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CUSTOM MADE SHUTTERS

Panorama Shutter Specifications

PVC

PVC shutters are suitable for a range of purposes, including most internal and moisture area applications. They have excellent thermal resistance, and provide a modern look as well as practical function. PVC is a common abbreviation for Polyvinyl Chloride, which is a widely used thermoplastic polymer. It is extruded into the finished component profiles, therefore requiring little machining. It is produced in range of versatile colours to complement a range of décors.

PVC is a very hardwearing material. As it does not contain any timber it is not susceptible to any cupping, twisting or warping.

As building construction methods are many and varied, the methods of attaching Panorama PVC shutters to the building is very much a custom design process. This should be taken into account when approaching layout design. A range of L frame and Z frame options are available for hinge mounting. Alternative methods of attaching would need to be designed and costed into the job. An internal grade tracking system is available for both bi-fold and sliding applications.

PVC is a relatively heavy material (average of 9kg/m^2), and maximum panel widths are generally less than in other material types used in the industry, to ensure the panels remain stable. However, the use of aluminium-core louvres as standard, and rails on wider panels, allows a more generous maximum panel width than other PVC shutters in the market. The aluminium-core reinforced rails are applied automatically when panels are greater than 600mm wide, making them very strong and able to support the extra width. Square hole plugs are also installed in the bottom of panels, which has the benefit of giving added support to hinged panels and maintaining even clearance gaps.

Panorama Shutter Specifications

Panel Specifications	
Colour options	Off White, Snow White, Bright White, Alabaster, Classic White
Stile Profile	Beaded
Louvre Type	Elliptical
Louvre Width	63, 89, 114
Louvre Thickness	11
Stile Width	51
Stile Thickness	27
Rail Thickness	19
Maximum Panel Height	**2500**
Divider Rail required @	**1400**
Tilt Rod	Clearview
Hinged Panel Width (max)	**900**
Fixed Panel Width (max)	**900**
Hinged Bi-fold Panel Width (max)	**650**
Hinged Bi-fold Panel Height (max)	**2500 - must have bottom frame**
Track Bi-fold Panel Width (max)	**600**
Track Sliding Panel Width (max)	**900**

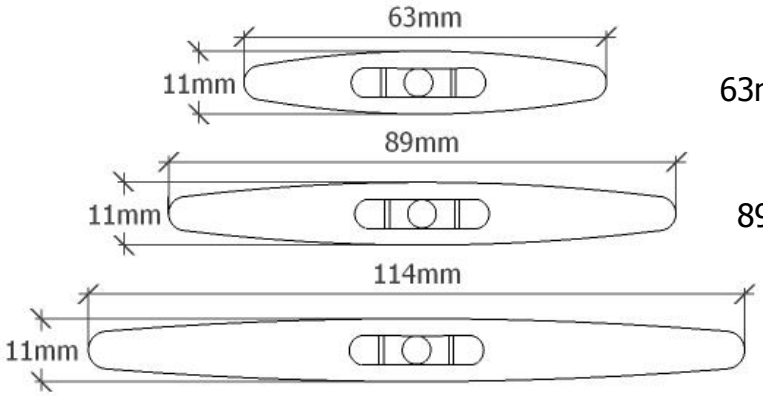
Framing Options Available	
Beaded L Frame 48mm x 25mm	Yes
Insert L Frame 50mm x 22mm	Yes
Insert L Frame 63mm x 22mm	Yes
Small Bullnose Z Frame	Yes
Large Bullnose Z Frame	Yes
Colonial Z Frame	Yes
Sill Plate	Yes
Fixed U Channel	Yes
Light Block 19mm x 19mm	Yes
Frame Buildout 44mm x 25mm	Yes
Frame Buildout 32mm x 9.5mm	Yes
Posts	25mm T-Post, 90° Corner Post, 135° Bay Post
Headboard/Sideboard Sizes	100, 160, 200 x 19mm
Pelmet Fascia Sizes	63, 100, 140mm

