding sound dampening improvements.
- A visible status display color system indicates the status of the top locking device (red/locked, green/unlocked) on the single-acting sliding panel or double-acting sliding panel. This gives clear status of the security of the door panel.
- Double brush seals in the top and bottom door rails successfully minimize drafts.



### Intelligent solutions for more convenience and security

#### More clarity and easier locking thanks to status display

##### Locking status at a glance

Security and convenience in one—the top door locking device indicates the locking status of the door panel on the status display.

##### Less draft for even greater comfort

Innovative double brush seals in the top and bottom door rails improve door control and noticeably minimize the amount of draft. The optional vertical brush seals can be fitted up to the full height of the panel to give additional draft proofing for noticeably greater comfort.



# HSW-ES

## Multilock—Simple locking with hand or foot; three locking possibilities in one component

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

The Multilock can be installed in the bottom door rail, combining three options for secure locking: front locking device, side locking device or mortise lock.



Front locking



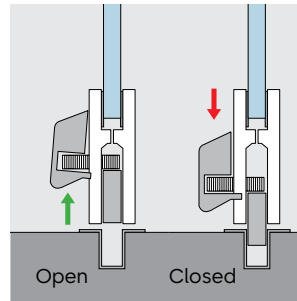
Side locking



Mortise lock

### Easy foot-operated latching and unlatching

The Multilock's foot-operated floor bolt provides for maximum convenience – simple and hassle-free.



## Innovative holding power

### TLG—Improved holding power with tempered laminated glass

#### Hassle-free installation with the new Clamp&Glue technology

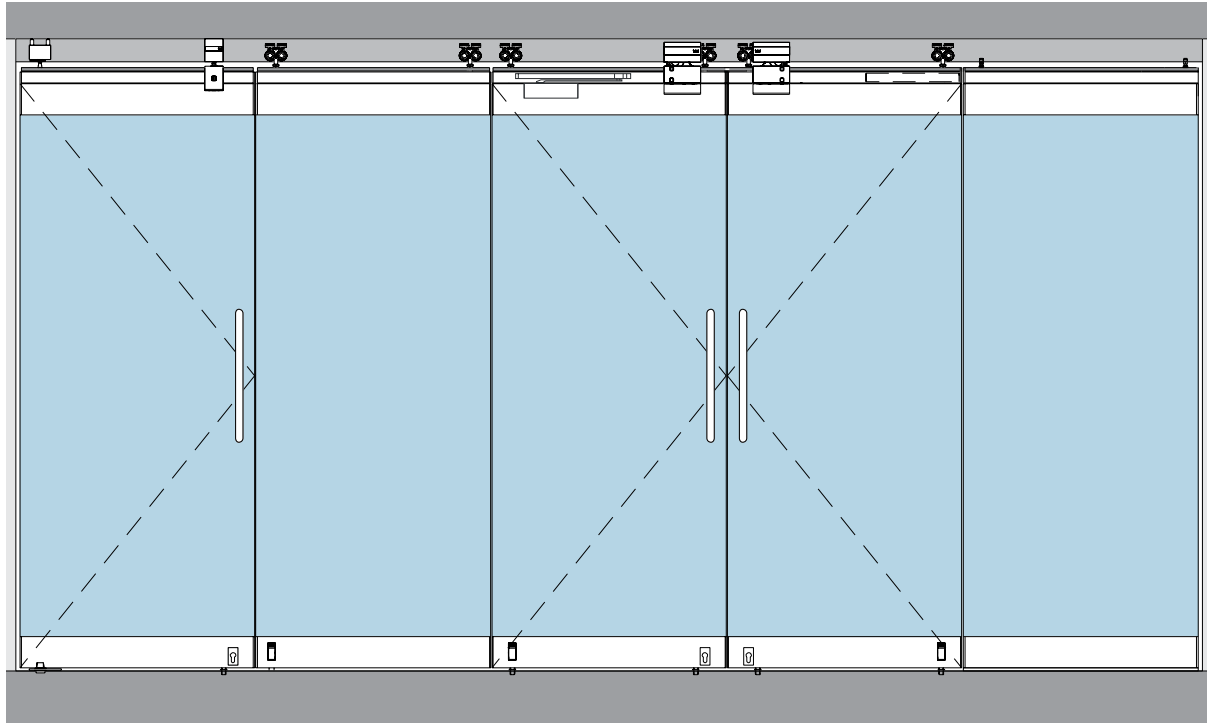
The mounting process with HSW-ES is incredibly simple. The special adhesive is fed through an injection hole to the adhesive channel where it spreads out evenly. After a drying time of just 20 minutes the panel can then be installed.

- **Attractive added value**  
Tempered laminated glass makes the application of HSW-ES not only attractive, but also more secure.
- The innovative Clamp&Glue technology enables easy bonding and ensures fittings and glass are held firmly in place.
- Special inner layers in the tempered laminated glass offer design freedom such as UV protection, potential noise reduction, and privacy.



# HSW-ES

## Panel functions



	<b>Pivoting end panel, single- or double-acting</b> Non-sliding. Single-acting panel with floor pivot and TS 92 door closer. Double-acting panel with floor pivot or BTS floor closer.	<b>Sliding panel</b> Basic movable panel without additional function.	<b>Double-acting sliding panel*</b> With ITS 96 door closer, operational when frontage closed.***	<b>Fixed panel</b> Fixed panel design matching the design of the sliding panels in the assembly.
<b>Max. panel height</b>	157-1/2" (4000) max height with 3/4" glass is 132"	157-1/2" (4000) max height with 3/4" glass is 132"	141-3/4" (3600) max height with 3/4" glass is 132"	157-1/2" (4000)
<b>Max. panel width</b>	49.25" (1250)	49.25" (1250)	49.25" (1250)	49.25" (1250)
<b>Max. panel weight</b>	330 lb (150 kg)	330 lb (150 kg)	264 lb (120 kg)**	330 lb (150 kg)

The individual panels can vary in widths. Maximum width should not exceed 115% of the smallest panel width.

\* For single-acting sliding panel, consider notes relative to portal system. See page 72.

\*\* Note: The maximum permissible weight relates to the complete door assembly, including glass, hardware, and rails.

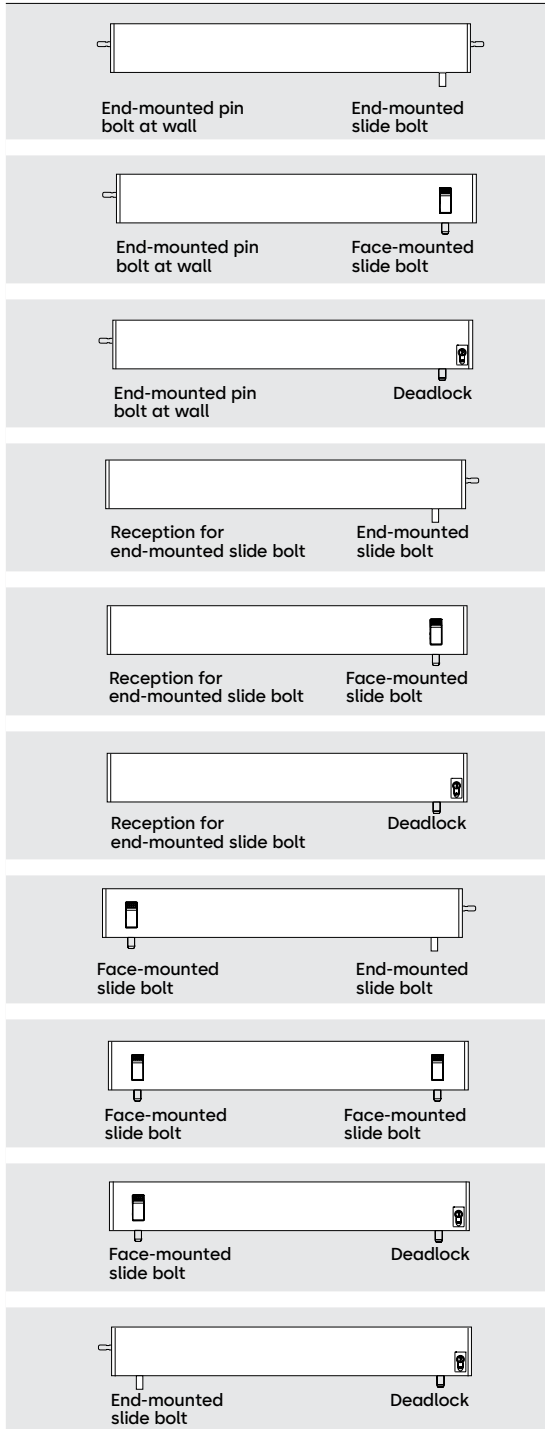
\*\*\* Minimum panel width for use with ITS closer is 34-1/2" (880).

# HSW-ES

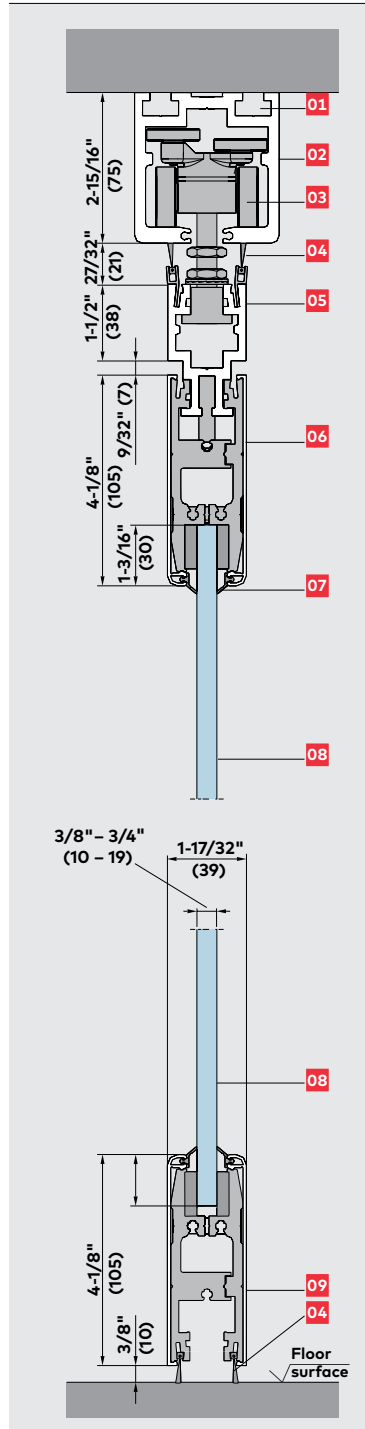
## Door rails and general details

### Bottom locking devices

All illustrated combinations are also available as mirror image from what is shown.



### General parts and measurements



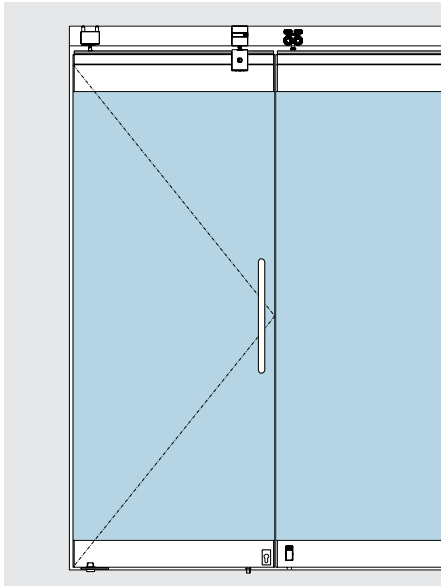
Regardless of the function of each of the individual panels, an HSW-ES system comprises the following basic components:

- 01** Two parallel channels suitable for M 10 screws and clamp connectors.
- 02** Track rail.
- 03** Roller carrier.
- 04** Double brush seals on top (bottom layout is optional).
- 05** Carrier profile.
- 06** Top door rail and comprising base profiles with cover profiles and end caps.
- 07** Rubber seal (bridges gap between cover profile and glass panel).
- 08** Tempered monolithic glass or tempered laminated glass 3/8"–3/4" (10–19) (by others).
- 09** Bottom door rail, comprising base profiles with cover profiles and end caps.

# HSW-ES

## Pivoting end panel

### Single- or double-acting



### Pivoting end panel, single- or double-acting, with floor pivot

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

### Pivoting end panel, single-acting

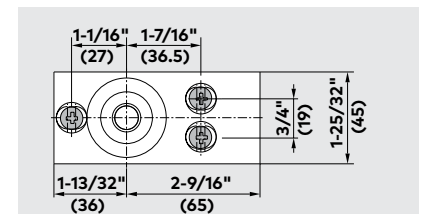
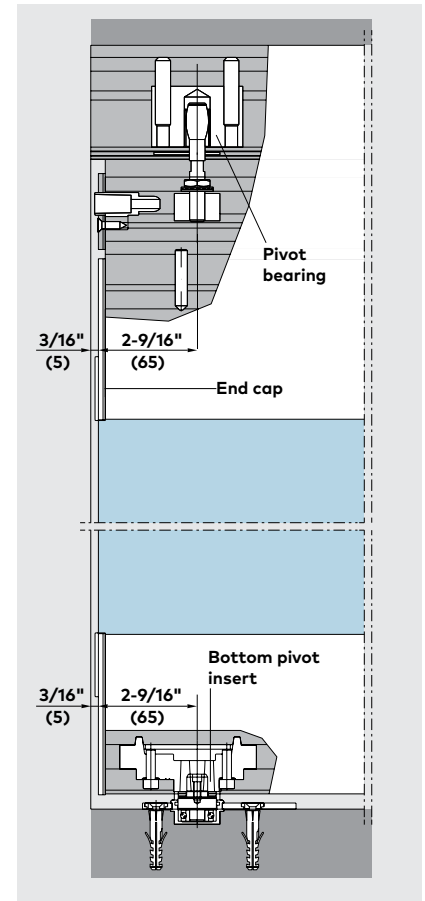
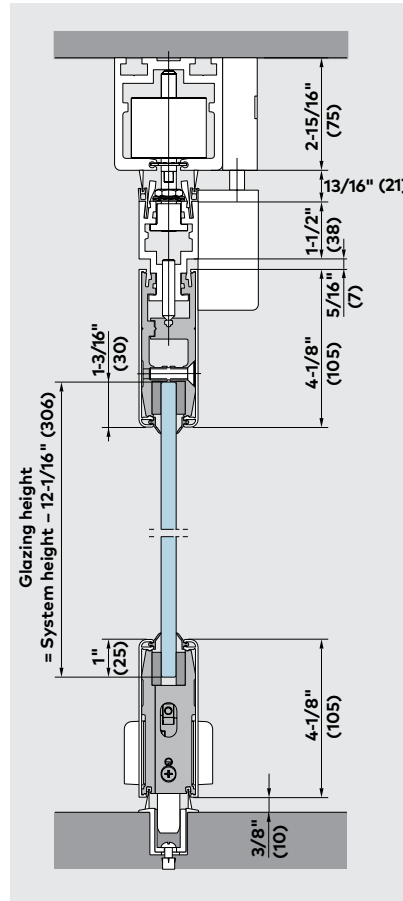
with stop-type end caps top and bottom. Pivot point variants:

- Floor pivot with round spindle
- BTS 75V for panels up to 260 lb (118 kg), with optional hold-open at 90° door opening angle
- BTS 80 for panels up to 330 lb (150 kg) with adjustable hold-open device

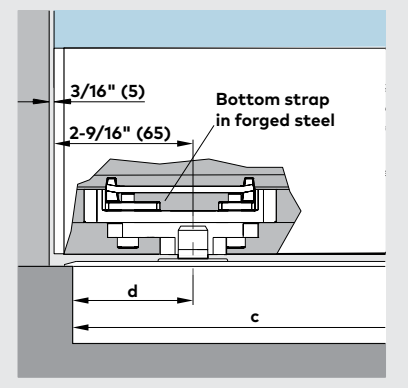
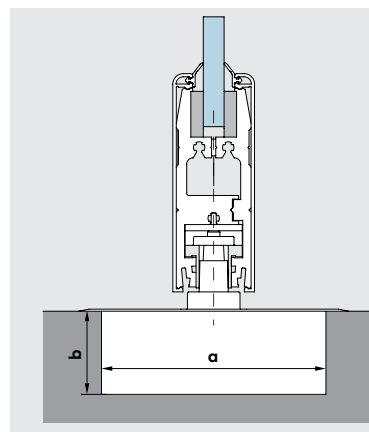
### Pivoting end panel, double-acting

Pivot point variants:

- Floor pivot with round spindle
- BTS 75V for panels up to 260 lb (118 kg), with optional hold-open at 90° door opening angle
- BTS 80 for panels up to 330 lb (150 kg) with adjustable hold-open device



### Pivoting end panel, single- or double-acting, with floor closer-



### Mounting dimensions in inches (mm)

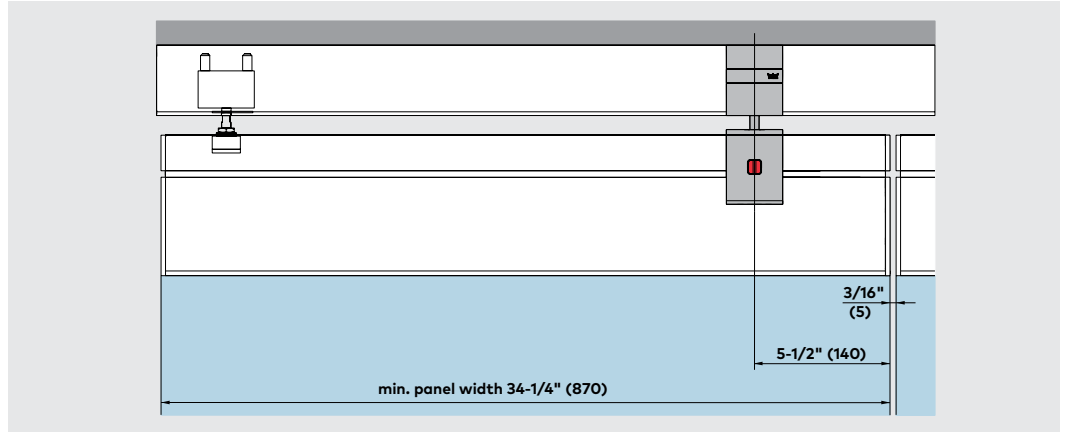
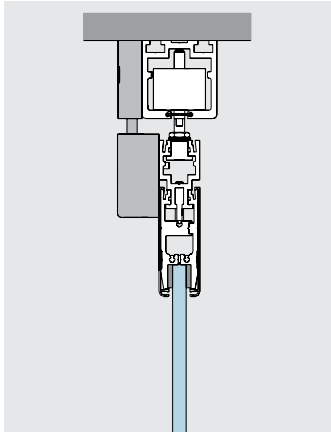
	BTS 75V	BTS 80
a	3-1/4" (82)	3-1/16" (78)
b	2" (51)	2-3/8" (60)
c	11-1/4" (285)	13-3/16" (341)
d	1-13/32" - 1-13/16" (36 - 46)	2" - 2-1/4" (51 - 57)



# HSW-ES

## Pivoting end panel

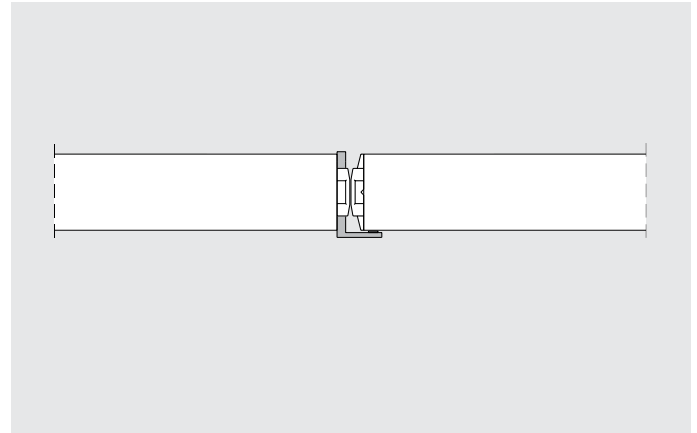
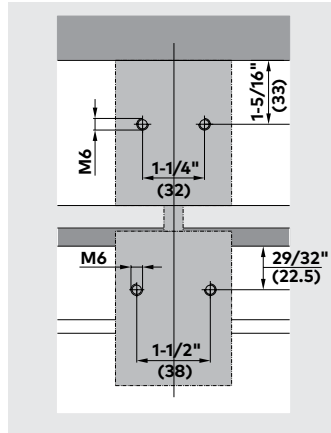
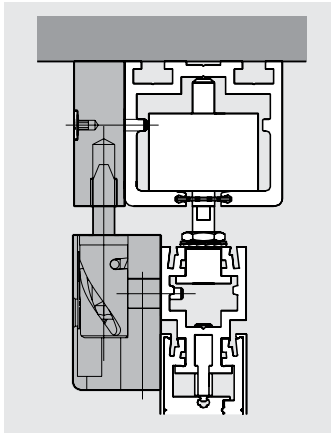
Single- or double-acting, with additional upper locking bolt



Additional upper locking bolt

New drill hole of pattern

End cap with stop (optional)

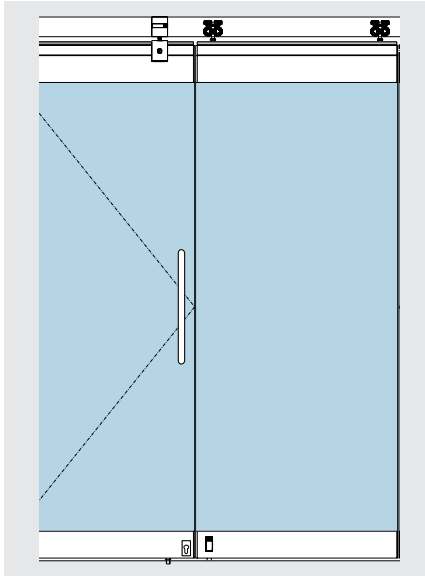


Data and features		BTS 80			BTS 75V
Spring strength (ANSI)		3	4	6	1-4
Interior and exterior doors	≤ 33-15/32" (850)				
	≤ 37-13/32" (950)	●			●
	≤ 43-5/16" (1100)		●		
	≤ 55-1/8" (1400)			●	
Closing speed adjustable by valve	175° - 0°	●	●	●	●
Delayed action (adjustable by valve) (selectable alternative to allow more time to egress/ingress)		●	●	●	
Max panel weight in lb (kg)		330 lb (150 kg)	330 lb (150 kg)	330 lb (150 kg)	260 lb (118 kg)
Hold open		Standard adjustable range 75° - 175°			Optional single point 90° or 105°
Dimension	Length	13-3/16" (341)	13-3/16" (341)	13-3/16" (341)	11-1/4" (285)
	Overall width	3-1/16" (78)	3-1/16" (78)	3-1/16" (78)	3-1/4" (82)
	Height	2-3/8" (60)	2-3/8" (60)	2-3/8" (60)	2" (51)
Floor closer certified to BHMA/ANSI A156.4		●	●	●	●

# HSW-ES

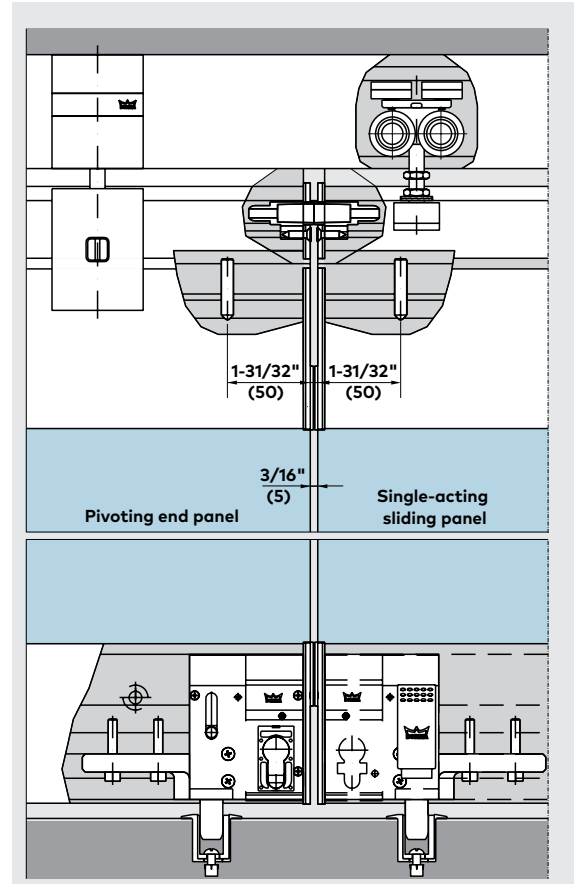
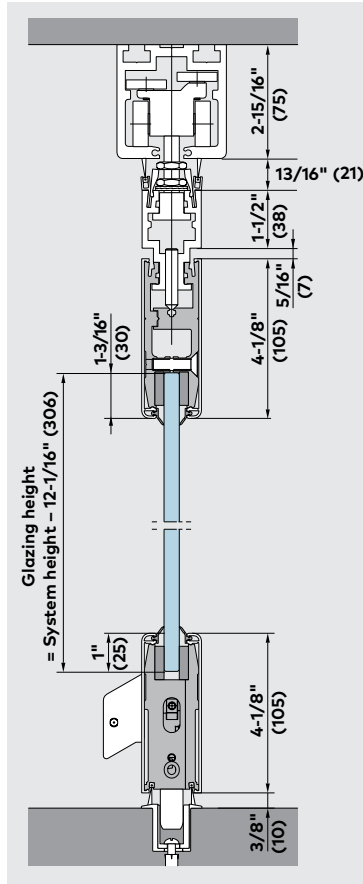
## Sliding panel

Basic movable panel without additional function.