Specialty Items Available	
Fixed Louvre	N/A
Non-standard (custom) Colour	N/A
Motorised Louvres	N/A

Panorama Shutter Specifications

Panel Components:

Louvre Sizes



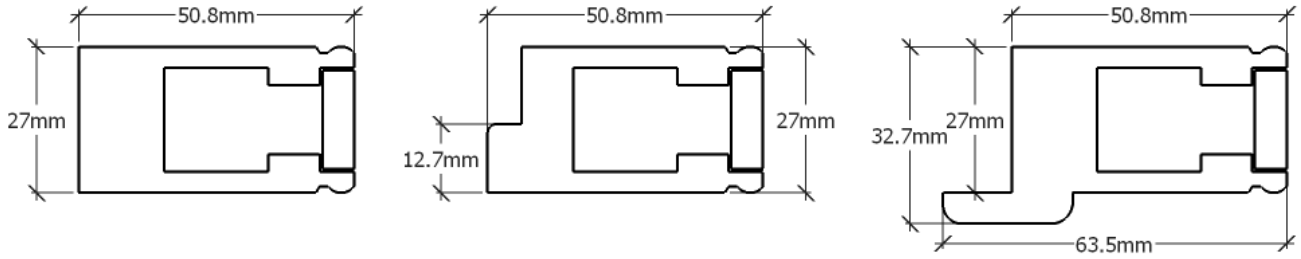
63mm Reinforced Louvre

89mm Reinforced Louvre

114mm Reinforced Louvre

As standard, louvres close upwards from the front of the panel.
All panels will be manufactured with reinforced louvres, regardless of panel width.

Stile Sizes & Types



Square Stile | Rabbet Stile | Astragal Stile

Stiles are reinforced with an aluminium tube for added strength. Rabbet stiles are supplied by default where two panels meet together (e.g. LR); alternately, an astragal stile can be supplied by putting a -D or D- in the layout code (e.g. L-DR).

Where two hinged panels meet together, rabbet or astragal stiles will be aligned so that the right-hand panel opens first by default, but it can be requested otherwise if required.

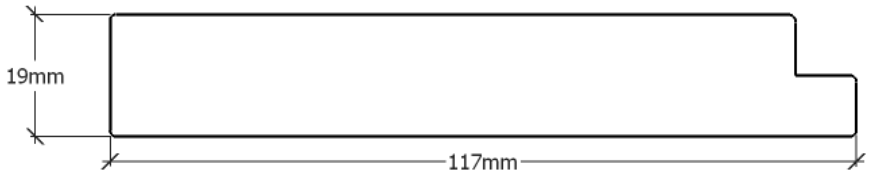
Bi-fold panels can be supplied with the square stile or rabbet stile option, with the default being the rabbet stile, for better light blocking.

Sliding panels are supplied with square stiles by default, but will be supplied with rabbet stiles where panels are to be co-joined.

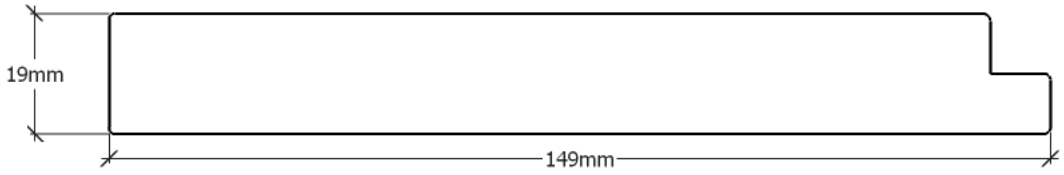
Centre stiles are not available for hinged, bi-fold or sliding panels.

Panorama Shutter Specifications

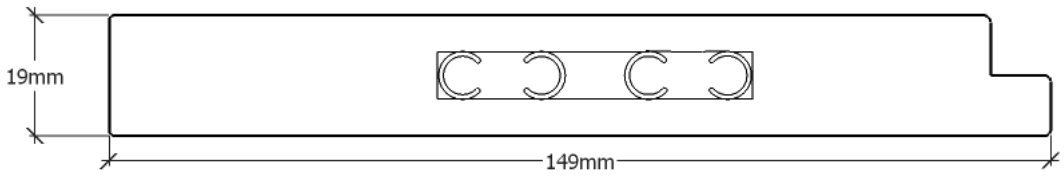
Rails



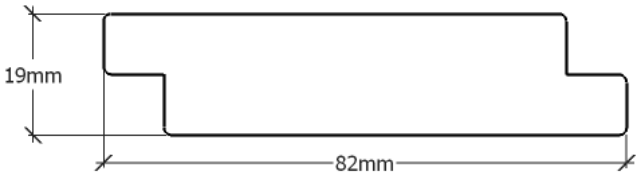
Top/Bottom Rail



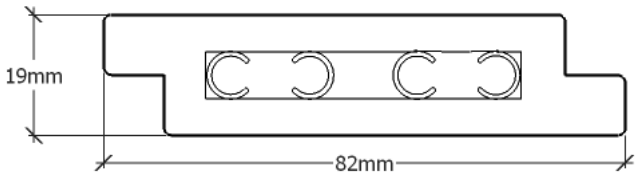
Large
Top/Bottom Rail



Reinforced Large
Top/Bottom Rail



Divider Rail



Reinforced
Divider Rail

The size of the top & bottom rail is dependent on a number of factors, including exact panel height, louvre size and panel width. The factory will decide on the rail sizes based on the structural requirements of the panel. The minimum top or bottom rail size is 88mm. Where practical, the top and bottom rail sizes will be similar. Specific rail size requests are subject to a surcharge.

The measurement from the centre of the divider rail to the top/bottom rail (inclusive) cannot be more than the maximum divider rail height measurement (1400mm).

If a divider rail is required or requested in the centre of the panel, and the overall panel will have an uneven number of louvres, the panel will be made with more louvres above the divider rail than below.

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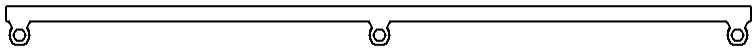
If a specific divider rail height is requested by the customer or installer the measurement MUST be taken from the bottom of the opening to the centre of the object to be covered.

A requested location for a divider rail may be adjusted either up or down by the factory from the measurement given, depending on the louvre size and the exact panel height. This allows the top and bottom rails to be similar in size. The standard allowable divider rail location deviation for each of the louvre sizes is:

Louvre size	Allowable divider rail location deviation
63mm	26mm
89mm	40mm
114mm	51mm

When a critical midrail is requested, the factory will locate the midrail height so that the centre of the midrail is exactly where requested, without deviation. The trade-off in requesting a critical midrail is that the only adjustment the factory has is with the top and bottom rails, and this can result in very different top and bottom rail sizes (e.g. a large top rail and small bottom rail). This can adversely affect the aesthetics of the panel, so careful consideration should be given before requesting it. It is recommended that if a critical midrail is ordered, that a note is placed on the order requesting the top and bottom rail sizes prior to manufacture.

Tilt Rod



Clearview (Hidden)
Tilt Rod

Clearview Tilt Rod
screw & louvre notch

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A metal rod connects the louvres together in each section of the shutter panel, and by moving one louvre, all connected louvres move at the same time to the same position. This tilt rod is placed at the back of the panel at the edge of the louvres, where it is inconspicuous, providing an unobstructed view.

Clearview tilt rods will be positioned on the hinge side of the panel as standard. Fixed panels will have the clearview tilt rod on the left-hand side of all panels unless otherwise noted.

The maximum louvre quantity attached to a Clearview tilt rod will be as per the following chart, and if the louvre quantity exceeds this limit the clearview tilt rod will be split automatically into two pieces.

Louvre Size	Maximum Louvre Qty
63mm	24
89mm	16
114mm	8

If a Clearview tilt rod is split into 2 pieces and the number of louvres is uneven, more louvres will be attached to the top tilt rod than the bottom. If the panel has a divider rail, and the louvre qty on the top section or bottom section exceeds the maximum louvre quantity, split tilt rods are also required for that section.