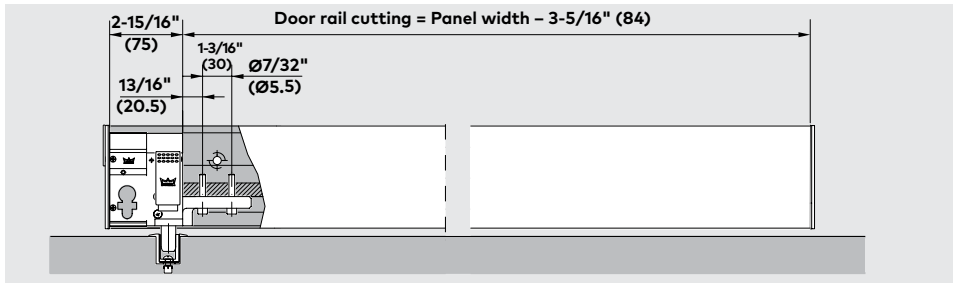


The sliding panels are movable. Once in their closed position, they are locked. The locking components provided in the bottom door rail can be face-mounted slide bolts, end-mounted slide bolts, end pin bolts or deadlocks.

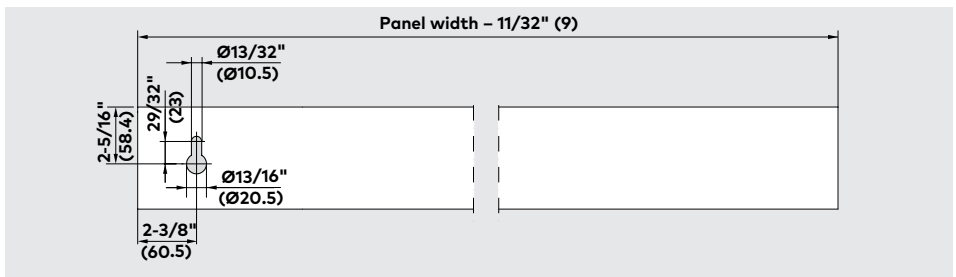
The structure of the bottom door rail applies to single-acting /double-acting sliding panel.



Bottom door rail with face-mounted slide bolt

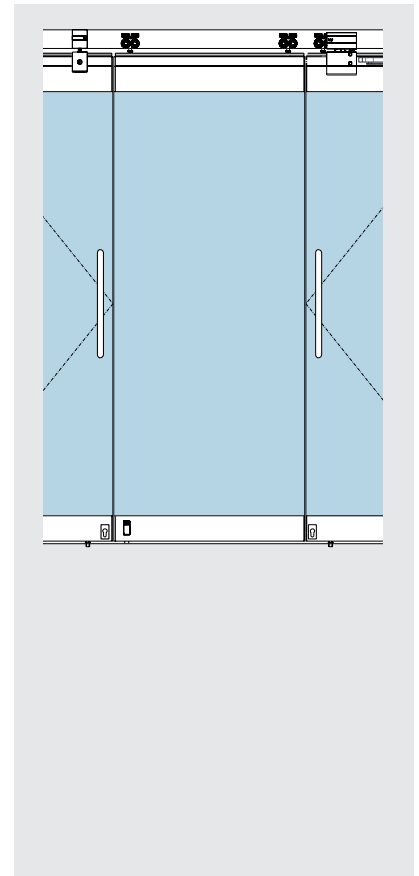
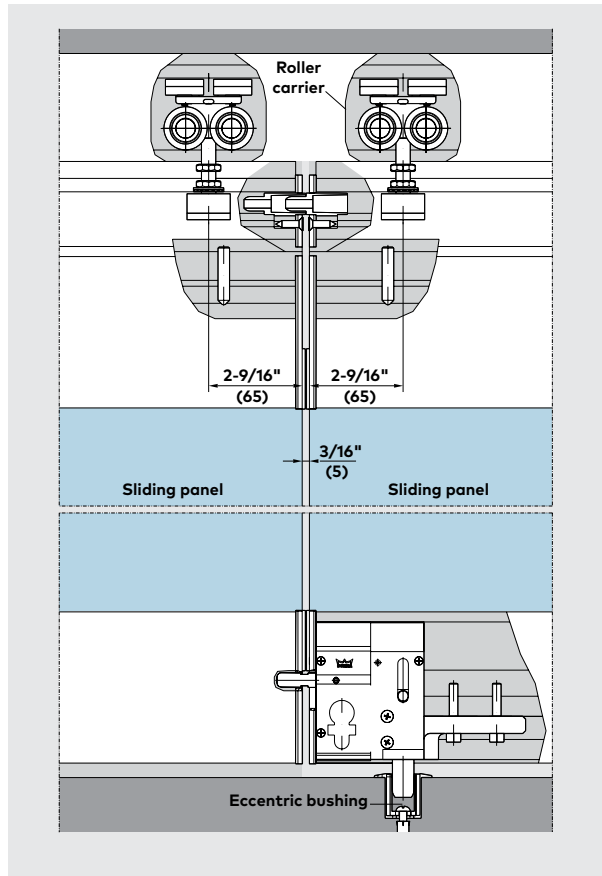
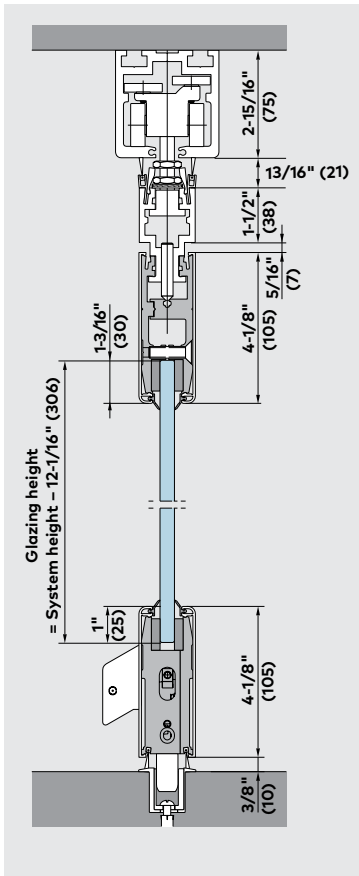


Machining of cover profile (face-mounted slide bolt)

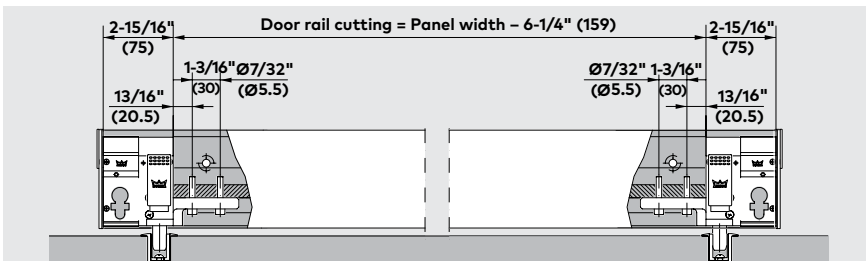


# HSW-ES

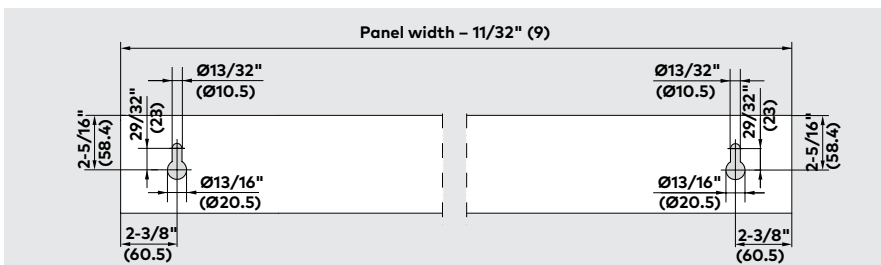
## Sliding panel



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



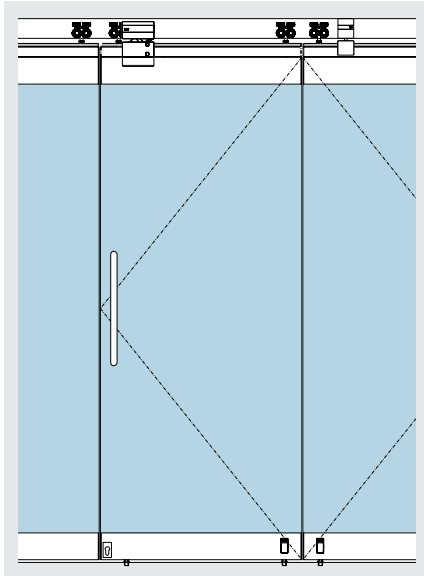
Machining of cover profile (face-mounted slide bolt)



# HSW-ES

## Single-acting sliding panel

With integrated door closer  
ITS 96 (SZ 1-3).



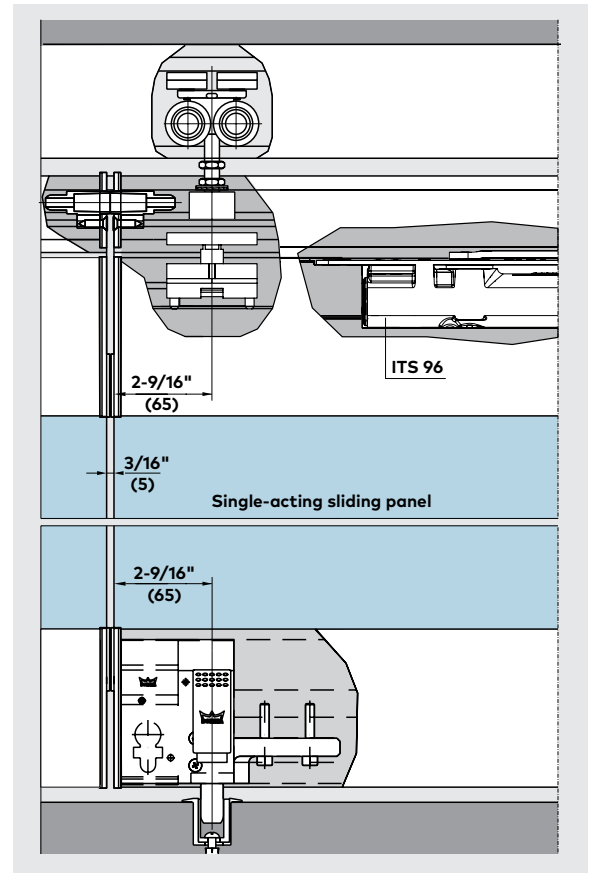
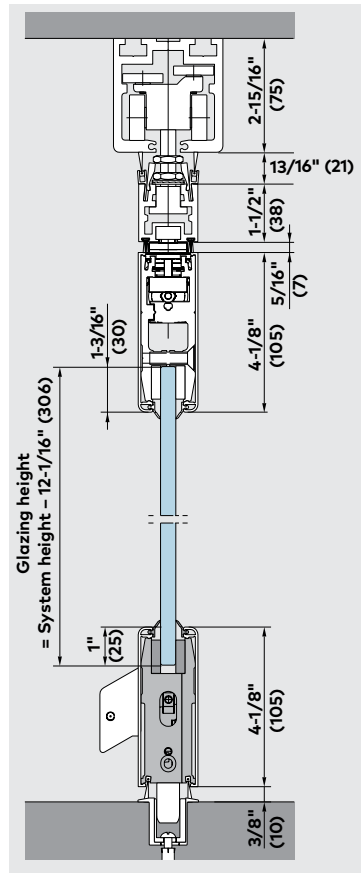
The single-acting sliding panel with integrated ITS 96 is used where the door panel is only required to open in one direction, either in or out. If you are considering this panel type, please note our recommendations relating to portal systems on page 72.

### 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 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.



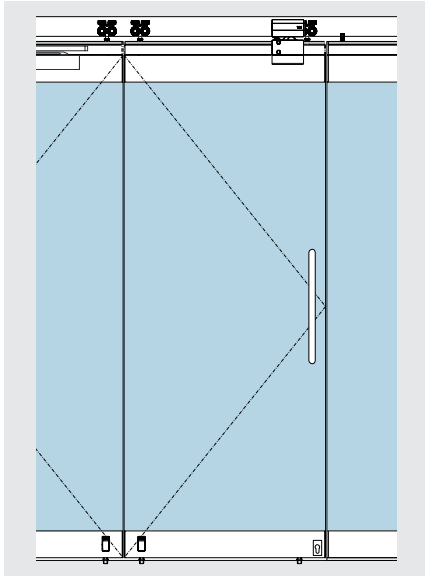
### Data and features: ITS 96 (SZ 1-3)

Closing strength / size	Spring size 1-3+
Max. panel width	49.25" (1250)
Max. panel weight	264 lb (120 kg)
Closing strength adjustable	Adjusting screw
Closing speed adjustment	Independent valve
Latch speed is adjustable from 15°-0°	Independent valve
Cushion bumper adjustment	yes
Max. opening angle	- 120°
Hold-open variable	yes (auxiliary door stop required)
Weight	2.86 lb (1.3 kg)
Length	10-29/32" (277)
Overall depth	1-1/4" (32)
Height	1-21/32" (42)

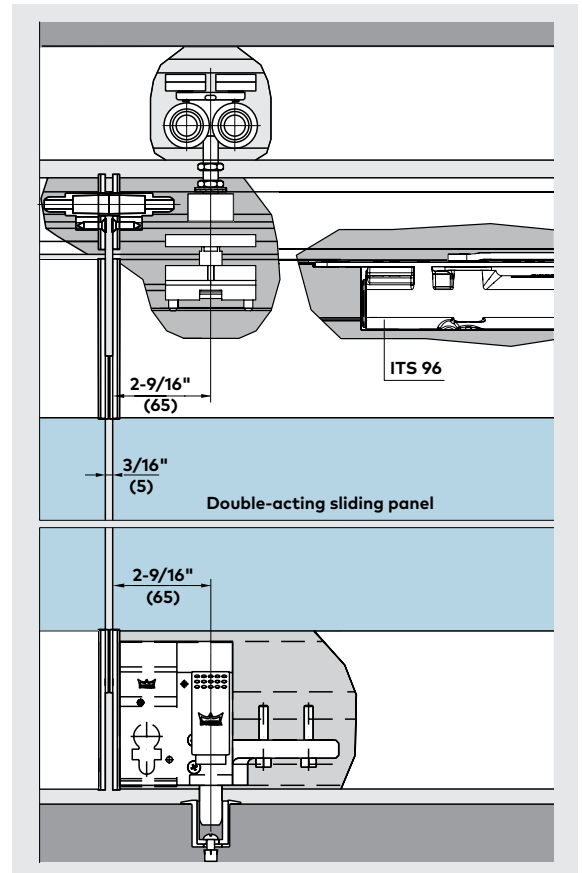
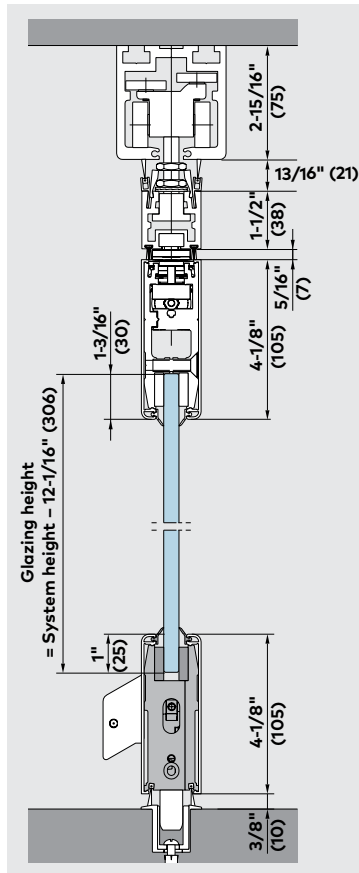
# HSW-ES

## Double-acting sliding panel

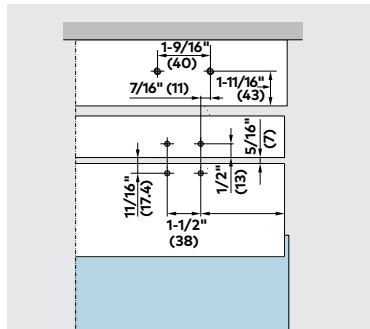
With integrated dormakaba door closer  
ITS 96, SZ 1-3



The ITS 96 integrated with this double-acting sliding panel is virtually invisible and does not affect the partition's overall appearance. 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 72.



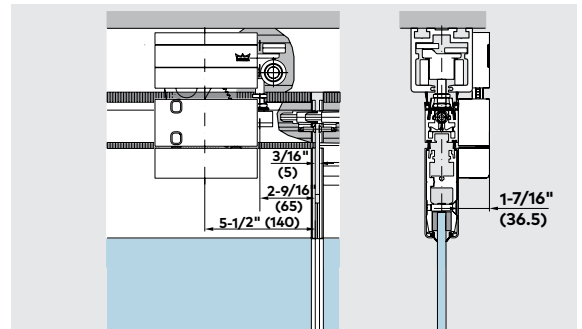
Hole of pattern upper locking unit



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

Upper locking unit



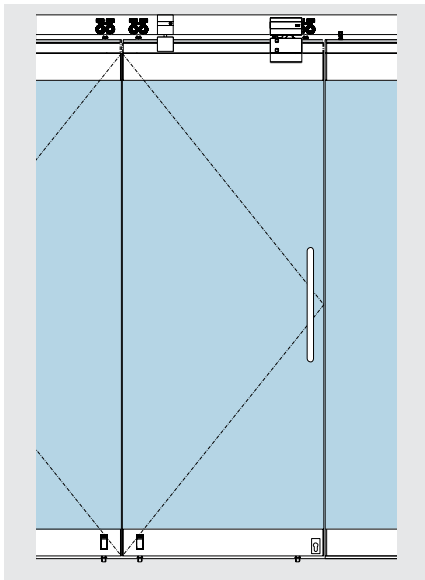
Optional equipment

- 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

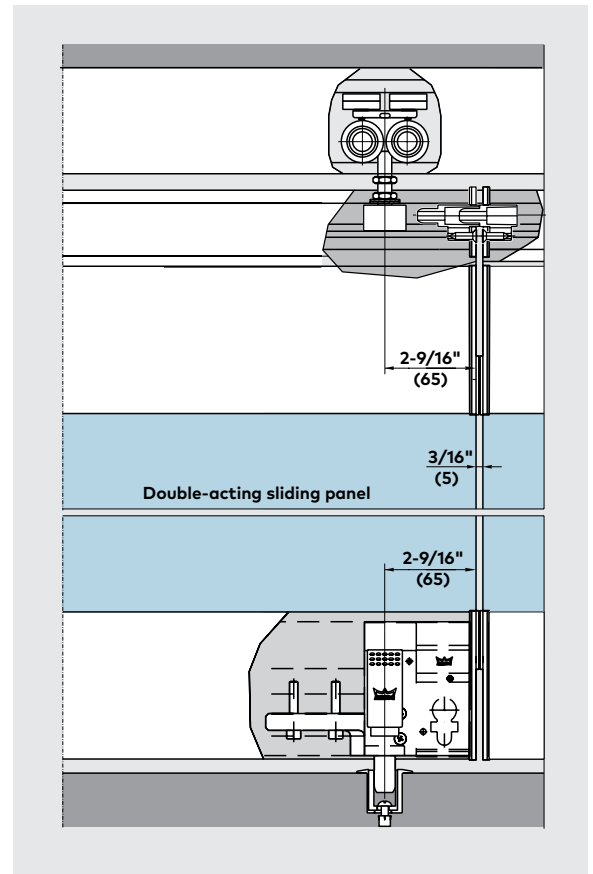
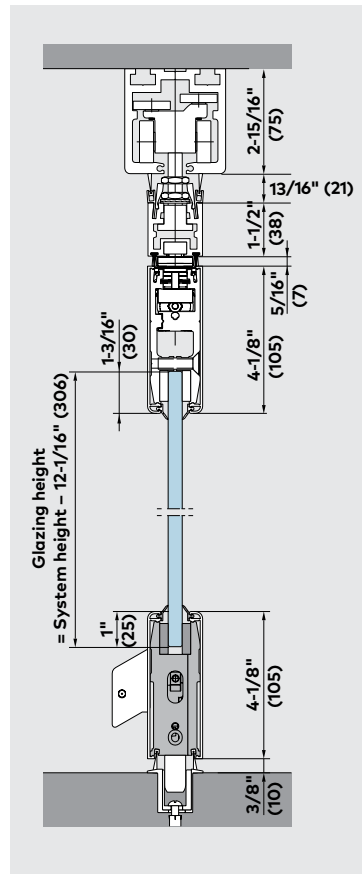


# HSW-ES

## Double-acting sliding panel



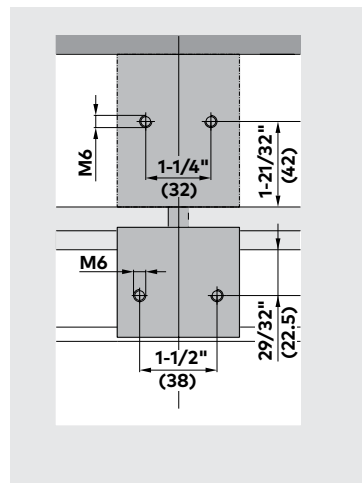
With integrated dormakaba door closer  
ITS 96, SZ 1-3



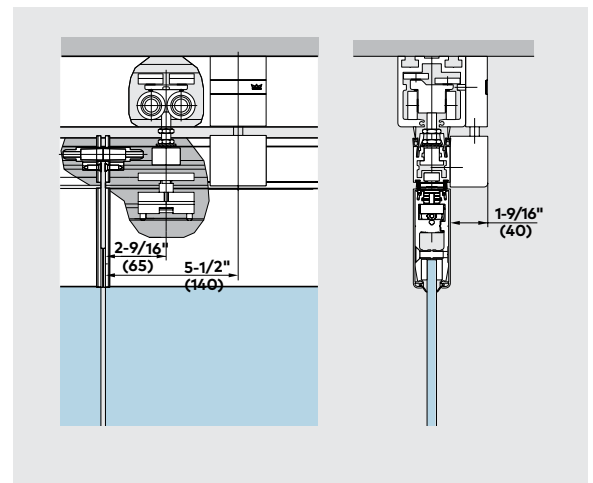
### Additional upper lock

The additional upper locking bolt is used for single-acting or double-acting 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.