Please be aware that the clearview tilt rod will project past the back of the louvres by approximately 7mm when the louvres are in the open position, which may affect the reveal depth required and framing size/buildout chosen.

Colour Options

Shutter Colour	Hinge Colour	Clearview Tilt Rod Colour
Off White	Off White/White	White
	Stainless Steel	
Snow White	White	White
	Stainless Steel	
Bright White	White	White
	Stainless Steel	
Alabaster	Off White/White	White
	Stainless Steel	
Classic White	Off White/White	White
	Stainless Steel	

Custom or non-standard colours are not available for PVC shutters. Stainless Steel hinges are available with a surcharge.

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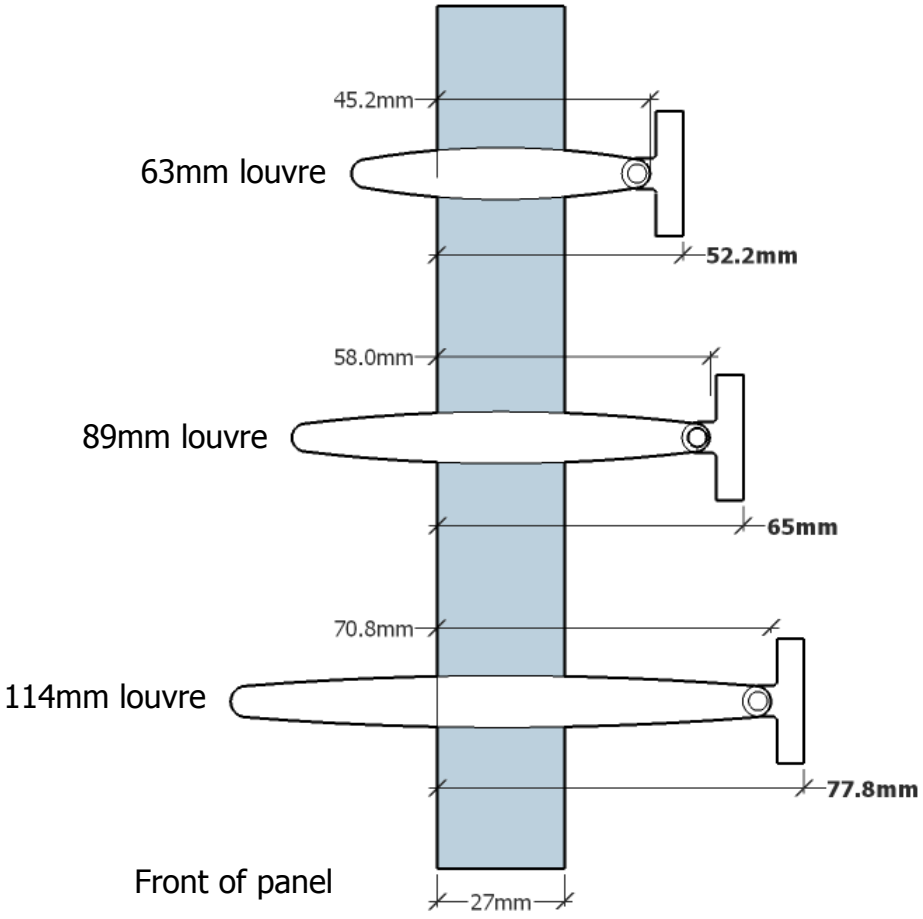
Louvre Depth Clearances

To aid in checking for depth clearance when check measuring, the following guide should be used. This is the absolute minimum required, and additional clearance should be allowed if possible.

63mm Louvres	89mm Louvres	114mm Louvres
54mm	67mm	80mm

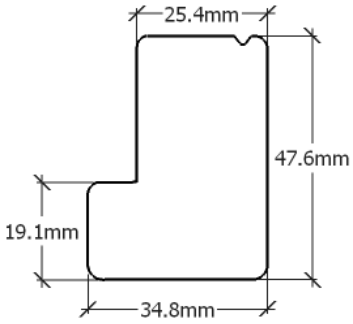


Note that the Clearview tilt rod protrudes from the rear of the louvres by 7mm.
It is important to measure the window depth, handles, architraves and surrounds to ensure uninterrupted operation of the louvres including the Clearview tilt rod.