Hole of pattern additional upper lock

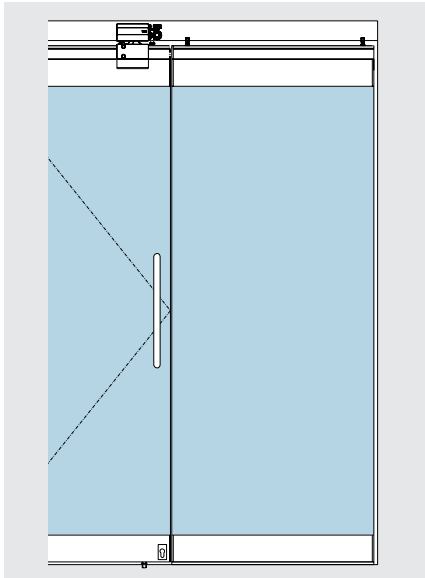


Additional upper lock



# HSW-ES

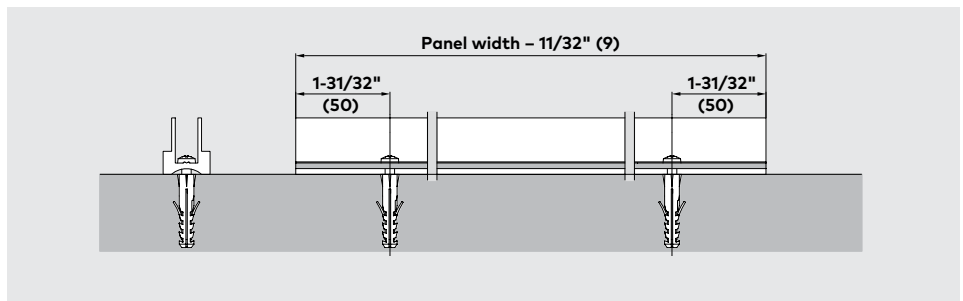
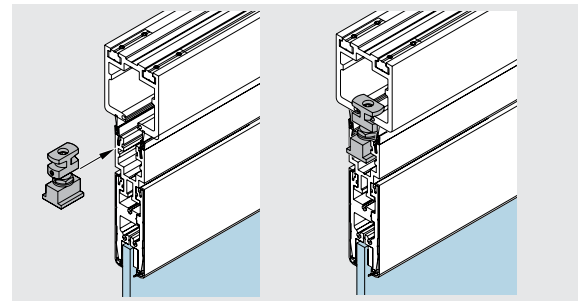
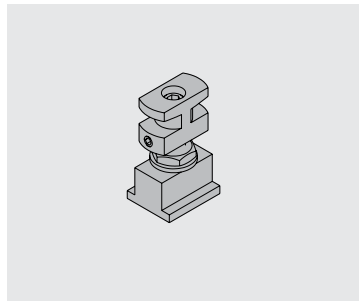
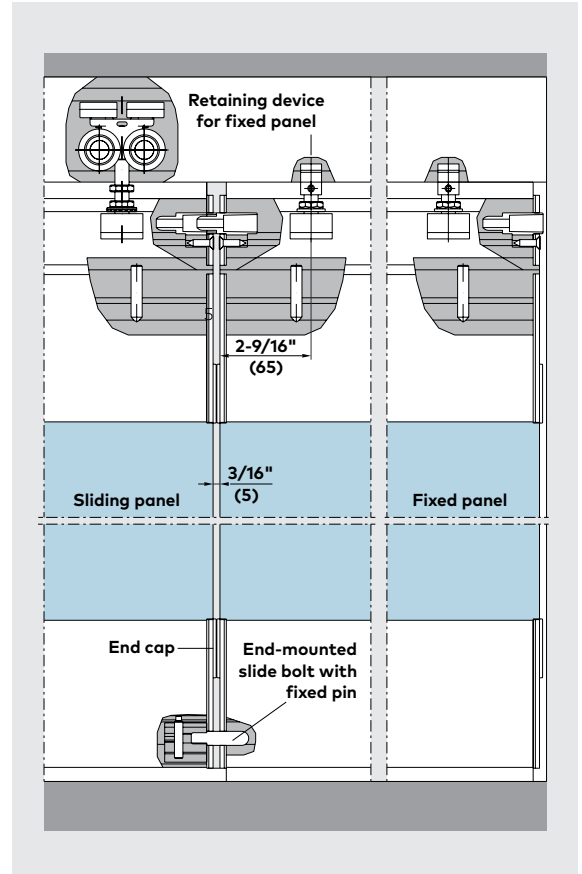
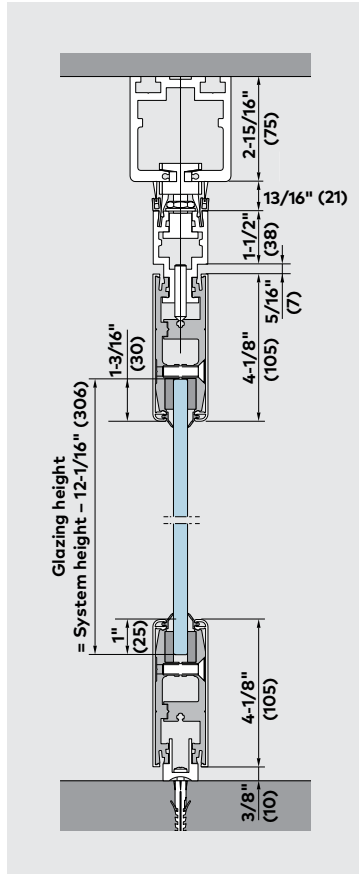
## Fixed panel



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

### Standard assembly

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



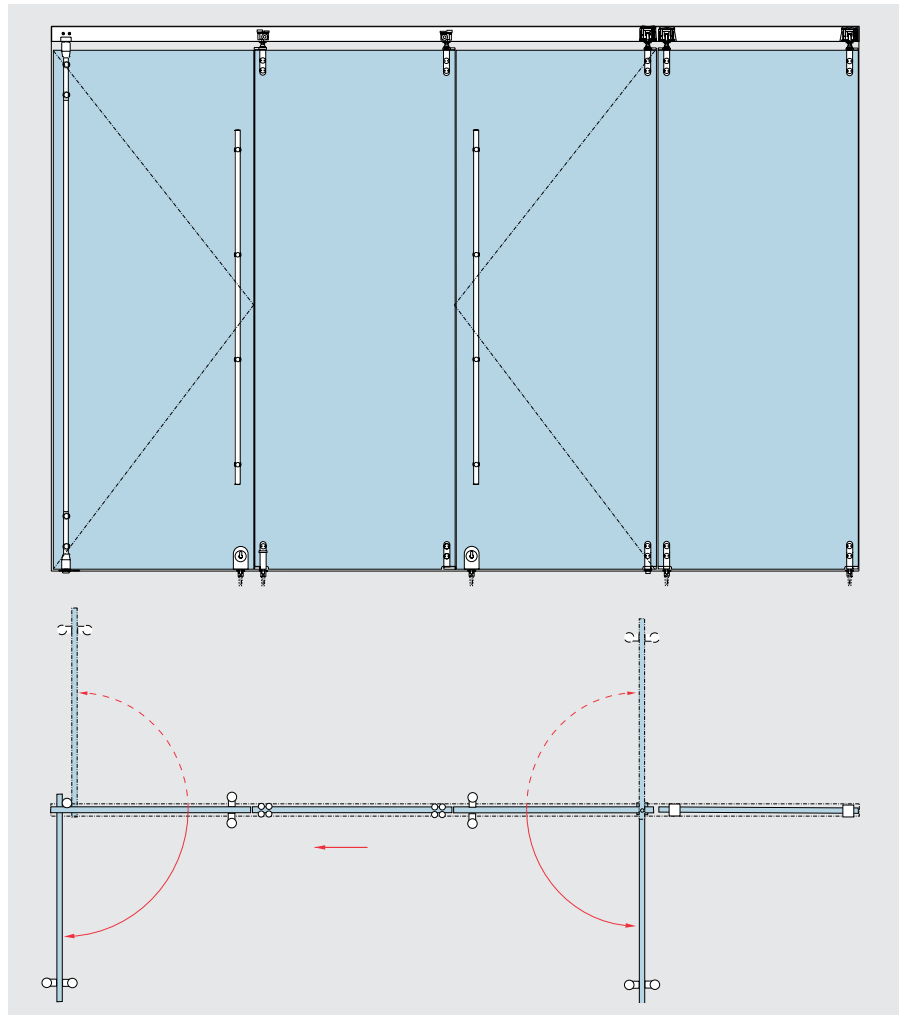


# HSW-GP

## Panels and functions

### Fully glazed sliding walls, using point fixings hung in standard track rail.

HSW-GP systems feature glass panels with single-point fixings in combination with a conventional track rail profile. The design features a high-grade stainless steel finish and distinctive flush-mounted or clamping disc attachments, coordinating perfectly with contemporary architecture. Standard glass thicknesses are 3/8" (10) and 1/2" (12). Contact the technical department for other potential glass thickness options .



Max. panel sizes and weights	Pivoting end panel, single- or double-acting Non-sliding. With full-length pivot rod and offset pivot. Single-acting panel with floor pivot, round spindle and stop. Double-acting panel with floor pivot or BTS floor closer.	Sliding panel Fixed when frontage closed.	Pivoting end panel, single- or double-acting Non-sliding. With center pivot top and bottom. Single-acting panel with floor pivot, round spindle and stop. Double-acting panel with floor pivot.	Fixed panel Non-sliding. Fixed side panel with retaining pins at the top and fixed panel straps at the bottom.
<b>Max. system height</b>	118-1/8" (3000)*	118-1/8" (3000)	118-1/8" (3000)*	118-1/8" (3000)
<b>Max. panel width</b>	47-1/4" (1200)	47-1/4" (1200)	47-1/4" (1200)	47-1/4" (1200)
<b>Max. panel weight</b>	220 lb (100 kg)	220 lb (100 kg)	220 lb (100 kg)	220 lb (100 kg)

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

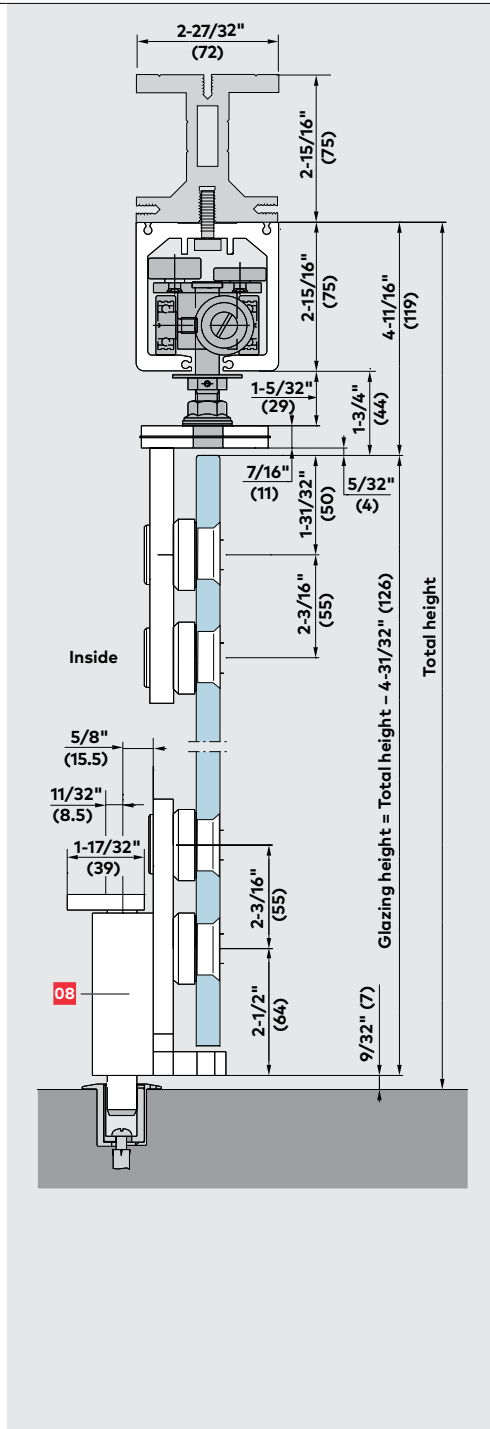
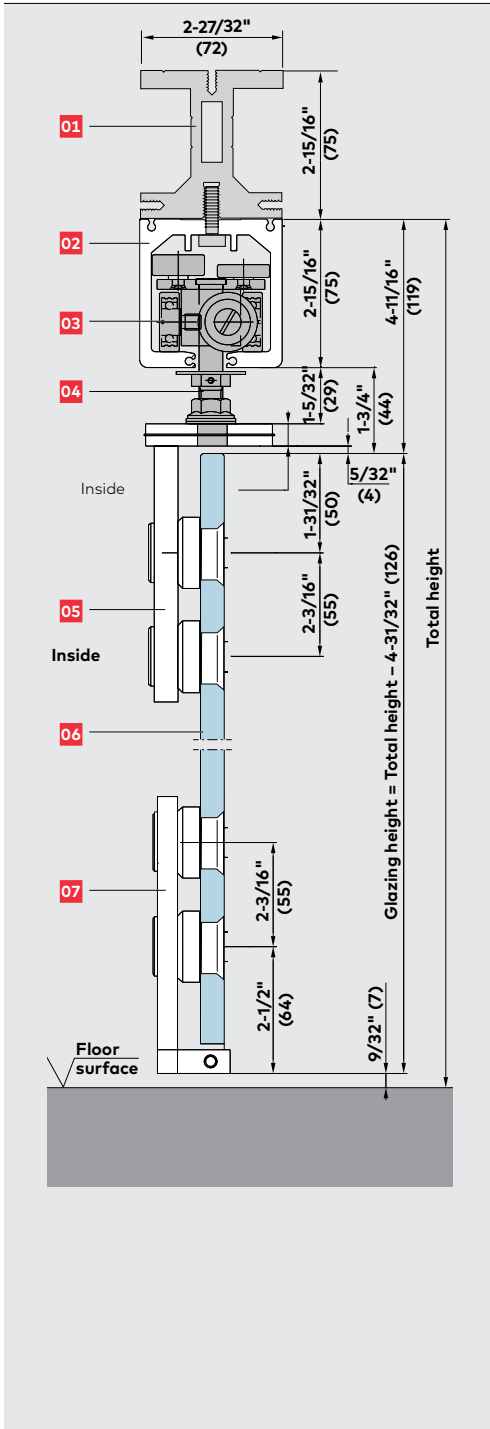
\* From a panel height of 98-7/16" (2500), we recommend a continuous pivot rod extending over the full height of the panel.  
From a panel height of 106-9/32" (2700), we recommend a fifth single-point fixing.

# HSW-GP

## 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:

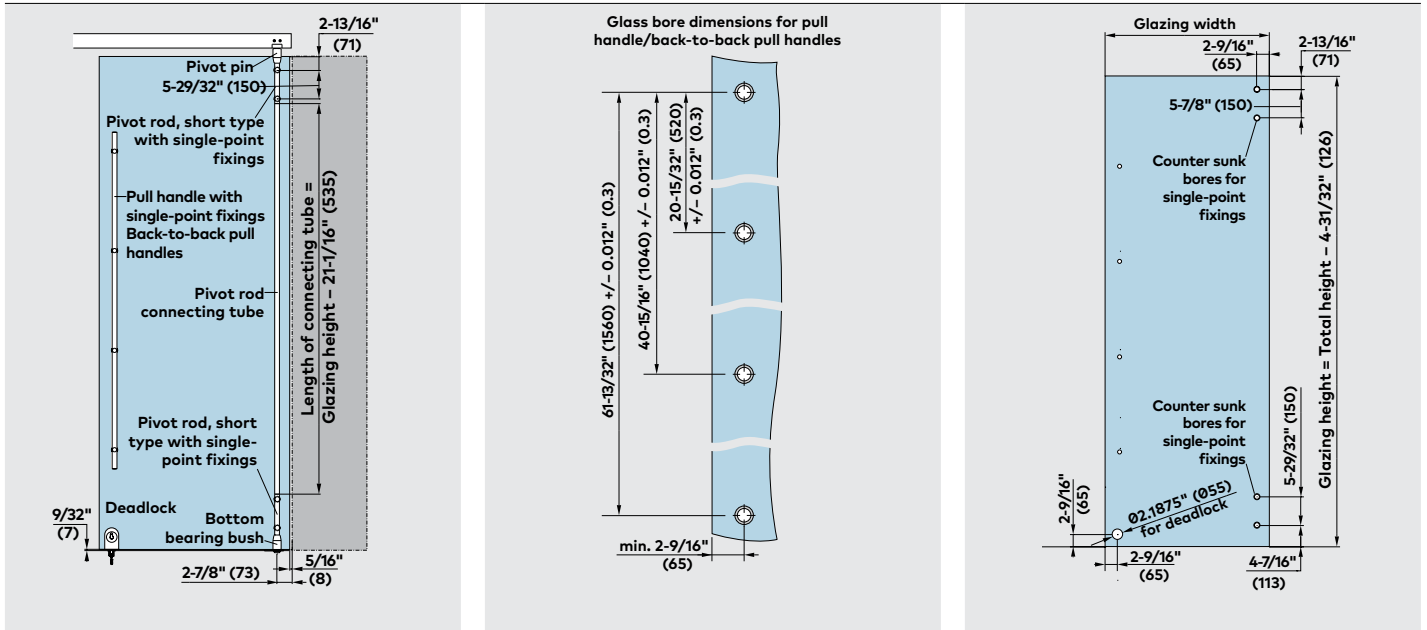
- 01** Optional installation-efficient dormakaba substructure to accommodate track rail mounting requirements.
- 02** Track rail (for bolting to the substructure).
- 03** Roller.
- 04** Roller bolt.
- 05** Strap with single-point fixings.
- 06** Tempered monolithic or tempered laminated glass (by others).
- 07** Bottom strap with end-mounted pin.
- 08** Bottom strap with face-mounted slide bolt.

# HSW-GP

## Types and glass preparation

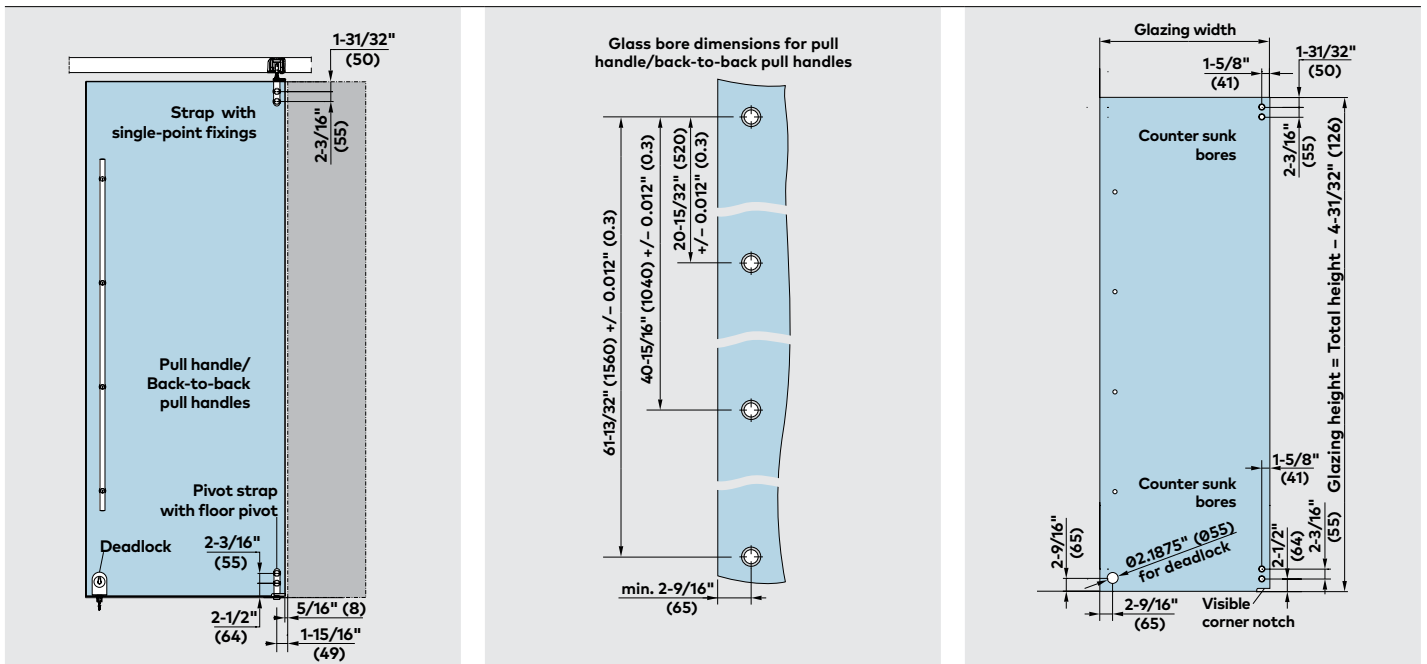
Pivoting end panel, single- or double-acting, with pivot rod

Glass preparation

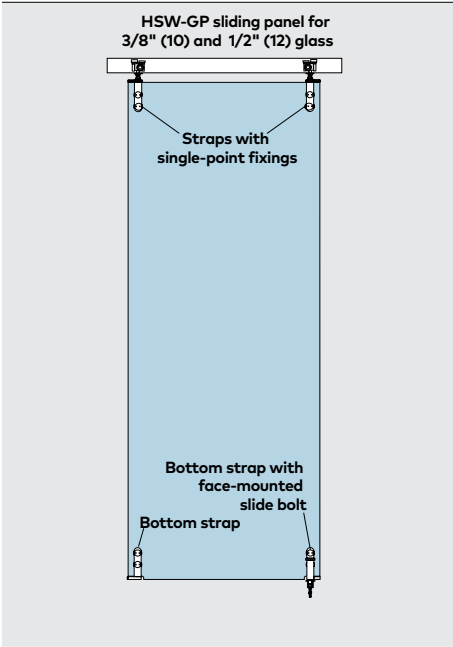


Pivoting end panel, single- or double-acting

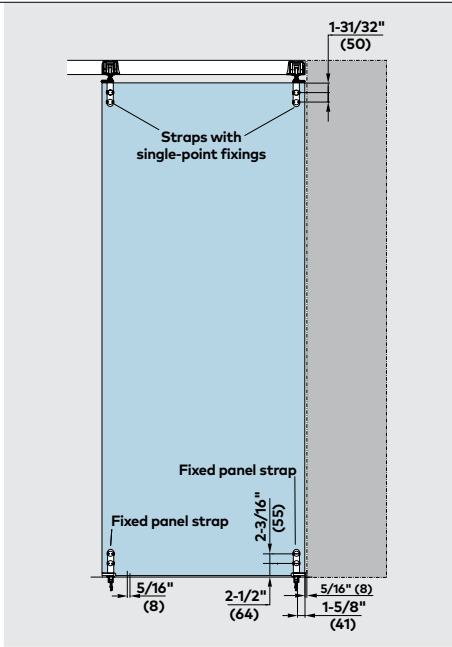
Glass preparation



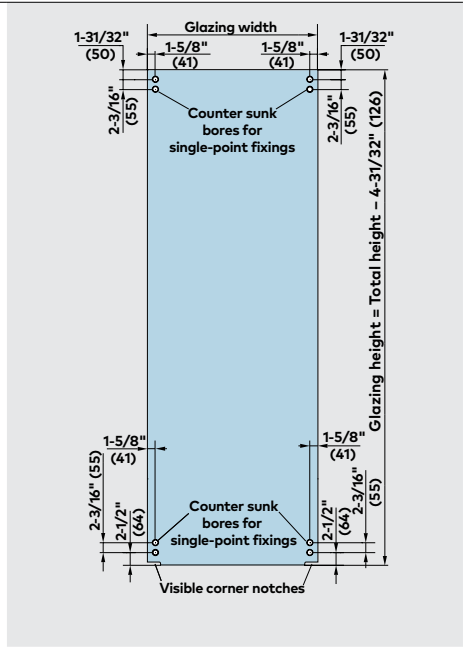
Sliding panel



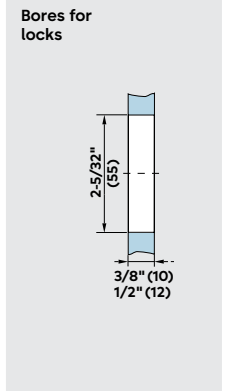
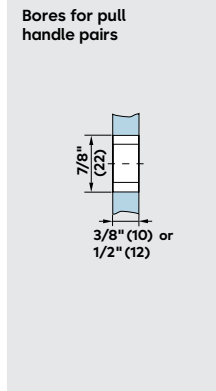
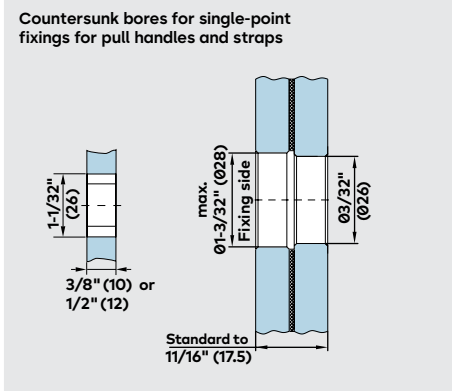
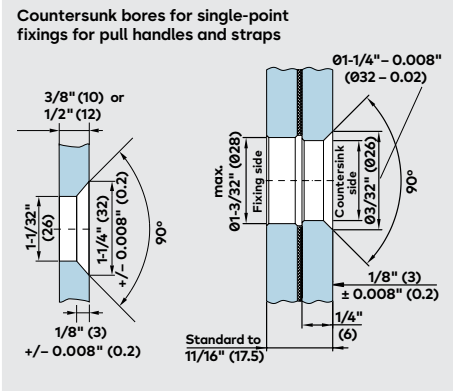
Fixed panel



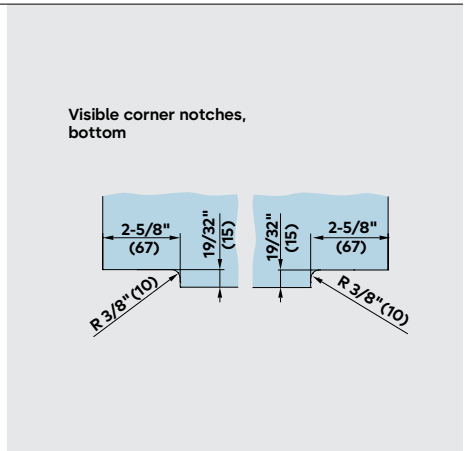
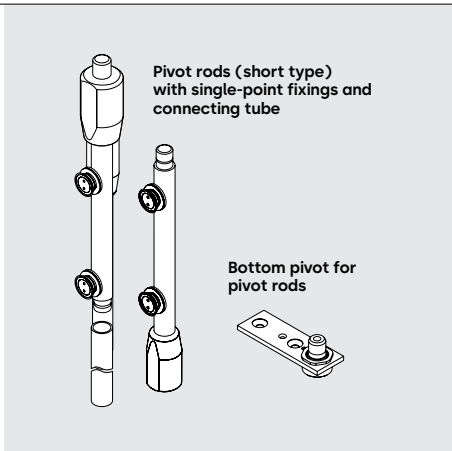
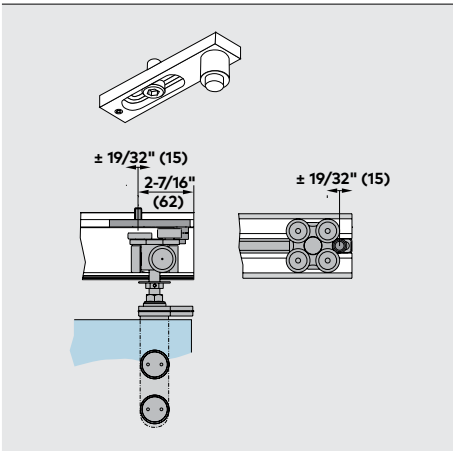
Glass preparation



Glass bores and notches



Special stop



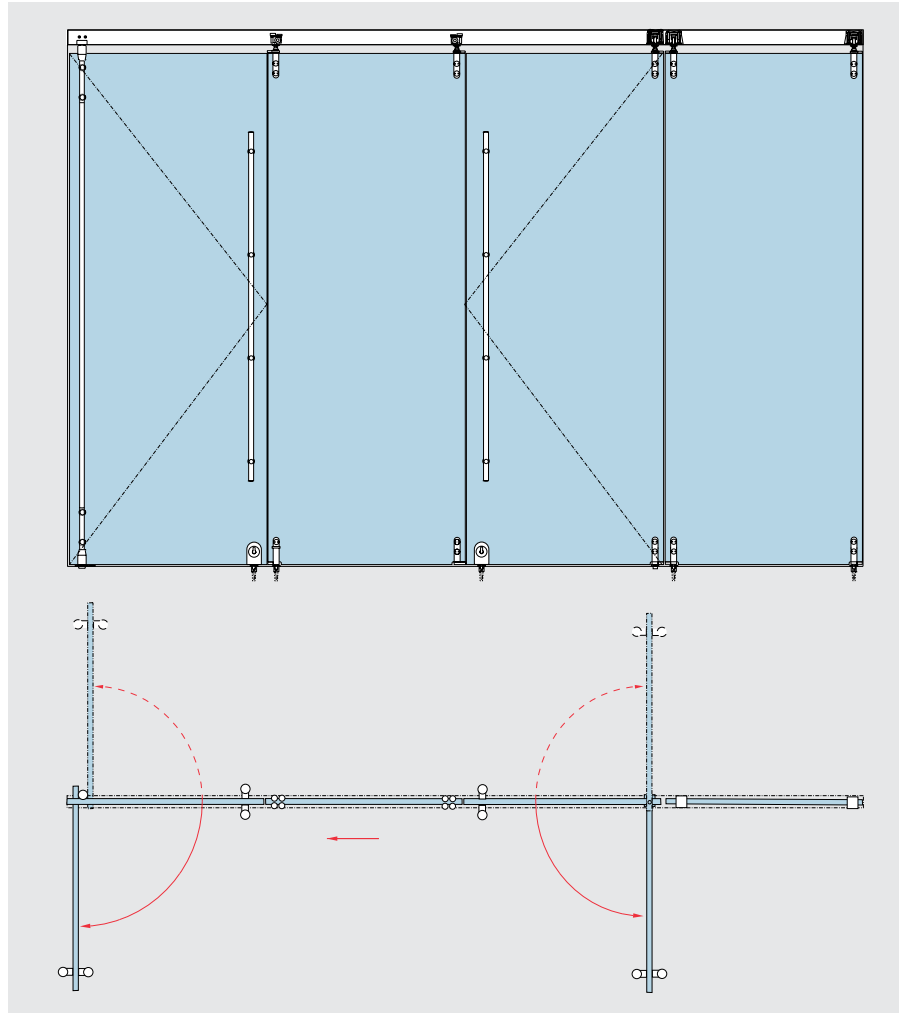


# HSW-GP

## Types and functions

### Fully glazed sliding walls, using point fixings hung in standard track rail.

HSW-GP systems feature glass panels with single-point fixings in combination with a conventional track rail profile. The design features a high-grade stainless steel finish and distinctive flush-mounted or clamping disc attachments, coordinating perfectly with contemporary architecture. Standard glass thicknesses are 3/8" (10) and 1/2" (12). Contact the technical department for other potential glass thickness options .



Max. panel sizes and weights	Pivoting end panel, single- or double-acting	Sliding panel Fixed when frontage closed.	Pivoting end panel, When frontage closed with integrated concealed door closer type ITS 96, ANSI Size 2-5 (EN 3-6) operational. Minimal panel width 870 mm.	Double-acting sliding panel* When frontage closed with integrated concealed door closer type ITS 96, ANSI Size 2-5 (EN 3-6) operational. Minimal panel width 870 mm.
<b>Max. system height</b>	118-1/8" (3000)*	118-1/8" (3000)	118-1/8" (3000)*	118-1/8" (3000)
<b>Max. panel width</b>	43-5/16" (1100)	43-5/16" (1100)	43-5/16" (1100)	43-5/16" (1100)
<b>Max. panel weight</b>	220 lb (100 kg)	220 lb (100 kg)	220 lb (100 kg)	220 lb (100 kg)

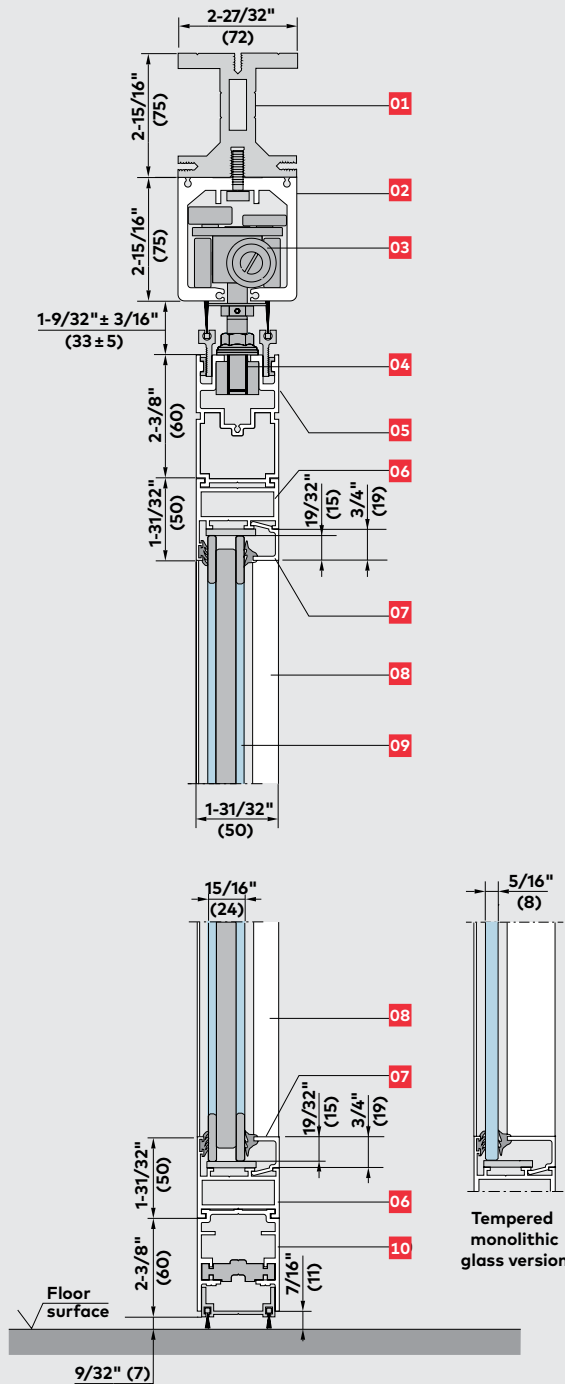
The individual panels can also be of varying widths. The largest width should not exceed max. 115% of the smallest width.

\* For these panel types please see recommendations on portal systems on page 72.

# HSW-R

## System design

### General parts and measurements

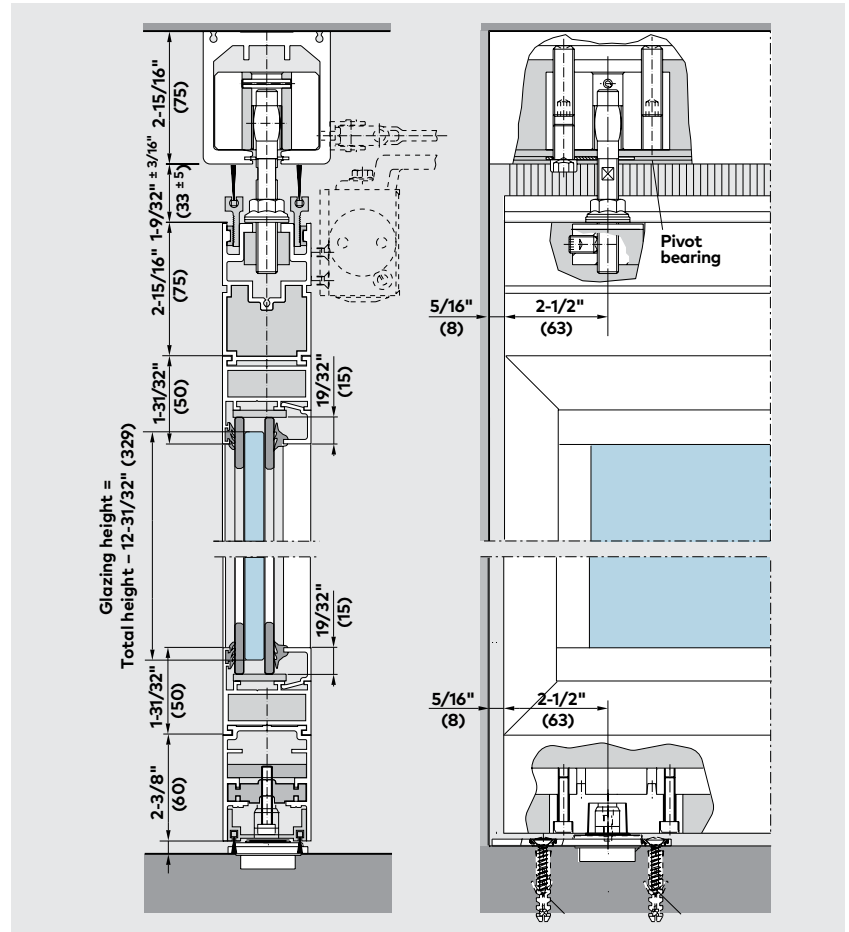
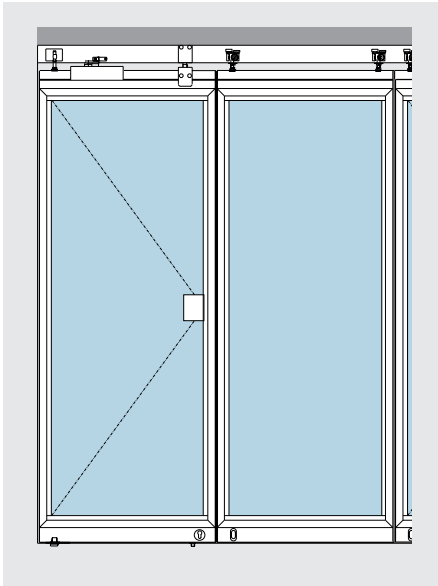


Regardless of the function of the individual panels, an HSW-R system comprises the following components:

- 01** Optional installation-efficient dormakaba substructure to accommodate track rail mounting requirements.
- 02** Track rail (for bolting to the substructure).
- 03** Carrier.
- 04** Suspension assembly.
- 05** Adapter frame.
- 06** Glazing frame profile, horizontal.
- 07** Glass clamping bar.
- 08** Glazing frame profile, vertical.
- 09** Tempered monolithic, tempered laminated, or tempered double glazed insulated units (by others).
- 10** Bottom frame profile.

# HSW-R

## Single-/double-acting sliding panels



### Pivoting end panel, single- or double-acting, with floor pivot

Fixed panel, always equipped with bottom deadbolt with the option of a top bolt or side action deadlock. Single-acting or double-acting options.

### Pivoting end panel, single-acting with stop plates at the top bolt

Assembly types:

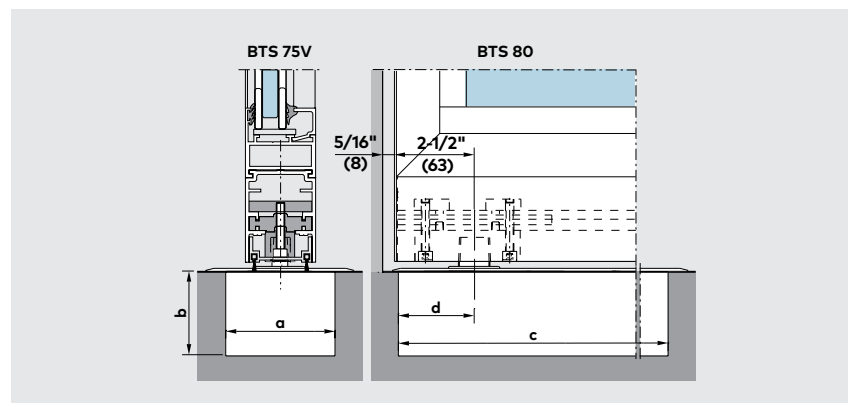
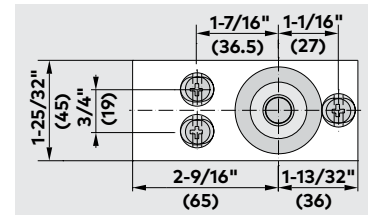
- Floor pivot with round spindle.
- As above, but with dormakaba TS 92 surface door closer.
- BTS 75V for panels up to 260 lb (118 kg), with optional hold-open at 90° door opening angle.
- BTS 80 for panels of 220–330 lb (100–150 kg), provided with hold-open as standard.

### Pivoting end panel, double-acting

Assembly types:

- Floor pivot with round spindle.
- BTS 75V for panels up to 260 lb (118 kg), with optional hold-open at 90° or 150° door opening angle.
- BTS 80 for panels of 220–330 lb (100–150 kg), provided with hold-open as standard.

### Pivoting end panel, single- or double-acting, with floor closer-



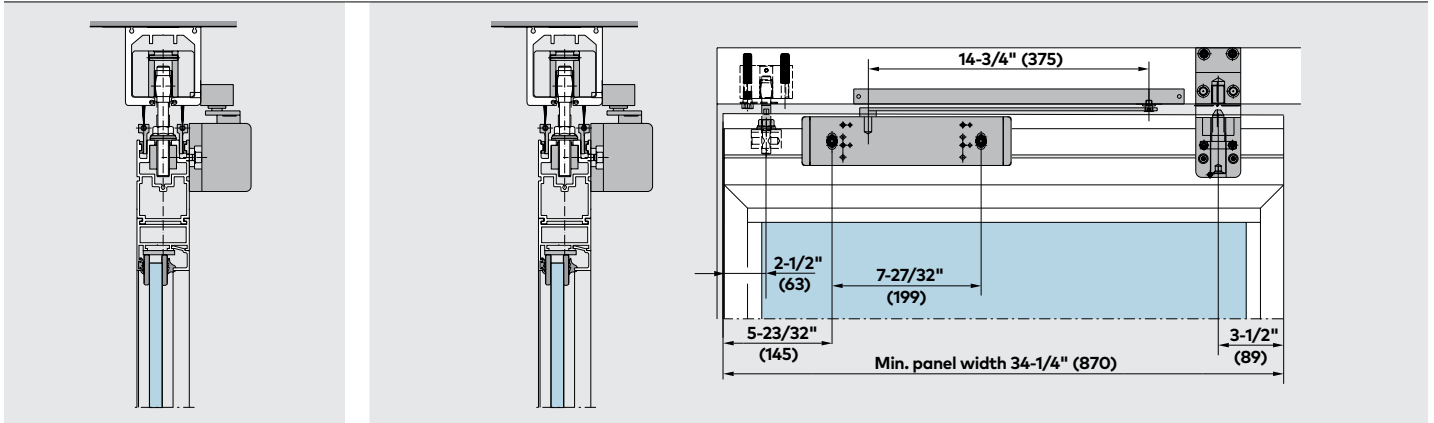
### Mounting dimensions in inches (mm)

	BTS 80	BTS 75V
a	3-1/16" (78)	3-1/4" (82)
b	2-3/8" (60)	2" (51)
c	13-3/16" (341)	11-1/4" (285)
d	2"-2-1/4" (51-57)	1-13/32"-1-13/16" (36-46)

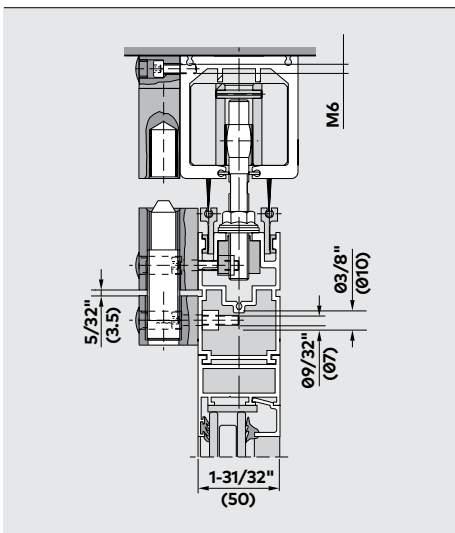
# HSW-R

## Pivoting end panel, single-acting

With TS 92 surface door closer and additional locking device



### Additional locking device



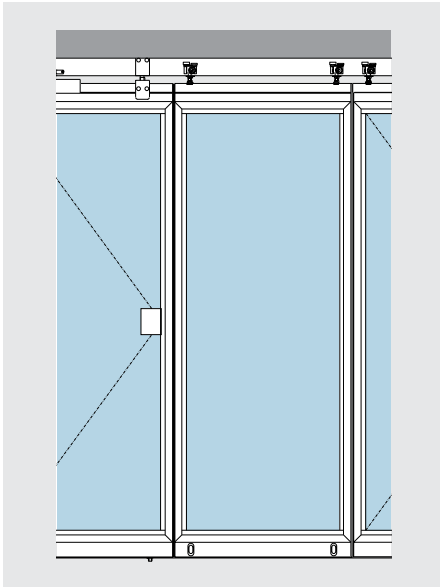
### Data and features

Data and features	TS 92
Closing strength/size	EN 2 – 4*
Closing strength, variable	Independent adjusting screw and arm pivot
Closing speed adjustment	Independent valve
Non-handed	•
Latching speed adjustment	Arm location
Cushion bumper adjustment range	80° – 120°
Hold-open adjustment	75° – 150°
Weight	4.18 lb (1.9 kg)
Length	11-1/16" (281)
Overall depth	1-7/8" (47)
Height	2-9/16" (65)

\*Sizing functions similar to ANSI size 1 – 3+

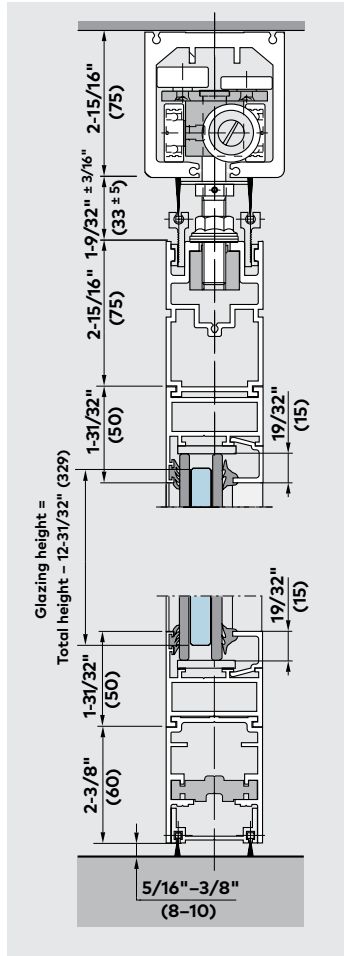
# HSW-R

## Sliding panels and connections

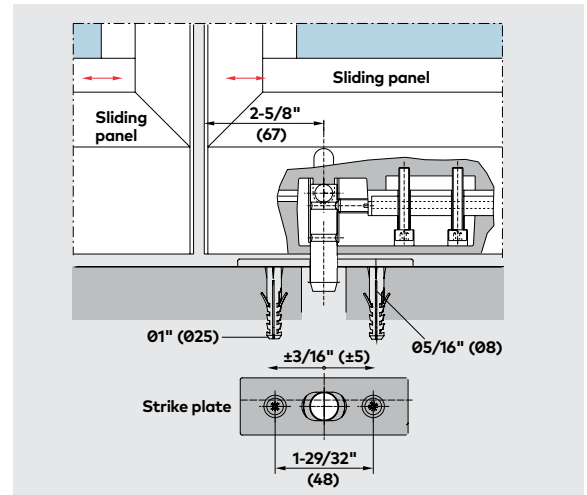


### Fixed when partition is closed.

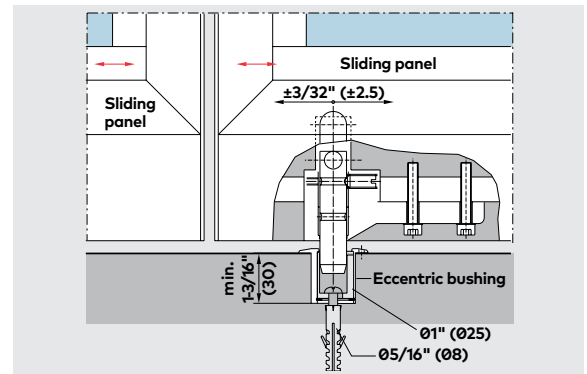
When the sliding panels are in their closed position, they are locked down by face-mounted floor bolts or deadlocks in the bottom rail.