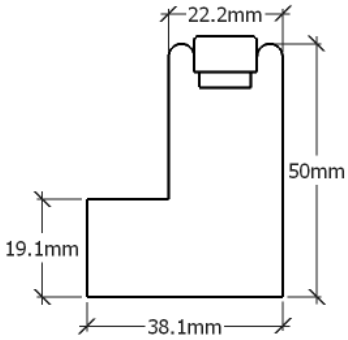
Panorama Shutter Specifications

Hinged Panels

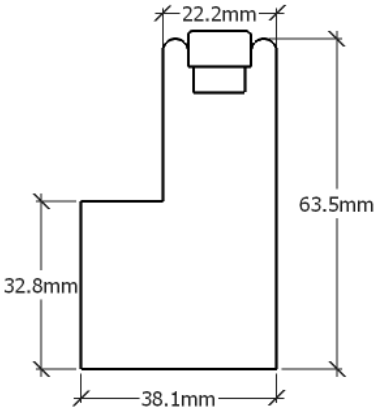
Hinged Framing Components



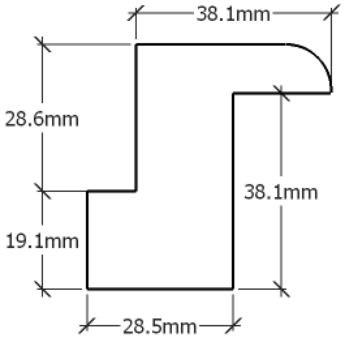
Beaded L Frame
48mm



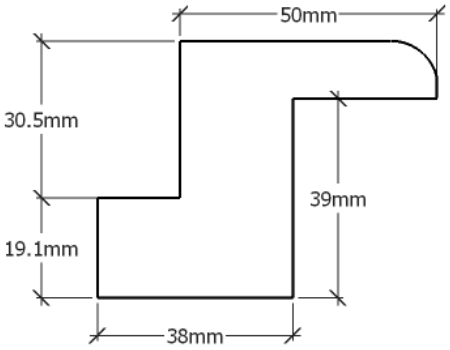
Insert L Frame
50mm



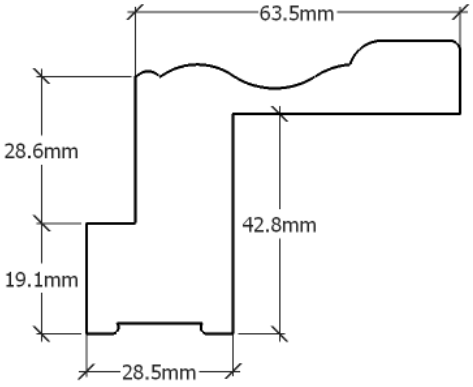
Insert L Frame
63mm



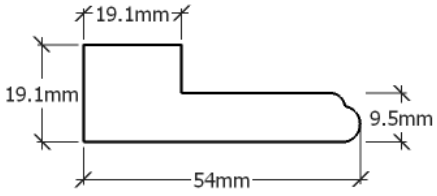
Small Bullnose
Z Frame



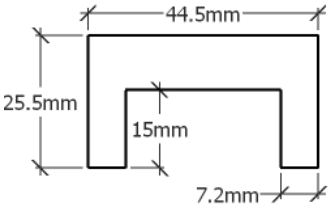
Large Bullnose
Z Frame



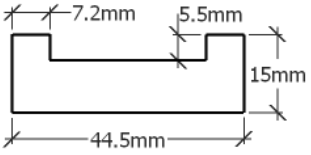
Colonial
Z Frame



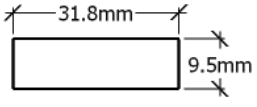
Sill Plate



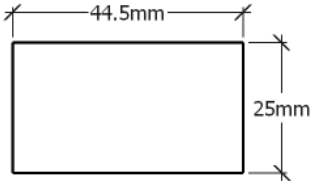
Fixed U Channel
- Top



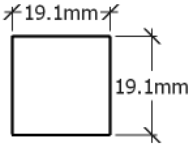
Fixed U Channel
- Bottom



9.5mm Frame Buildout

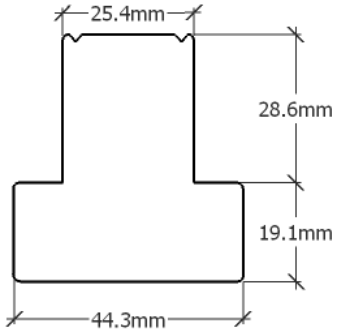


25mm Frame Buildout

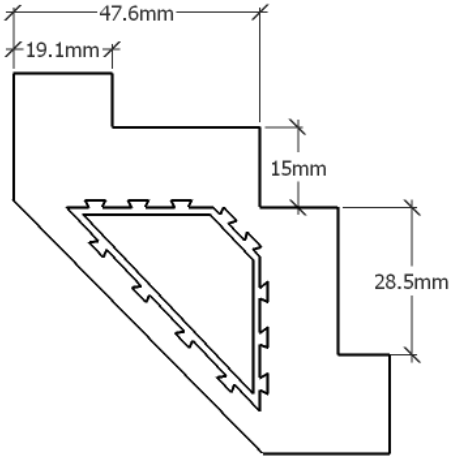


19mm Light Block

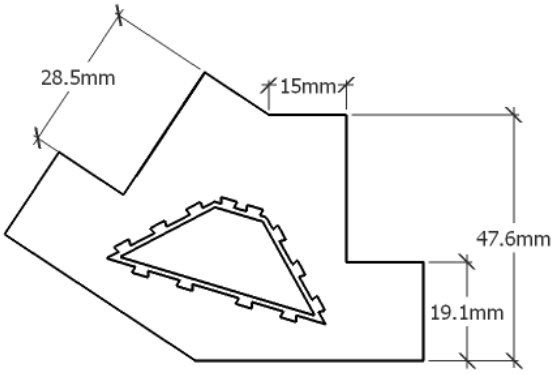
Panorama Shutter Specifications



T Post



90° Corner Post



135° Bay Post