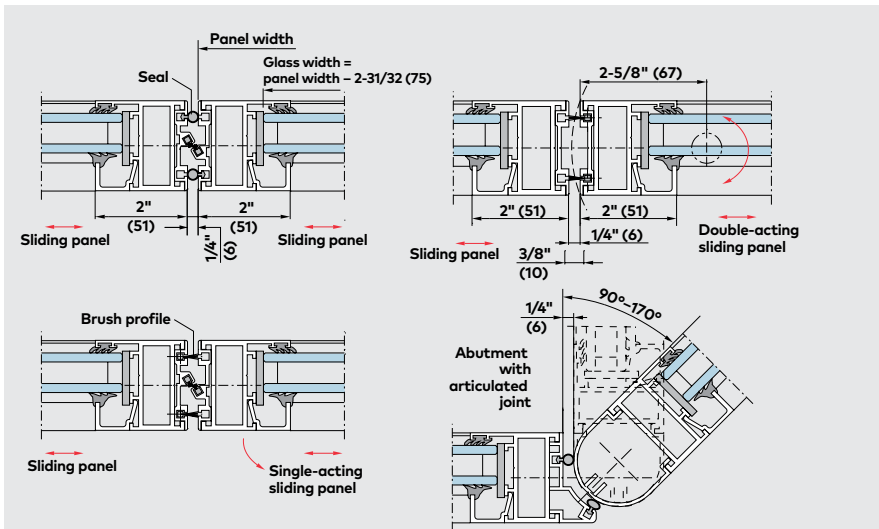
### Setting the panel in the strike plate



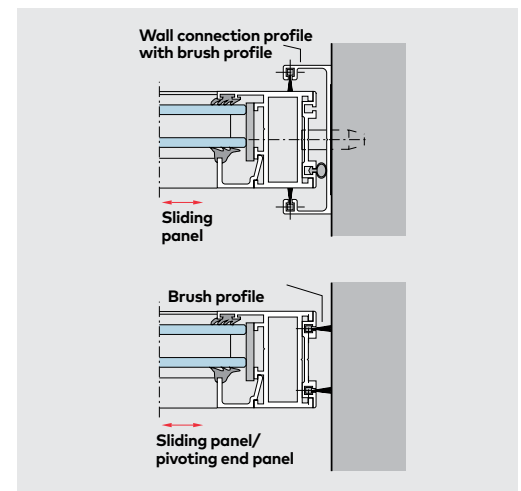
### Setting the panel in eccentric bushing



### Sliding panel to panel connections



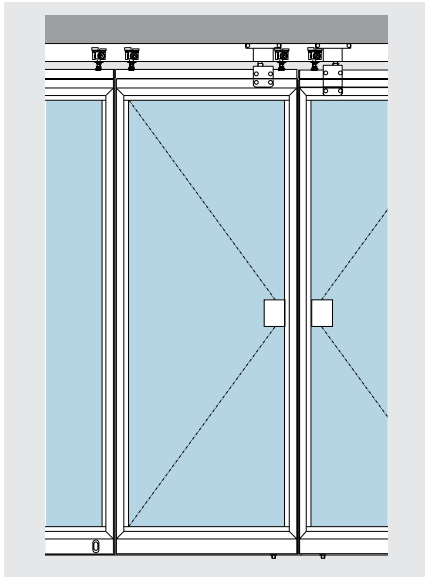
### Setting the panel in eccentric bushing



# HSW-R

## Single-acting sliding panel

With integrated dormakaba ITS 96 concealed door closer, size ANSI 2-5 (EN 3-6).



Single-acting sliding panels are used where passdoors only need to open in one direction. They can be configured for opening to the interior or exterior.

### Standard assembly

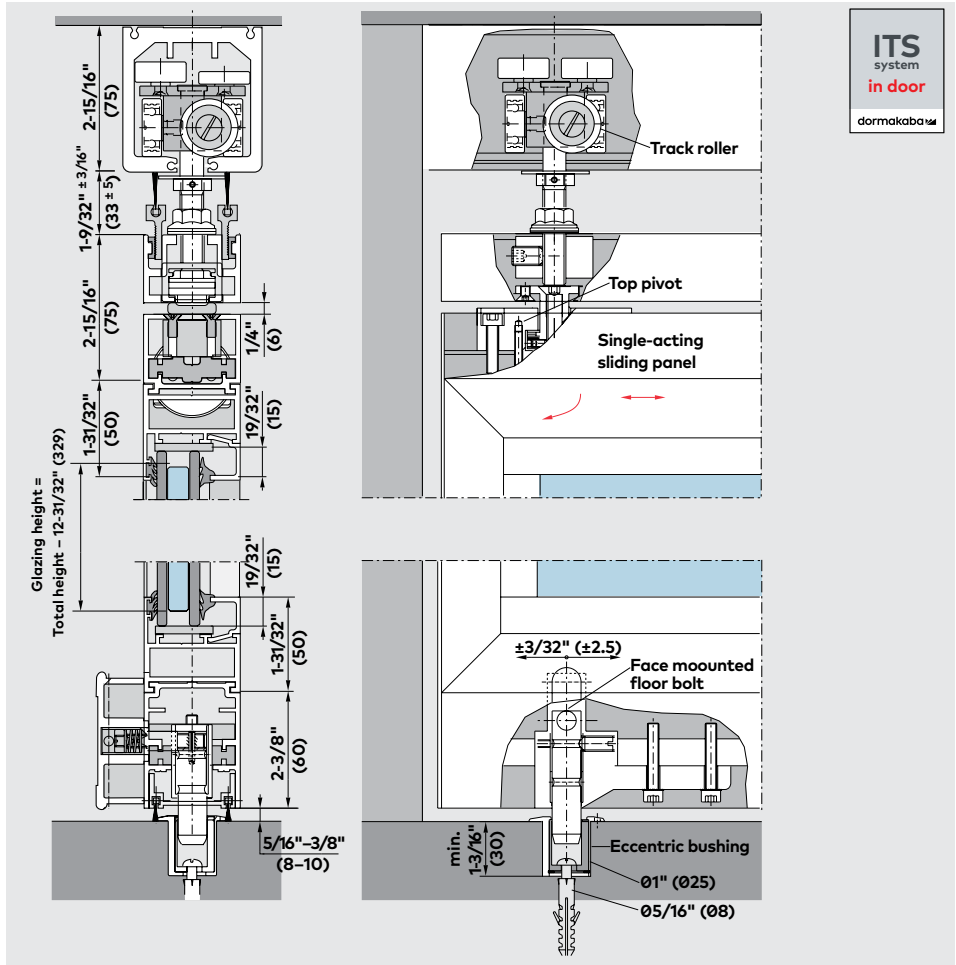
top: Pivot bearing, ITS 96, size ANSI 2-5 (EN 3-6), one locking device

bottom: Face-mounted floor bolt as pivot (released for sliding function)

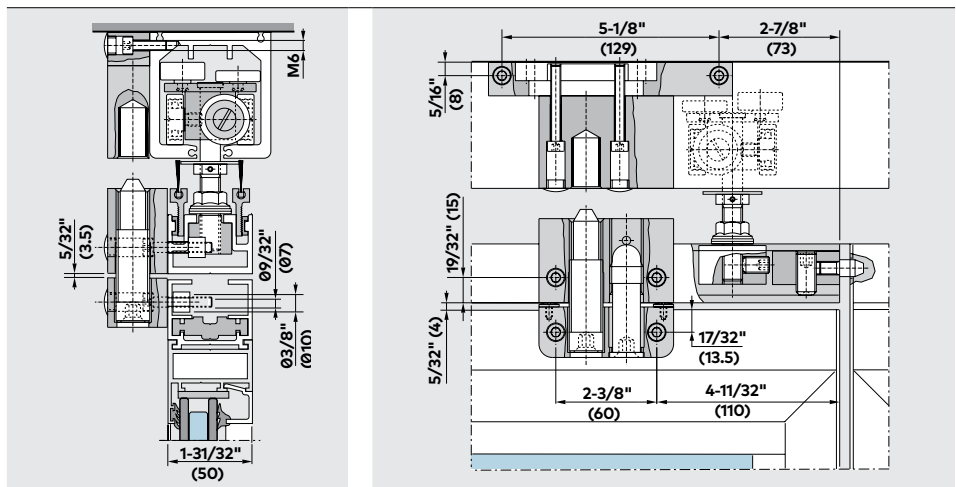
### Optional equipment

top: Second locking device (for reshuffle bypass stacking)

bottom: Optional second face-mounted floor bolt or deadlock

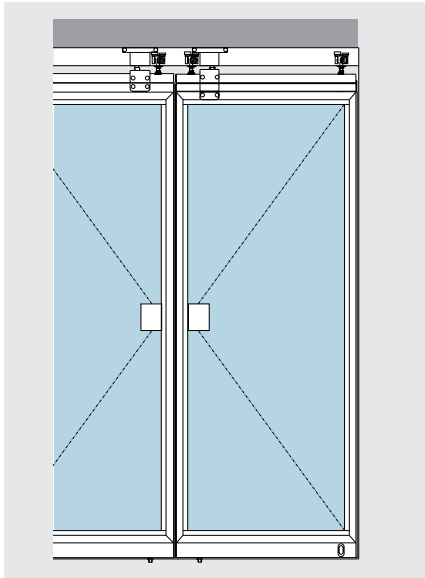


### Locking device



# HSW-R

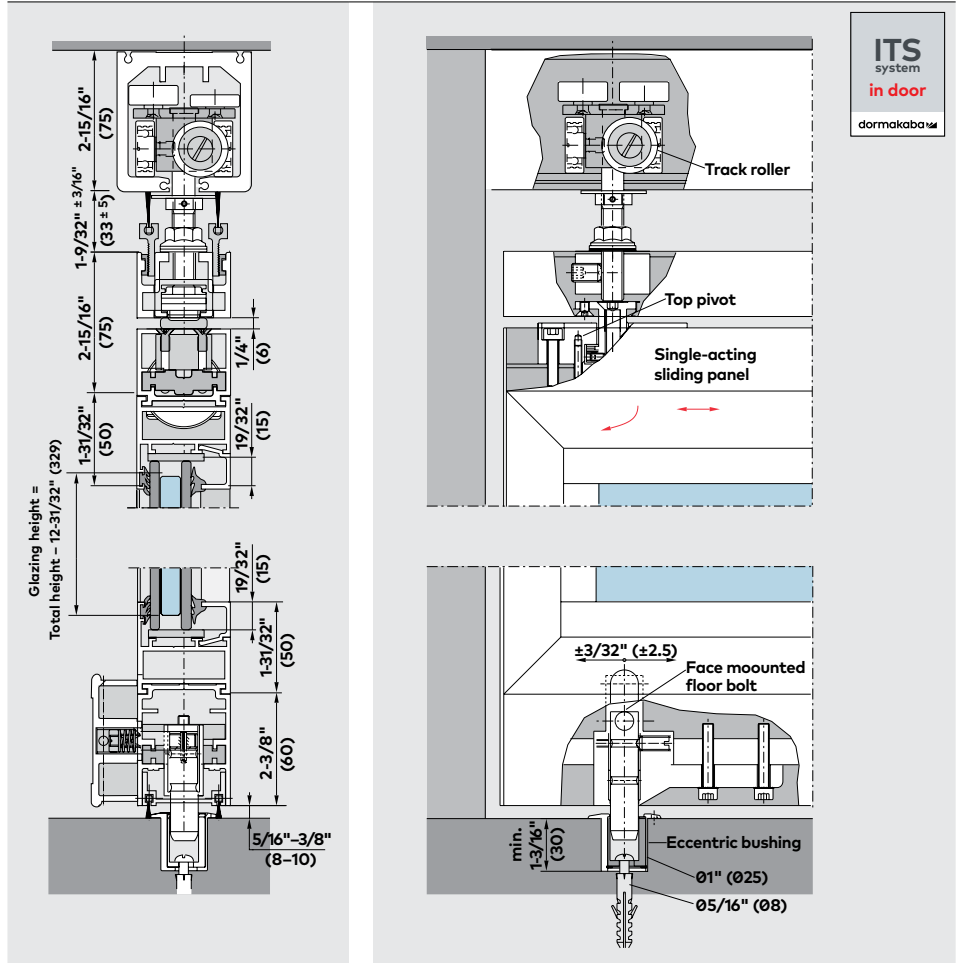
## Double-acting sliding panel



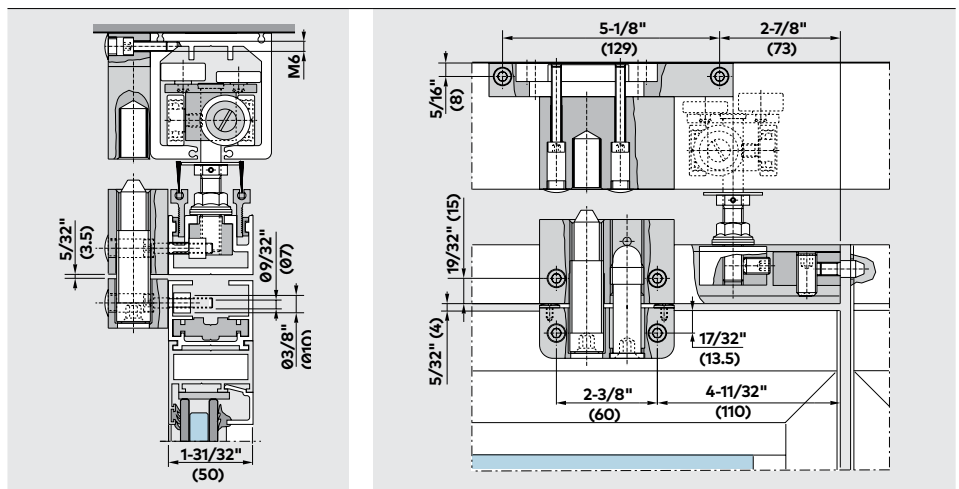
Double-acting sliding panels with dormakaba ITS 96 (size ANSI 2-5 [EN 3-6]) door closers are easy to install and operate. These passdoor panels are generally equipped with a bottom deadlock and top locking device, plus a bottom floor bolt operating as the pivot bearing (released for the sliding function). The ITS 96 does not feature a hold-open function as standard.

For these panel types please consider our recommendations for portal systems on page 72.

With integrated dormakaba ITS 96 concealed door closer, size ANSI 2-5 (EN 3 - 6)



### Locking device





# Accessories - vertical seals

## Overview

Options available for seals and gasketing relative to mounting type, material, and solutions.

### Retrofittable seals

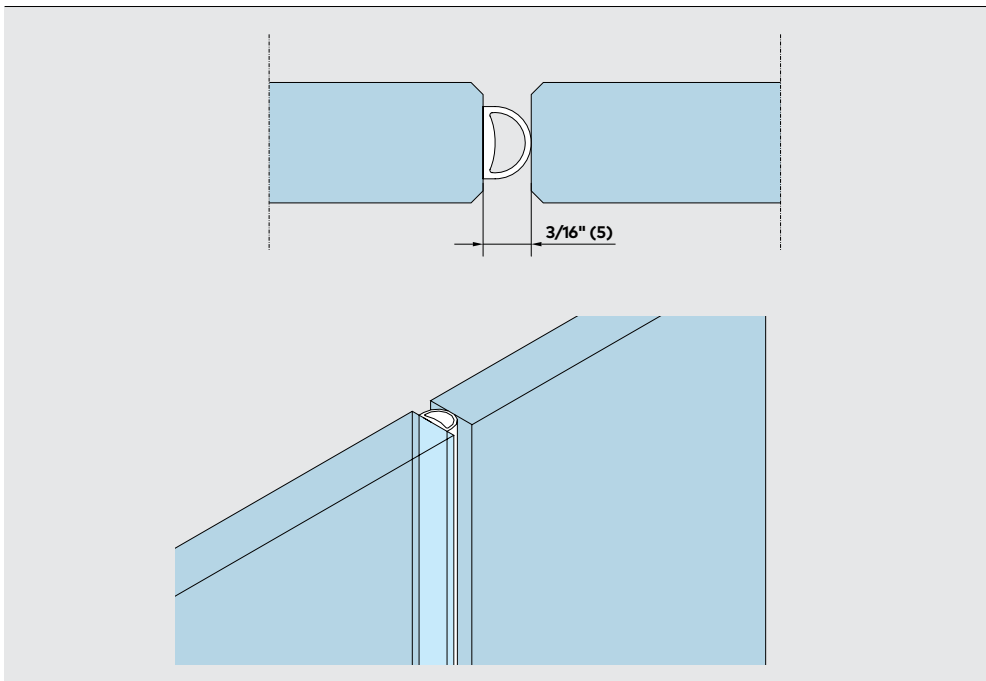
Plastics profiles shown below provide an unobtrusive and retrofittable solution for draft protection at the glass edges.

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### Product description

#### Glass joint gasket

Milky transparent rubber, self adhesive for 3/8"–3/4" (10–19) glass thickness.



# Accessories - vertical seals

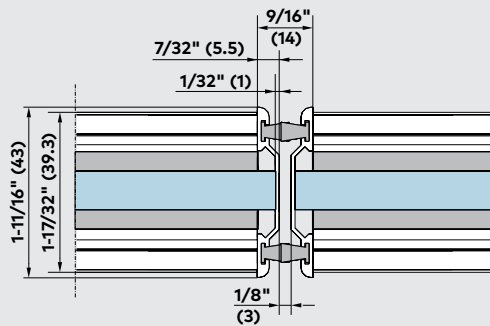
## Vertical sealing profiles with brushes

Aluminum 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 end caps, end pins when delivered by dormakaba. At the top, extra length is

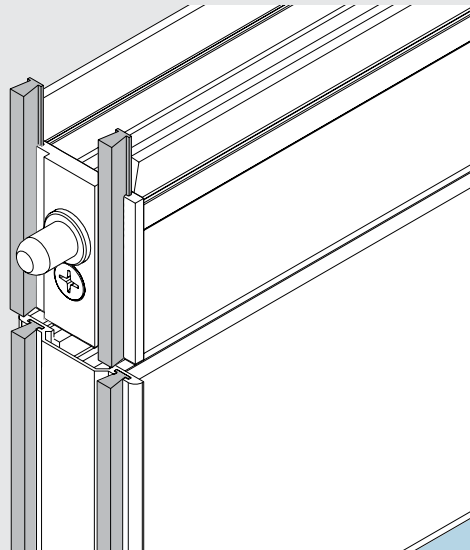
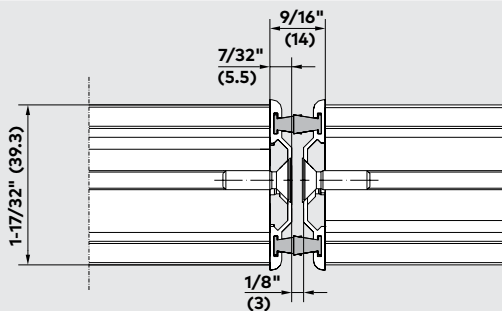
provided to adapt to overall on-site panel height once the system has been vertically aligned. The double brush seals interlock with those at the adjacent panel and continue in line with the double brush seals at the top and bottom door rails. This ensures excellent draft proofing.

### Product description

#### Vertical sealing profile



#### Vertical sealing profile



# Accessories - vertical seals

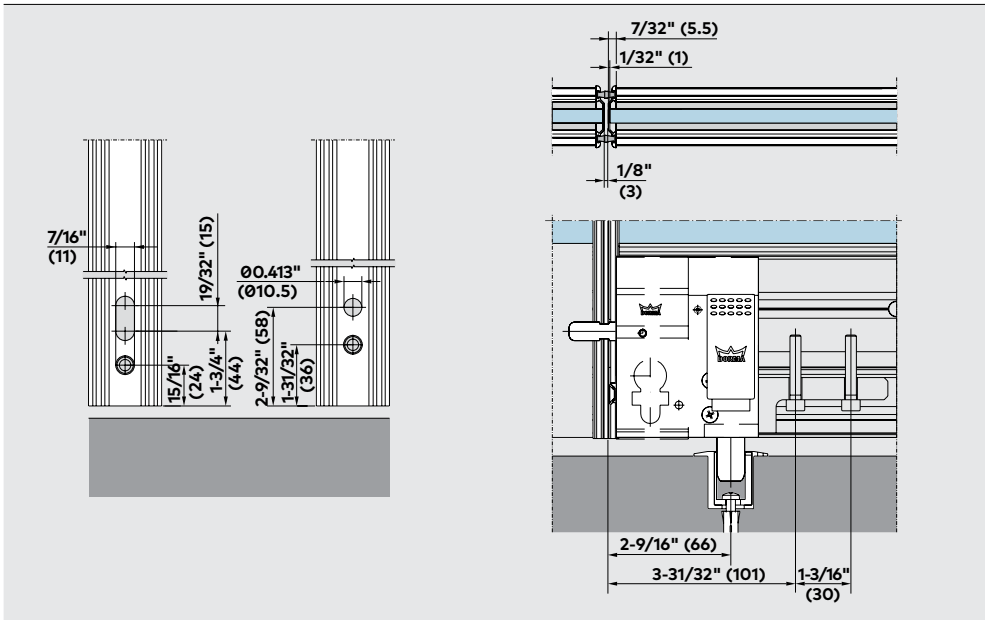
## General preparation

**Product description**

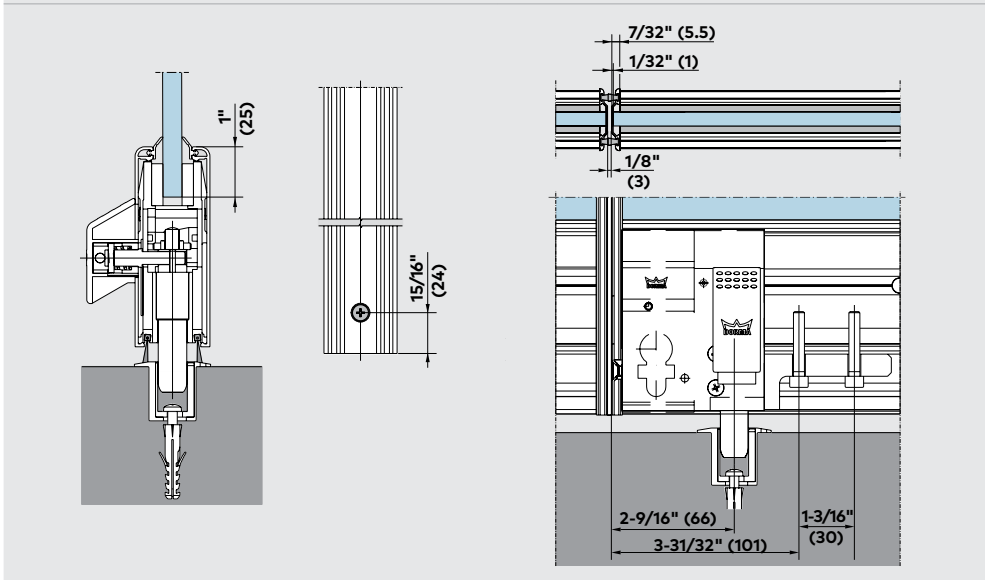
**Profile machining**

For end-mounted and face-mounted slide bolts supplied by dormakaba

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

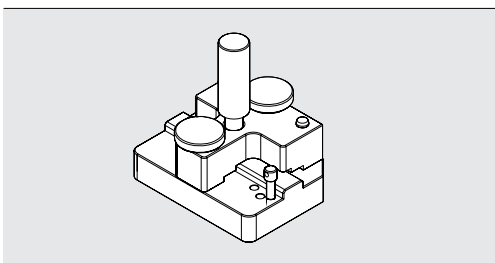


Preparation and mounting of vertical sealing profile for face-mounted slide bolt



**Product description**

**Ref. No.**

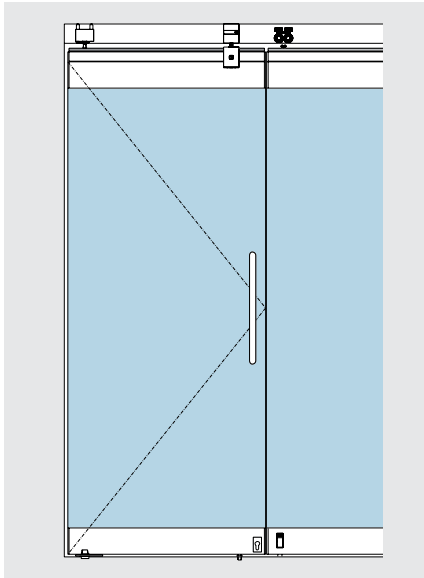


Tool for preparing the top of the vertical sealing profiles on site

**840.070.000.99**

# Accessories - vertical seals

## Panel types



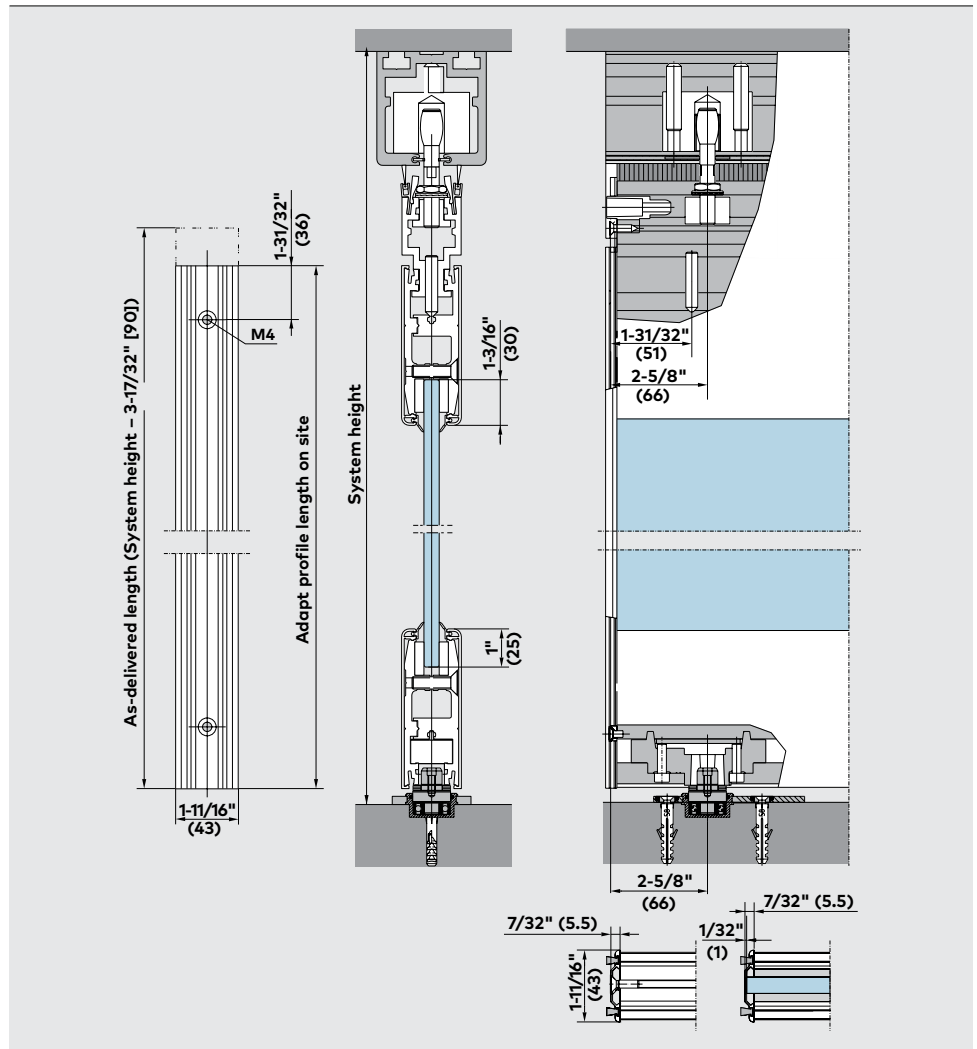
### Single-end-/double-acting panels

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

Cut lengths supplied from factory  
= System height – 3-9/16" (90)

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.

With integrated dormakaba ITS 96 concealed door closer, size ANSI 2–5 (EN 3 – 6)

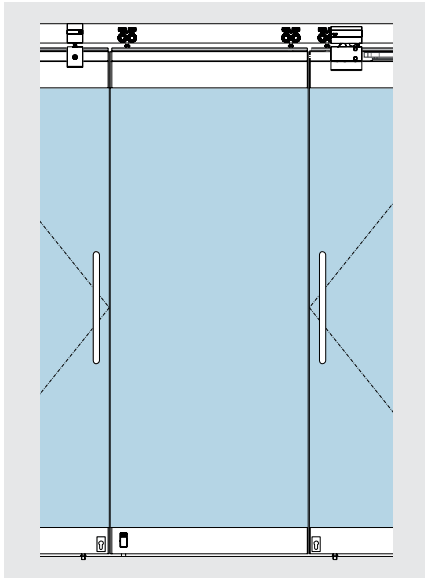


### Installation instructions

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. If the panels include 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. At completion of installation the vertical seal profiles need to be fixed with permanent adhesive/glue.

# Accessories - vertical seals

## Panel types

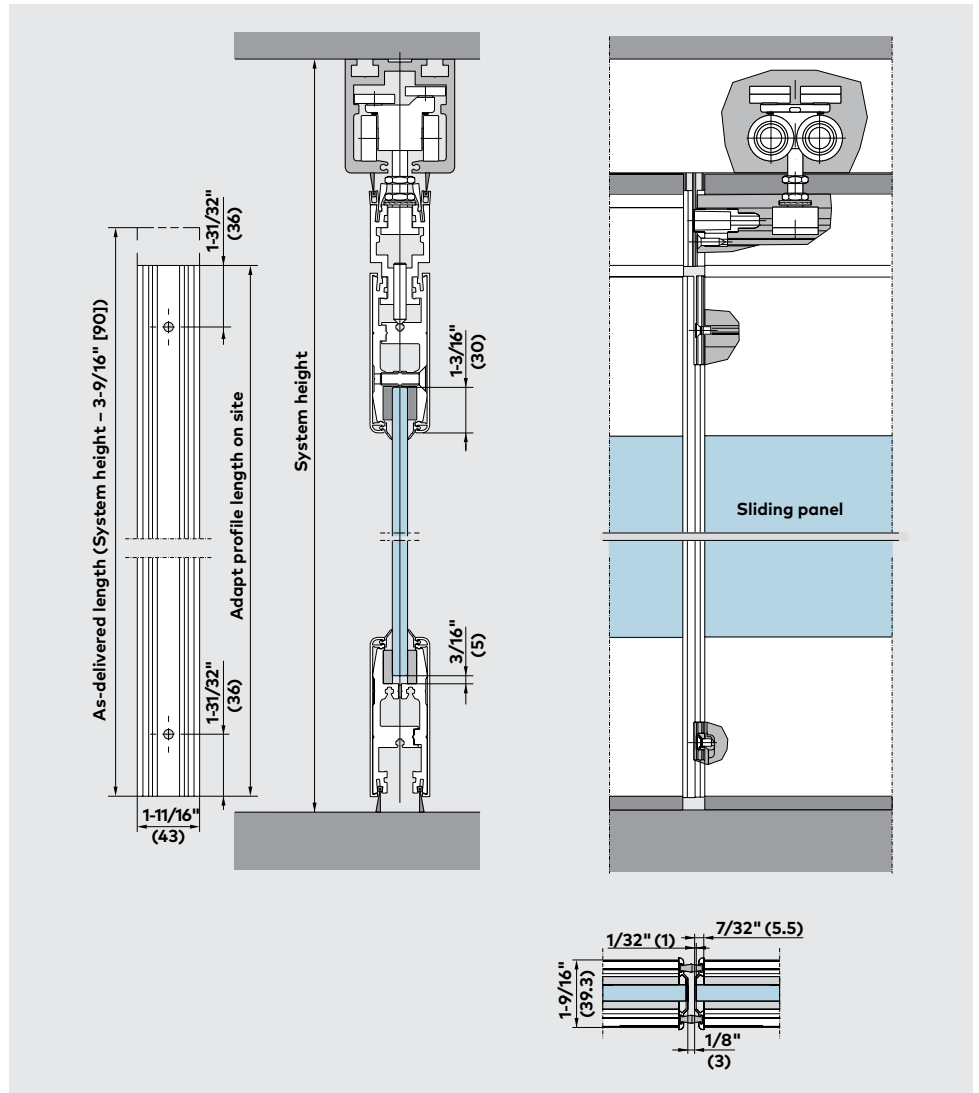


### Sliding panels

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

Cut lengths supplied from factory  
= System height – 3-9/16" (90)

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.

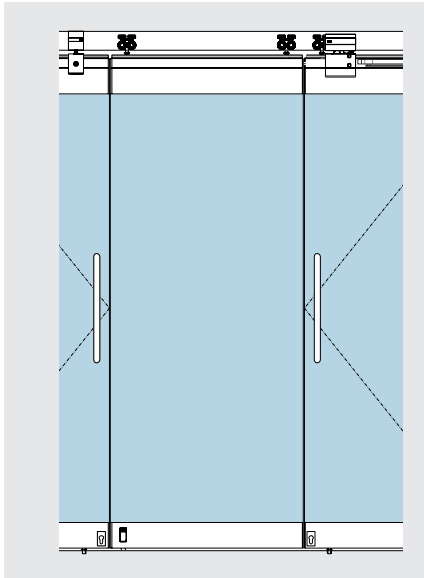


### Installation instructions

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. If the panels include 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.

# Accessories - vertical seals

## Panel types

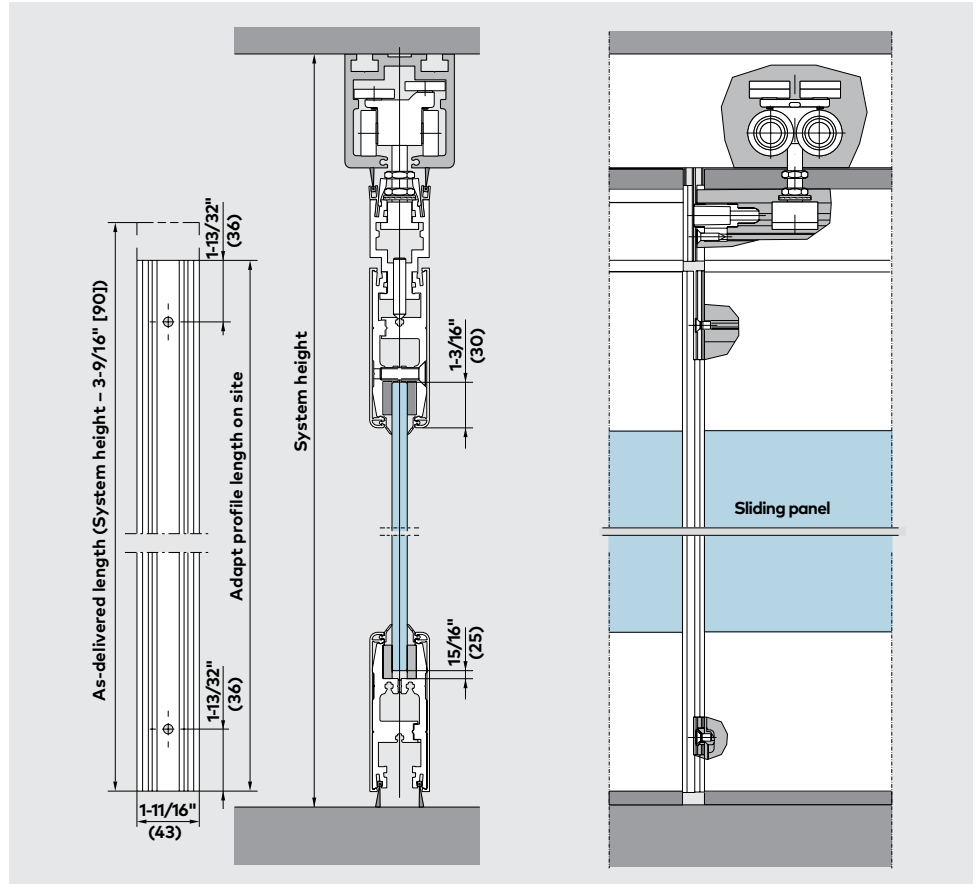


### Sliding panels in segmented configurations

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

Cut lengths supplied from factory = System height – 3-9/16" (90)

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. If the panels include 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.

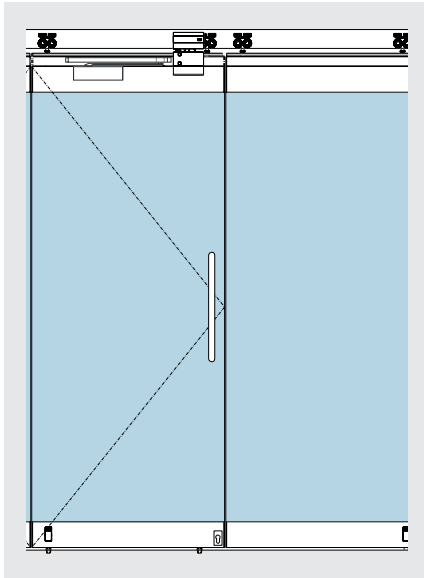
Sealing profiles with standard short type brushes in both brush channels.

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.

# Accessories - vertical seals

## Panel types

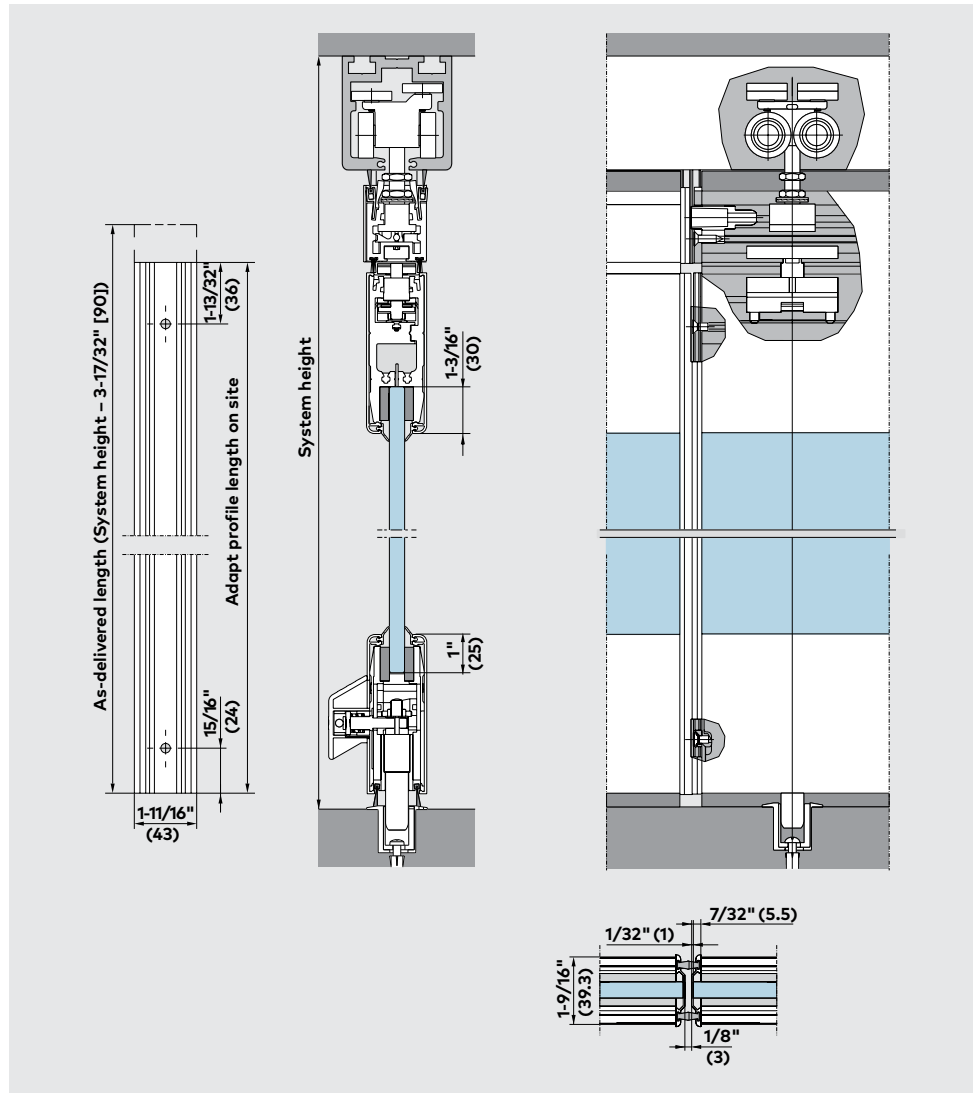


Single-acting sliding panels  
(with TS 92 or ITS 96) /  
double-acting sliding panels  
(with ITS 96)

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

Cut lengths supplied from factory  
= System height – 3-9/16" (90)

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.



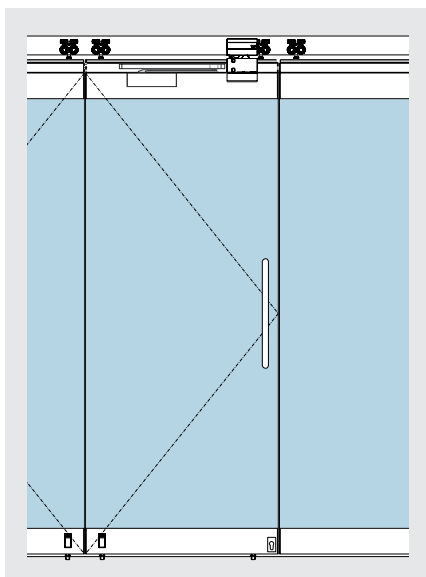
### Installation instructions

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. If the panels include 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.



# Accessories - vertical seals

## Panel types



### 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. If the panels include 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-acting sliding panels  
(with TS 92 or ITS 96)/double-acting sliding  
panels (with ITS 96) with UNIVERSAL center  
lock and UNIVERSAL strike box**

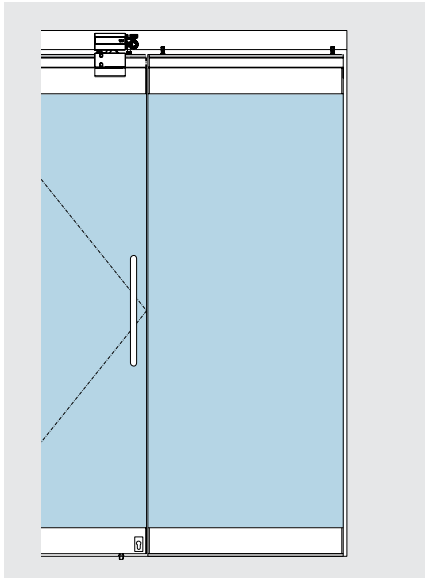
**As delivered condition of the vertical  
sealing profiles:**

Cut lengths supplied from factory  
= System height – 3-17/32" (90)

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.