L Frames can be ordered with either a 9.5mm or 25mm buildout, which will be attached to the back of the L Frame. This can assist with extra clearance for the louvres when used in a face mounted application. Custom buildout depths can be requested if necessary.
Where T-posts are required, each panel within the opening will be manufactured at the same width. If specific T-post measurements are provided, the panels will be manufactured to fit within those T-post measurements.

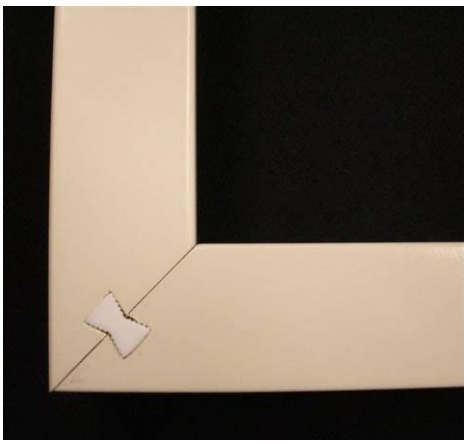
Frame Length

Hinged framing components are supplied at a maximum length of 3500mm. When a frame is required to be longer than 3500mm, the frame will be supplied split in two pieces. Where suitable, the frame join will be spliced, and supplied with a dovetail key to keep the frame aligned during installation.

Panorama Shutter Specifications

Dovetail Keys

All frame mitres will be supplied pre-cut with a groove to accept a plastic dovetail key. The dovetail key will be supplied loose for fitting by the installer. This will allow for easy assembly of the frame, and will hold the mitre together prior to and during installation.