# Accessories - vertical seals

## Panel types

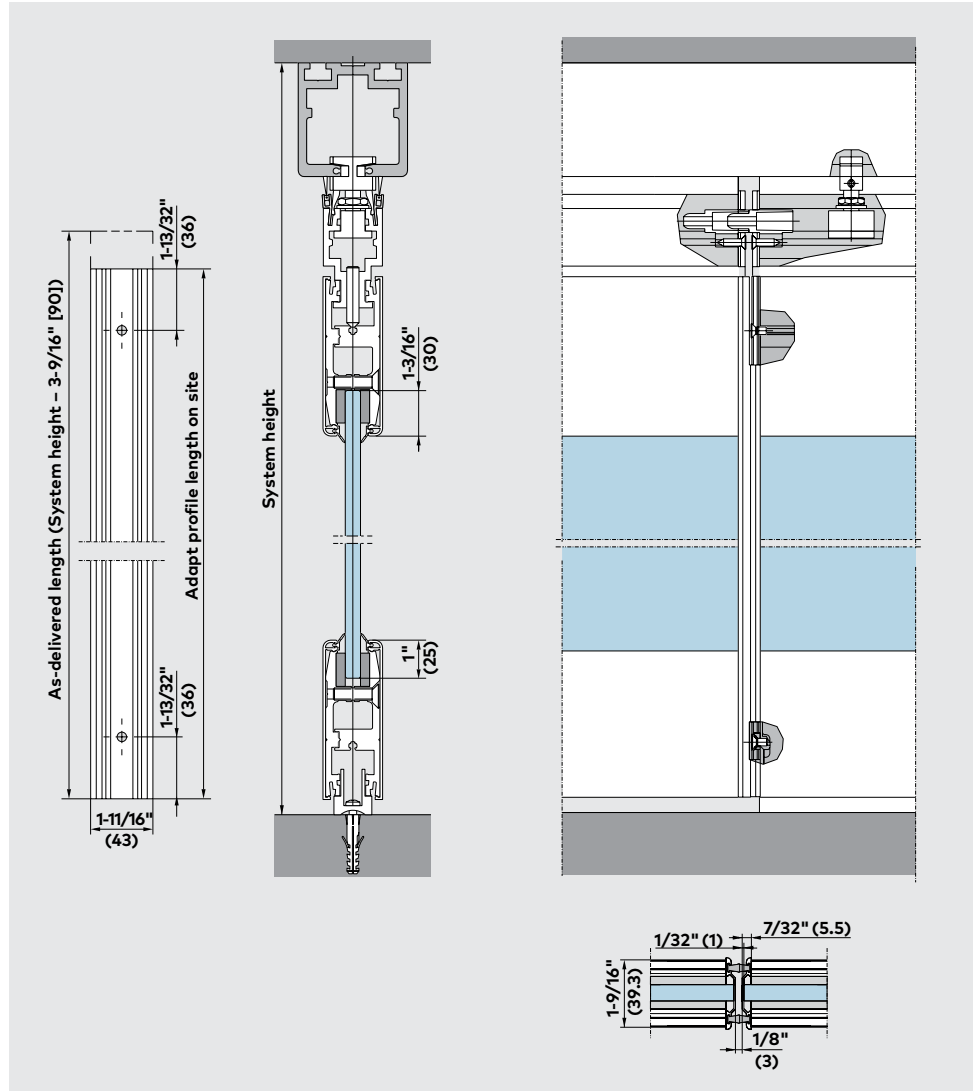


### Fixed panels

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

Cut lengths supplied from factory  
= System height – 3-9/16" (90)

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. If the panels include 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.

# Accessories - vertical seals

## Pulls/handles, knobs & recessed pulls

Pulls and handles are designed for glass of 5/16", 3/8", and 1/2" (8, 10, and 12) thickness. Pulls/handles can be mounted to both sliding and pivoting doors on one face (single-sided) using the appropriate connectors or on both faces (back-to-back) by through bolting.

Designed with a flat mounting surface, pulls are suitable for sliding doors. Single point fittings and through bolts are included as standard equipment as identified in the current price book. The pull handles can be mounted horizontally, vertically, or in a handrail arrangement.

## Pulls

### TG 138 locking and non-locking ladder pulls

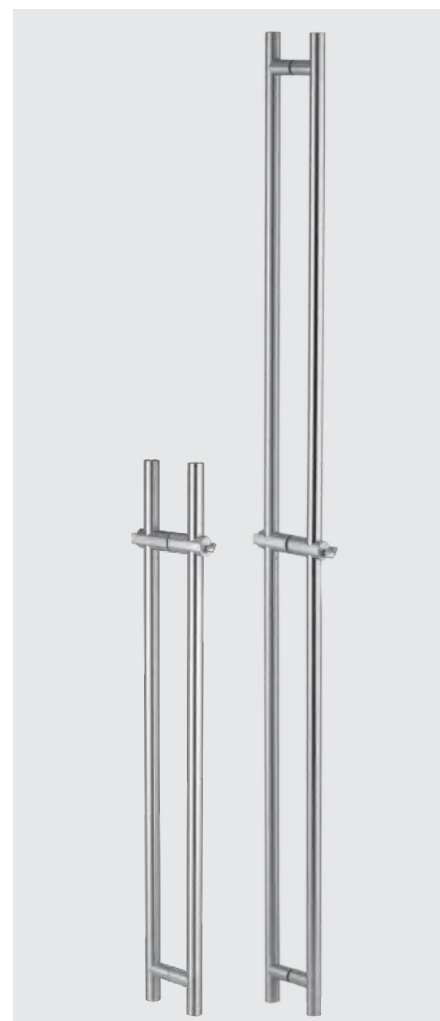
#### Lockable stainless steel pull handles with rim cylinder and thumbturn

For elegant and secure glass entrances, dormakaba offers the **TG 138 locking and non-locking ladder pulls**—a pair of tubular lockable pull handles with a small format interchangeable (SFIC) cylinder on the secure side and a thumbturn on the non-secure side of the door. Made from the highest quality, Grade 316L stainless steel, TG 138 locking ladder pulls are perfect for the toughest interior/exterior environments. Four stocked lengths are available: 49" (1245), 60" (1524), 72" (1829), and 84" (2134) with custom sizes available for quote upon request.

Lockable pull handles feature a patented anti-break-in technology and steel dead bolt locking on the interior or opposite of the cylinder side of the opening. The default cylinder is a Small Format Interchangeable Core (SFIC) less core (00). Other cylinder and keying options are available. A dust proof strike is included.

Mounting packs are available for tempered glass doors and for aluminum, wood, PVC, and mixed material doors from 3/8" to 1-3/4" (10 to 44). Contact the factory if mounting packs are required for thicker doors.

Matching non-locking ladder pulls are stocked in all four standard sizes, or custom sizes are available for quote upon request.

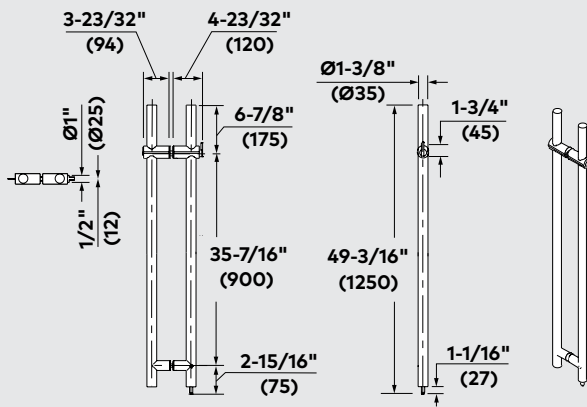


# Accessories - pulls

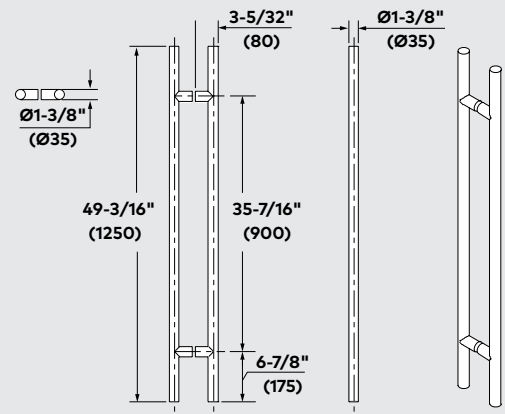
## TG 138 locking and non-locking ladder pulls

### 49" (1245) TG 138 locking and non-locking ladder pulls

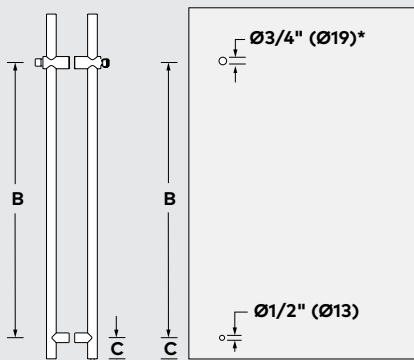
Locking ladder pull details



Non-locking ladder pull details



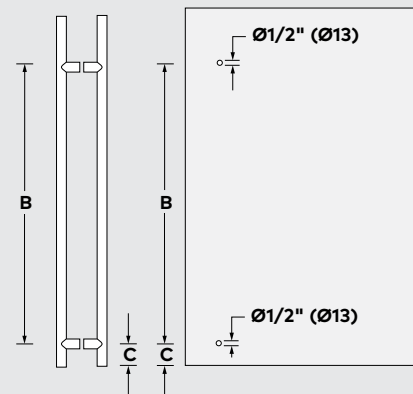
Locking ladder pull glass cutout template



B =  $35\text{-}7/16''$  (900)  
C =  $6\text{-}7/8''$  (175)

\*OR  $\text{Ø}3/4''$  (Ø19) WITH ADAPTER  
ORDERED SEPARATELY

Non-locking ladder pull glass cutout template



B =  $35\text{-}7/16''$  (900)  
C =  $6\text{-}7/8''$  (175)

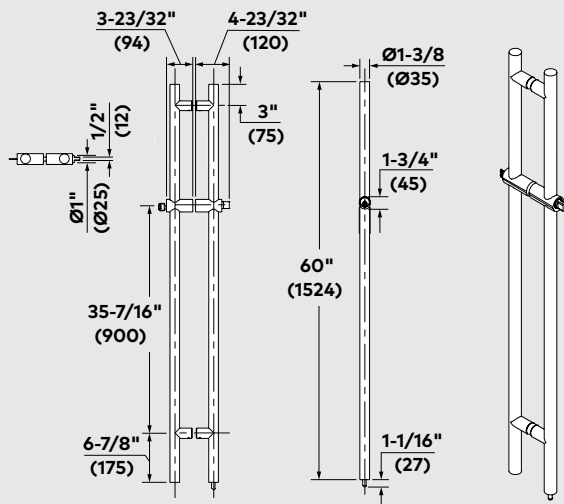
Note: Use this cutout preparation for 49" (1254) single-sided locking ladder pull with cylinder or thumbturn.

# Accessories - pulls

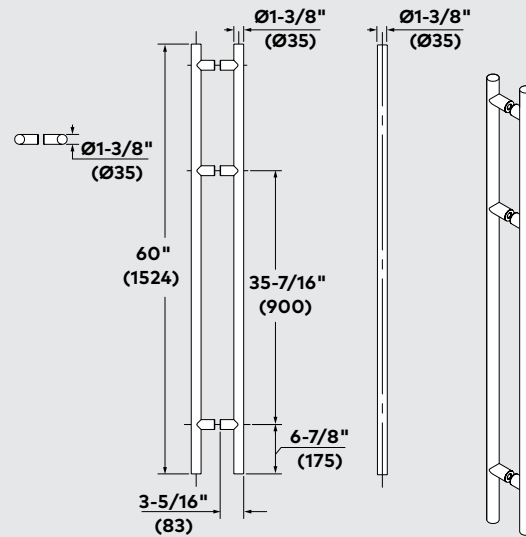
## TG 138 locking and non-locking ladder pulls

### 60" (1524) TG 138 locking and non-locking ladder pulls

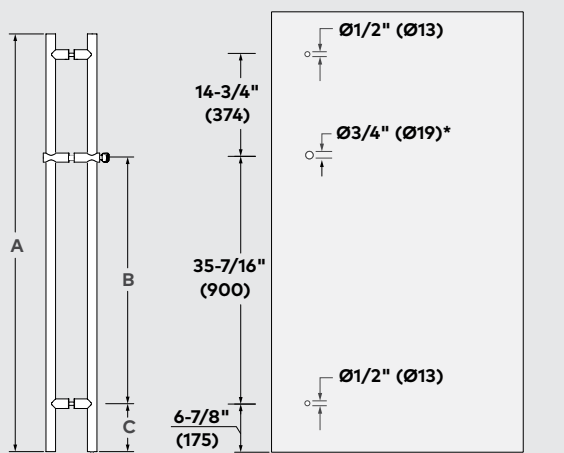
Locking ladder pull details



Non-locking ladder pull details



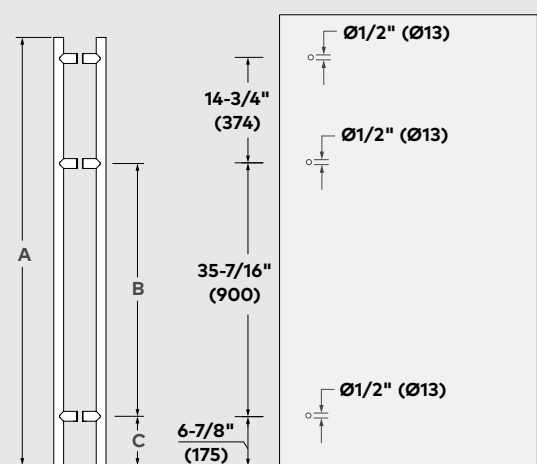
Locking ladder pull glass cutout template



A = 60" (1524)  
B = 35-7/16" (900)  
C = 6-7/8" (175)

\*OR Ø3/4" (Ø19) WITH ADAPTER  
ORDERED SEPARATELY

Non-locking ladder pull glass cutout template



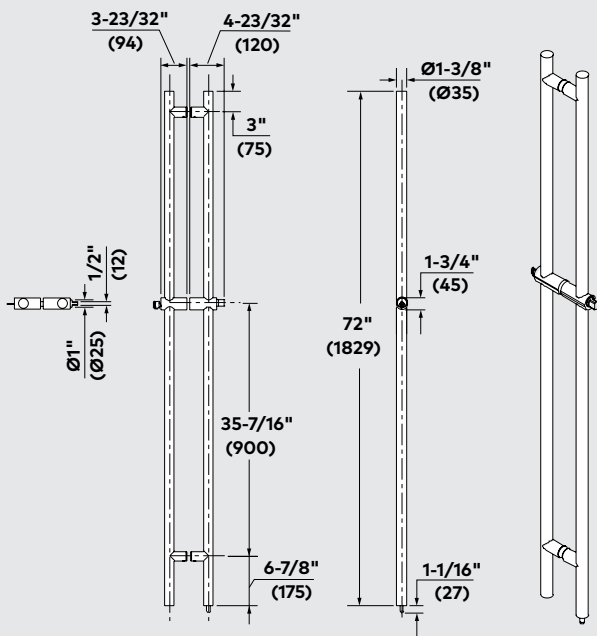
A = 60" (1524)  
B = 35-7/16" (900)  
C = 6-7/8" (175)

# Accessories - pulls

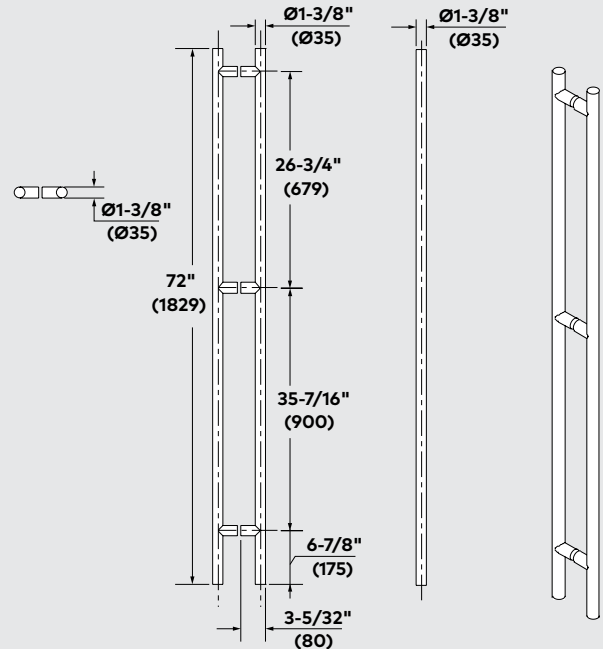
## TG 138 locking and non-locking ladder pulls

### 72" (1829) TG 138 locking and non-locking ladder pulls

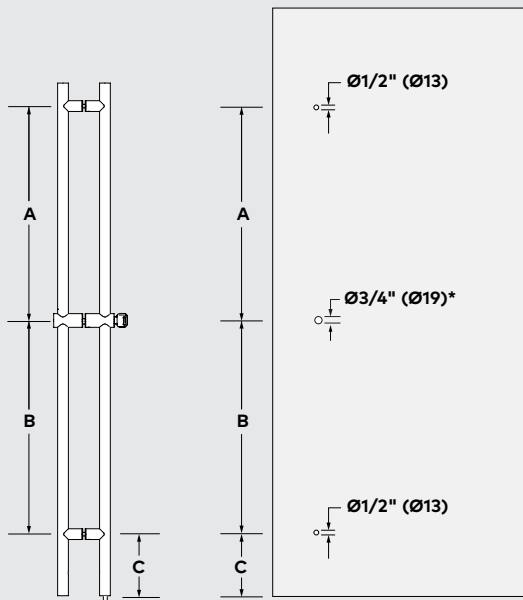
Locking ladder pull details



Non-locking ladder pull details



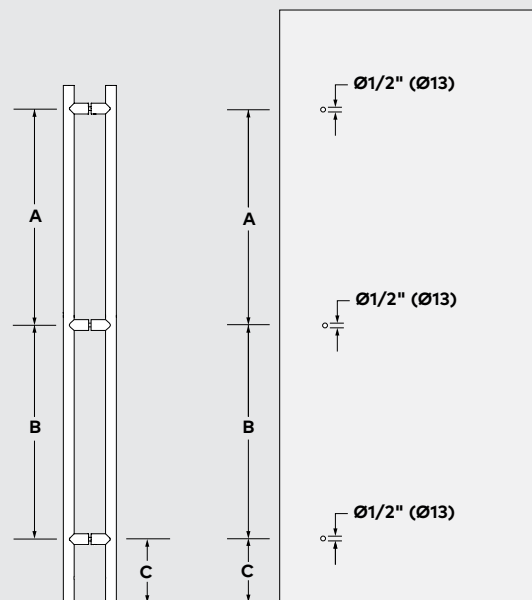
Locking ladder pull glass cutout template



A = 26-47/64" (679)  
 B = 35-7/16" (900)  
 C = 6-7/8" (175)

\*OR Ø3/4" (Ø19) WITH ADAPTER  
 ORDERED SEPARATELY

Non-locking ladder pull glass cutout template



A = 26-47/64" (679)  
 B = 35-7/16" (900)  
 C = 6-7/8" (175)


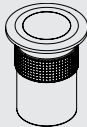
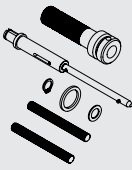
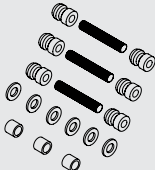
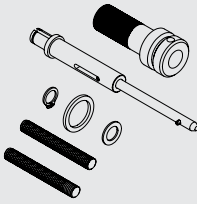
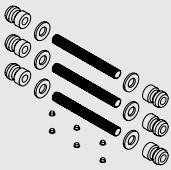




# Accessories - pulls

## TG 138 locking and non-locking ladder pulls


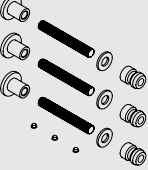
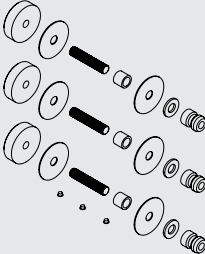
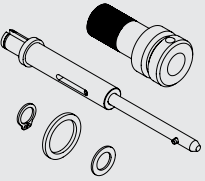
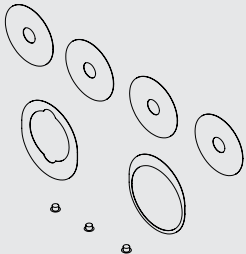
Mounting pack options

Option	Ref. #	Description	Door thickness
	926.891	Adaptor, .75 adaptor allows non-locking pull to install in locking post prep	-
	926.937	Strike, dustproof, standard	-
	926.890	Mounting pack, back-to-back lock post, non-locking posts	1-3/4" (44)
	926.941	Mounting pack, back-to-back, non-locking	3/8" - 3/4" (10 - 19)
	926.911	Mounting pack, back-to-back, locking	3/4" (19)
	926.909	Mounting pack, back-to-back, non-locking post	1-3/8" - 1-3/4" (34 - 44)

# Accessories - pulls

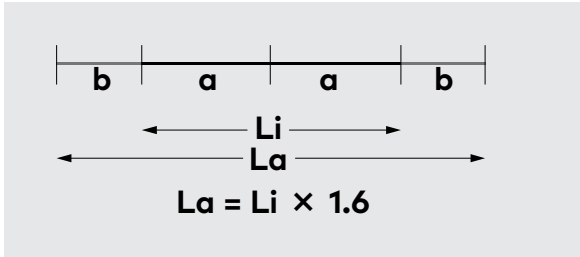
## TG 138 locking and non-locking ladder pulls

### Mounting pack options

Option	Ref. #	Description	Door thickness
	926.910	Mounting pack, SNG blind, 3 each in pack (will not project through door)	min. 1-3/4" (44)
	926.908	Mounting pack, single non-locking x sex nut	3/4" – 3-1/8" (19 – 80)
	926.906	Mounting pack, single non-locking x rose	3/8" – 3/4" (10 – 19)
 <p>926938</p>	926.938	Locking mechanism only	1/2" (13)
	926.939	Washer pack	–

# Accessories - handles

## TG 9387 pull handle with straight supports

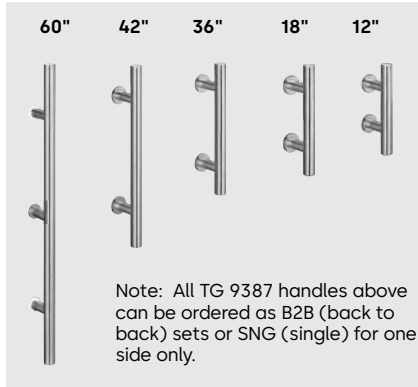


- Each pull handle custom ordered to fit field preparation. No cutting or handle modifications required in field.
- No inventory or storage costs.
- Robust design for maximum load resistance.
- Naturally corrosion resistant.
- All TG pulls are made from stainless steel base material.
- A range of mounting options is available to suit various door thicknesses for glass, metal, or wood doors.
- Consistent appearance of all pull handles in the building.

TG 9387 handles are available in two variations of custom lengths:

- A. Specify Li only = (specify Li only then {La = Li x 1.6} [La = overall length], [Li = center to center of post]).
- B. Specify Li and La desired.

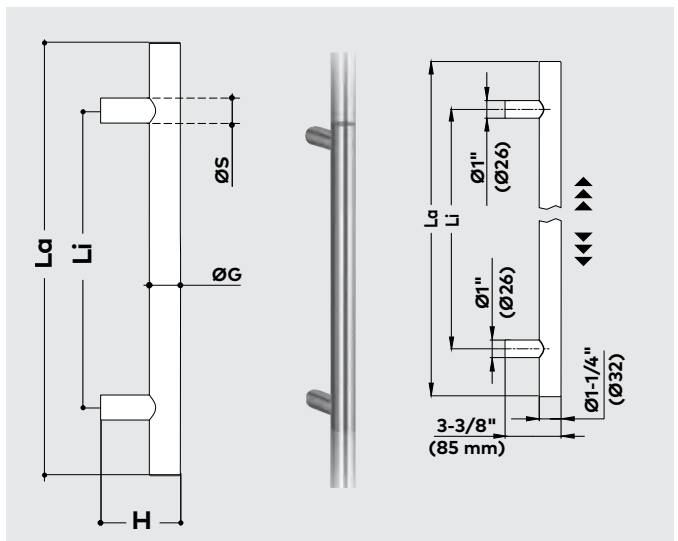
Stock TG 9387 handles are also available in the six specifications shown at right and below.



1. **Ref. # 905.370**  
Li = 60" (1524)  
La = 37-1/2" (953)  
(3F = 3 Fixing Posts)
2. **Ref. # 905.371**  
Li = 42" (1067)  
La = 26-1/4" (667)  
(2F = 2 Fixing Posts)
3. **Ref. # 905.372**  
Li = 36" (914)  
La = 22-1/2" (572)  
(2F = 2 Fixing Posts)
4. **Ref. # 905.373**  
Li = 18" (457)  
La = 11-1/4" (286)  
(2F = 2 Fixing Posts)
5. **Ref. # 905.382**  
Li = 18" (457)  
La = 12" (305)  
(2F = 2 Fixing Posts)
6. **Ref. # 905.374**  
Li = 12" (305)  
La = 7-1/2" (191)  
(2F = 2 Fixing Posts)

Service item*	Description
	Service inserts, reduces post thread from 5/16" (8) to 1/4" (6), used for every mounting post. Bulk pack of 6. <b>Ref. # 905.390</b>
	Service mounting pack with finished mounting ROSE used for SNG GLASS mount 3/8" - 3/4" (10 - 19). Bulk pack of 6. <b>Ref. # 905.387</b>
	Service mounting pack used for BACK-TO-BACK GLASS mount 3/8" - 3/4" (10 - 19). Bulk pack of 6. <b>Ref. # 905.385</b>
	Service mounting pack with finished mounting ROSE used for SNG WOOD mount 1-3/8" - 2" (40 - 51). Bulk pack of 6. <b>Ref. # 905.388</b>
	Service mounting pack used for BACK-TO-BACK WOOD mount 1-3/8" - 2" (40 - 51). Bulk pack of 6. <b>Ref. # 905.386</b>
	Service mounting pack with BLIND (concealed) fasteners, used for SNG WOOD mount ≥ 1-3/8" (40). Bulk pack of 6. <b>Ref. # 905.389</b>

ØG	1" (25)	1-1/4" (32)
ØS	23/32" (18)	1-1/32" (26)
H	2-15/16" (75)	3-11/32" (85)
3 fittings required	59-1/16" (1500)	74-13/16" (1900)

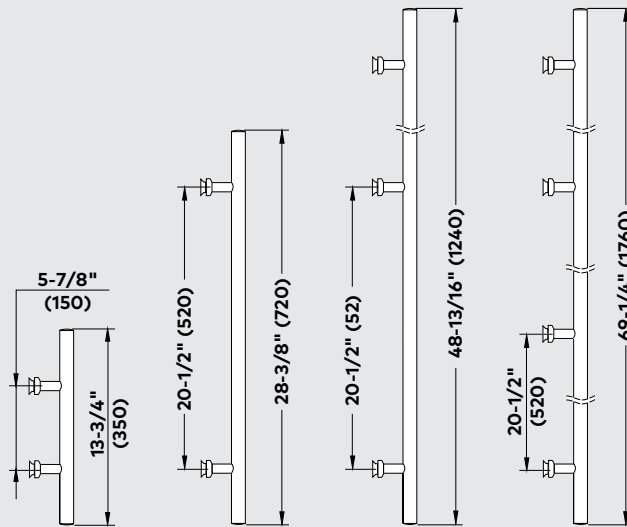


\* Service items for stock TG 9387 handles only; specify appropriate mounting option when ordering.

# Accessories - handles

## MANET handles

### MANET handles, single side



Single side with clamping disk single point mounting for 3/8" (10) and 1/2" (12) glass.  
316L stainless steel base material.

### MANET handles, single side

13-3/4" (350) O.A.

2-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.240

### MANET handles, single side

28-3/8" (720) O.A.

2-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.241

### MANET handles, single side

48-13/16" (1240) O.A.

3-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.242

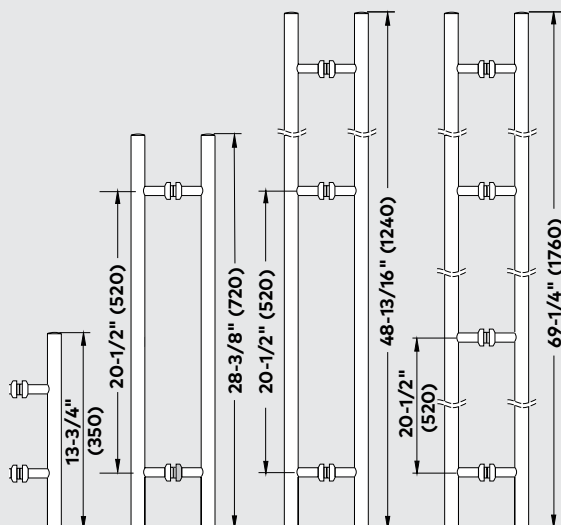
### MANET handles, single side

69-5/16" (1760) O.A.

4-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.243

### MANET handles, back-to-back



### MANET handles, back-to-back

13-3/4" (350) O.A.

2-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.267

### MANET handles, back-to-back

28-3/8" (720) O.A.

2-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.270

### MANET handles, back-to-back

48-13/16" (1240) O.A.

3-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.273

### MANET handles, back-to-back

69-5/16" (1760) O.A.

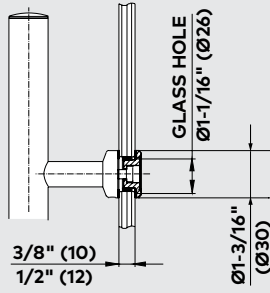
4-hole mounting for 3/8" (10) and 1/2" (12) glass thickness

Ref. # 821.276

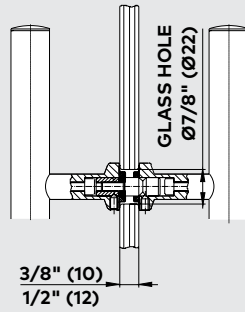
# Accessories - handles

## MANET handles – glass preparation

### MANET handles, glass hole details

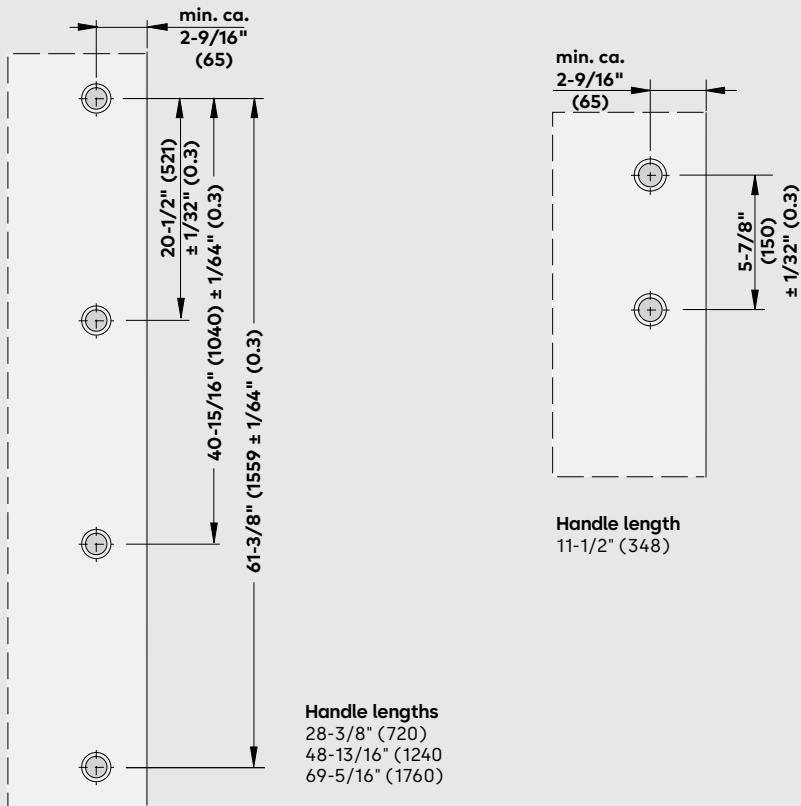


Single point mounting  
with clamping disk



Back-to-back mounting  
with connecting bolt

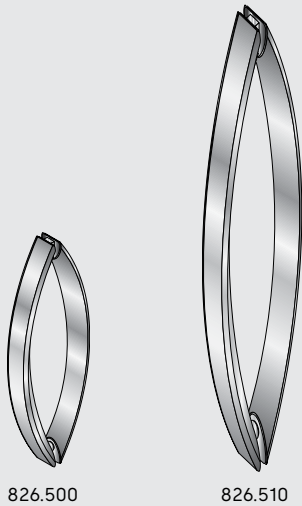
### MANET handles, glass fabrication



# Accessories - handles

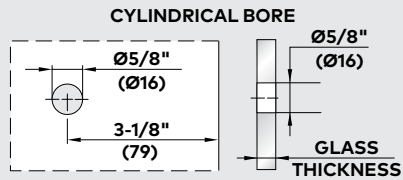
## ARCOS handles

### ARCOS handle details

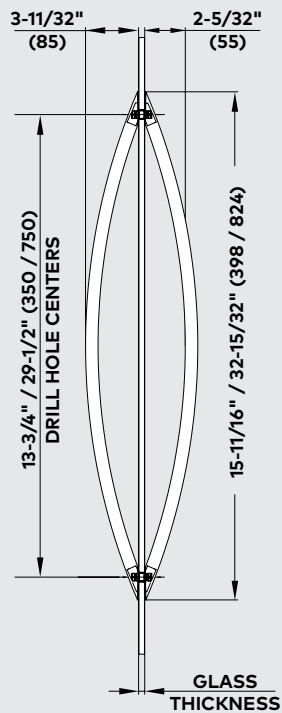
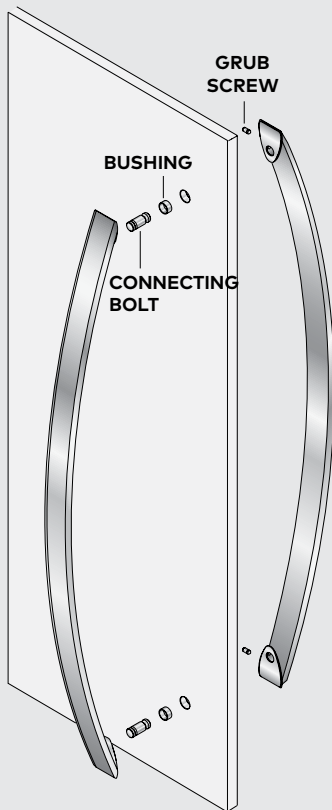


**ARCOS Handles**  
 13-3/4" (350) C to C  
 2-hole fixing for 3/8" (10)  
 1/2" (12) glass thickness  
**Ref. # 826.500**

**ARCOS Handles**  
 29-1/2" (750) C to C  
 2-hole fixing for 3/8" (10)  
 1/2" (12) glass thickness  
**Ref. # 826.510**



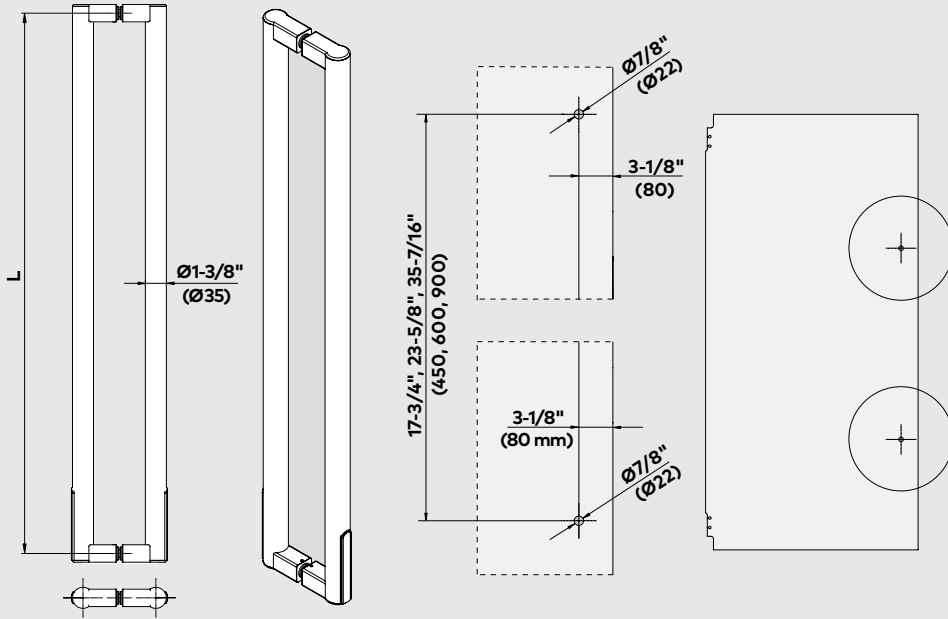
### ARCOS glass fabrication



# Accessories - handles

## BEYOND handles

BEYOND handle details



Length (L)	Ref. #
17-3/4" (450)	830.300
23-5/8" (600)	830.305
35-7/16" (900)	830.310

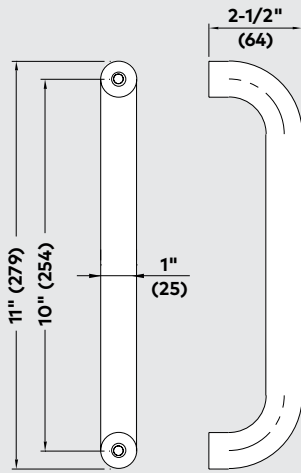
**BEYOND handle**  
for 3/8" (10) and 1/2" (12) glass,  
two-hole attachment.

**Available finish**  
(670) Similar to Satin  
Stainless finish.

# Accessories - handles

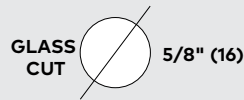
## Economy pull handles (solid and tubular)

10" (254) handles

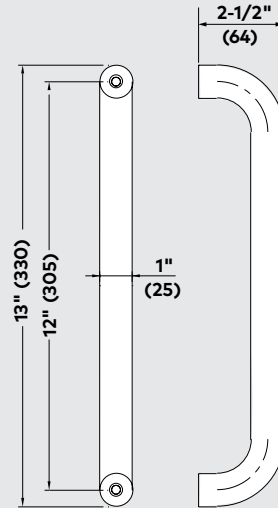


Handles,  
back-to-back pulls  
tube, 10" (254)  
Ref. # 926.001 (solid)  
Ref. # 926.601 (tubular)

Handles, single side  
tube 10" (254)  
Ref. # 926.012 (solid)  
Ref. # 926.612 (tubular)

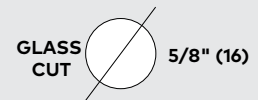


12" (305) handles

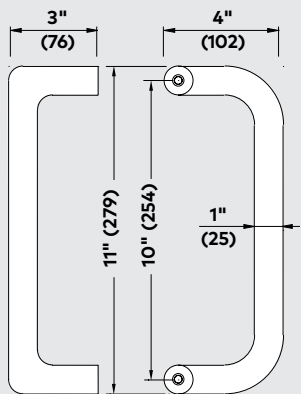


Handles,  
back-to-back pulls  
tube, 12" (305)  
Ref. # 926.004 (solid)  
Ref. # 926.604 (tubular)

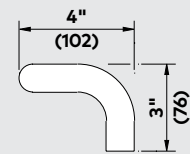
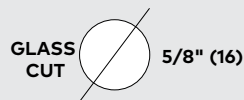
Handles, single side  
solid tube 12" (305)  
Ref. # 926.016 (solid)  
Ref. # 926.616 (tubular)



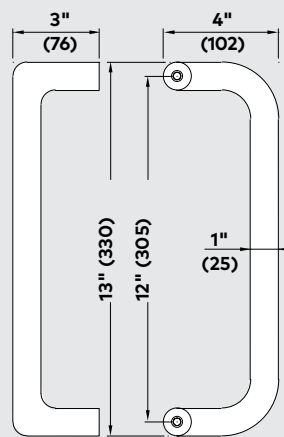
Offset back-to-back handle - 10" (254)



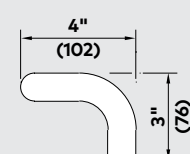
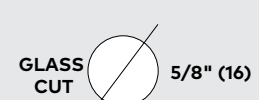
Handles,  
back-to-back offset  
tube, 10" (254) offset  
Ref. # 926.622 (tubular)



Offset back-to-back handle - 12" (305)



Handles,  
back-to-back offset  
tube, 12" (305) offset  
Ref. # 926.009 (solid)  
Ref. # 926.609 (tubular)





# Accessories - handles

## Economy pull handles (solid and tubular)

**Handles, push/pull, back-to-back tube, 10" (254) × 27-3/4" (705)**  
**Ref. # 926.002 (solid)**  
**Ref. # 926.602 (tubular)**

**Handles, push/pull, back-to-back tube, 12" (305) × 27-3/4" (705)**  
**Ref. # 926.005 (solid)**  
**Ref. # 926.605 (tubular)**

**Flush pull**  
 aluminum, to be glued onto the glass — requires glass cut  
**Ref. # 907.200**

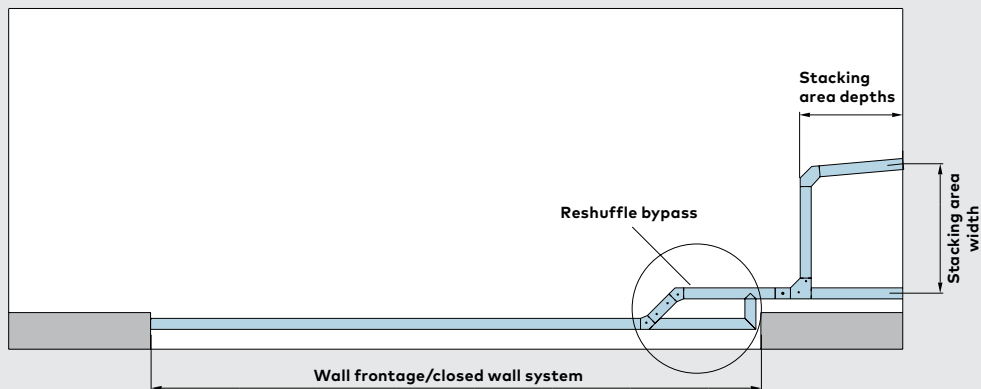
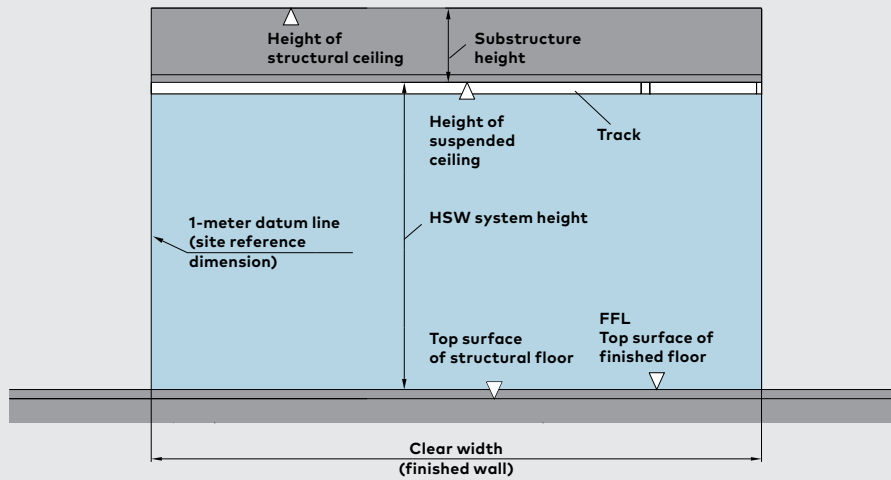
## Flush pull and glass knob

**Flush pull**  
 aluminum, to be glued onto the glass — requires glass cut  
**Ref. # 907.200**

**Glass knob**  
 Ø1-15/32" (Ø37), projection 1-1/4" (32), glass prep: drill 3/8" or 1/2" (10 or 12) Ø hole for 3/8" or 1/2" (10 or 12) glass thickness  
**Ref. # 906.999**

# 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 decorative shop windows.

Use caution when choosing double acting sliding panels for main entrances (i.e. shopping malls or similar HSW applications). These are subjected to very high daily traffic volumes and usage frequency rates.

Door closers and pivot bearings used by dormakaba have been successfully tested in accordance with European requirements of EN 1154. EN 1154 specifies 500,000 test cycles for manually operated closers.

High-frequency portal systems such as described can reach high cycles after just a few months. Consequently, dormakaba 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 glazier or facilities contractor.

In addition to any door closer that may be installed, a suitable limiting stop (to be provided on site) is required as protection for single-acting and double-acting sliding panels. In public and high frequency entrance systems, door closers are suitable as limiting stops. Proper auxiliary limiting stops must be installed to protect and prevent risk of injury to pedestrians or damage to door closer, door and frame, and other hardware.

# Finishes

## Aluminum and powder coat

**Deviations in color due to production procedures and/or organic (living) finishes cannot be totally excluded.**

HSW systems surface finishes contain multiple different component base materials.

FSW (folding sliding walls) systems, for example, include hinges with base metal aluminum, while the standard surface finish for brush profiles and end covers is black anodized (711). Some HSW/FSW system components have

optional anodized or powder-coated finishes to resemble the ordered surface finish. The standard surface of upper locking units and upper locking bolts is a powder-coated RAL color.

Typical manufacturing flow marks appear when anodizing the milled area of the track rail modules. As an alternative to the anodized 628 surface finish, we offer modules and track rails in all lengths in a powder-coated version similar to 628 for visual reasons.

Finishes	dormakaba USA		dormakaba Europe
<b>Aluminum</b>	<b>dormakaba No.</b>	<b>REF (old) finish No.</b>	<b>GMBH finish No.</b>
AL mill finish (Aluminum R 600)	719	100	100
AL Clear Silver anodized	628	101/150	101/150
AL similar satin stainless steel anodized	670	107/113	107/113/157
AL special color anodized	199	199	199
<b>Powder coat finishes</b>	<b>dormakaba No.</b>	<b>REF (old) finish No.</b>	<b>GMBH finish No.</b>
AL traffic white powder coated	714	RAL 9016	300
AL special color powder coated (Standard powder according to RAL)	399		

Finishes HSW-ES	
Aluminum	dormakaba No.
AL mill finish	719
AL silver anodized	628
AL niro anodized (Niro N 700)	670
AL special color anodized	199
<b>Powder coat finishes</b>	<b>dormakaba No.</b>
AL black powder coated (Black P 190 SG)	693
AL high weather resistant powder coated (Color P WR, supplied by Germany only)	398
AL special color powder coated (Standard powder according to RAL)	399

# Safety

## Important safety-related information for the mounting and use of dormakaba 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 must be informed about relevant points mentioned in this safety-related information and the mounting and operating instructions!

### • **General information**

- dormakaba requires use of tempered laminated or tempered monolithic glass.
- dormakaba glass hardware is not suitable for harsh environment; for example, applications where chemicals (e.g. chlorine) are used such as indoor swimming pools, saunas, or salt-water pools.
- Never move sliding panels faster than walking speed and always stop the door manually before it reaches end position.
- Do not slide doors with excessive force. Ensure proper installation of limiting stop to prevent door from opening too far.
- Do not swing doors with excessive force. Install limiting stop to prevent door from opening too far.

### **Requirements for glass panel**

Never use glass with conchoidal fractures and/or damaged edges.

### **Safety instructions**

Installation requires two people.

- Always wear protective clothing.
- Only properly qualified and specially trained staff are authorized to mount dormakaba glass hardware.
- Due to crushing hazards and possible injury caused by breakage of glass during mounting, corresponding protective clothing (especially gloves and protective goggles) is required.
- Never clamp metal fitting hardware directly to glass surface.

### **For practical planning, please refer to dormakaba technical drawings.**

The printed colors indicating the surface finishes are not 100% true, but do provide a useful guide.

Statements made with regard to the nature or use of the products are for the purposes of descriptions. Varying from product design intent with regard to the existence of particular properties or particular uses always requires special written agreement. Pictures may show special designs which are different to the standard scope of delivery.

Subject to change without notice.



## Our Sustainability Commitment

We are committed to fostering sustainable development along our entire value chain in line with our economic, environmental and social responsibilities toward current and future generations.

Sustainability at product level is an important, future-oriented approach in the field of construction. In order to give quantified disclosures of a product's environmental impacts through its entire life cycle, dormakaba provides Environmental Product Declarations (EPDs), in which the results of the life cycle assessment (LCA) are presented.

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