Standard Deductions

Gap between 2 panels where there is no hinge:	Rabbet stile - 2.5mm Astragal stile - 3.5mm Square stile - 2.5mm
Gap between panel and frame on top & bottom:	3mm
Hinge gap for non-mortise hinge:	2.5mm
Gap between 2 bi-fold panels:	2.5mm
Gap between frame and reveal (inside mount):	L frame - 2mm all around Z frame - 3.2mm all around

Tolerances

For opening height:	±1.6mm
For opening width:	±1.6mm

Divider rail location can deviate by ±26mm for 63mm louvres, ±40mm for 89mm louvres and ±51mm for 114mm louvres.

Panorama Shutter Specifications

Shutters Used as Doors

Hinged panels are suitable for use as doors in this material type, but must be manufactured using reinforced rails & stiles. When ordering, simply note 'Used as a door' in the Notes, and this will be applied. The hinged bi-fold option (LL, RR, or LLRR) is not available for use as a door, as significant panel sagging would be expected; a tracking system is necessary if this layout is required.
Where 'Used as a door' is noted on the order, the clearance gap at the bottom of the panel/s will be increased to 10mm as standard, to provide clearance over floor coverings and to prevent the panels from scraping on the ground. If you would like the bottom clearance gap to be more or less than this, please request it on the order form. The minimum bottom clearance gap is 5mm.

Components Available

Standard Louvre Pin

Repair Louvre Pin

Hinge Spacer

Post Mounting Bracket

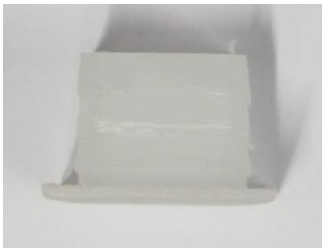
Magnet

Standard Striker Plate

L-shape Striker Plate

Magnets and striker plates will be pre-fitted to the panels and frames during manufacture.

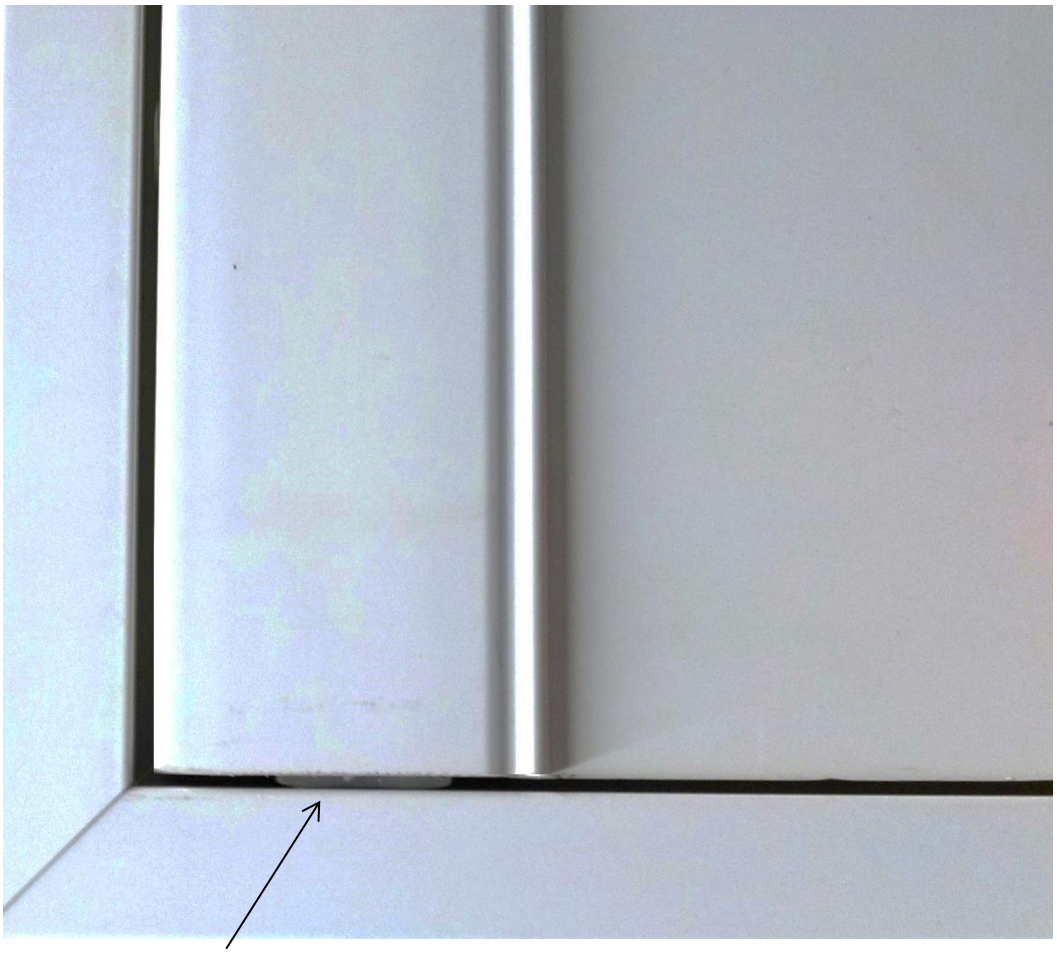
Panorama Shutter Specifications



Square
Hole Plug

A Square Hole Plug is added to the top and bottom of each stile to cap the aluminium reinforcing tube. This plug extends slightly from the panel, and has the added benefit of preventing constant strain on the joints of hinged panels by providing additional support to the panel when within the window reveal or frame. It acts as a spacer between the bottom of the panel and the bottom frame or reveal, and is in constant contact unless the panels are opened. This spacer is also known as a panel foot.

It is recommended to use frames at the bottom of hinged panels (in conjunction with sides and top frame) so that the panel foot is resting on the bottom frame rather than the window reveal.



Panel fitted with square
hole plug, in frame

Panorama Shutter Specifications

Hinges

76mm Non-Mortise Hinge
- for L frame, Z frame, direct mount and bi-fold use

76mm Rabbet Hinge
- for hinged bi-fold, track bi-fold and co-joined sliding

Colours available: White, Off White, Stainless Steel

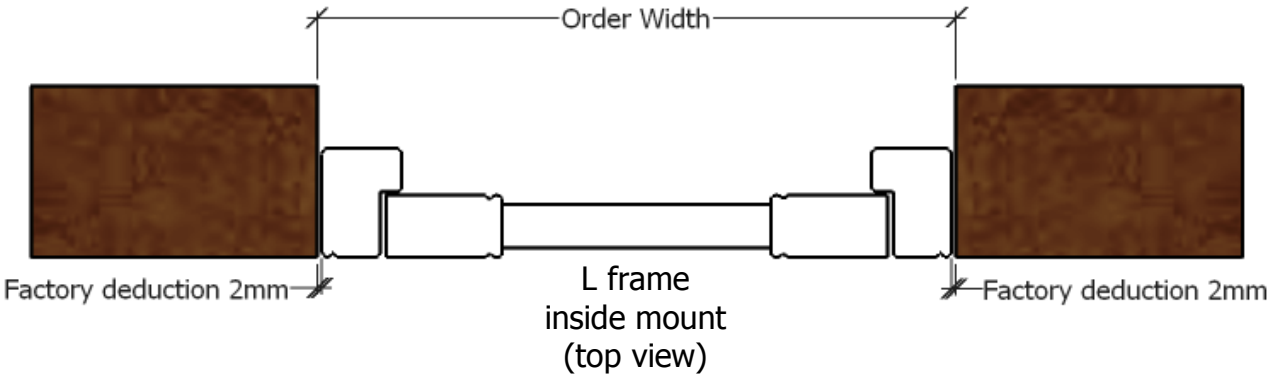
Stainless Steel hinges & screws are 304-grade material; other hinges & screws are mild steel with a painted finish.

As standard, hinges will be pre-attached to both panels and frames. Where screw slots are provided, screws will only be attached in the screw slots, and the remainder of the screws will be supplied loose for the installer to fit to the lock-off holes.

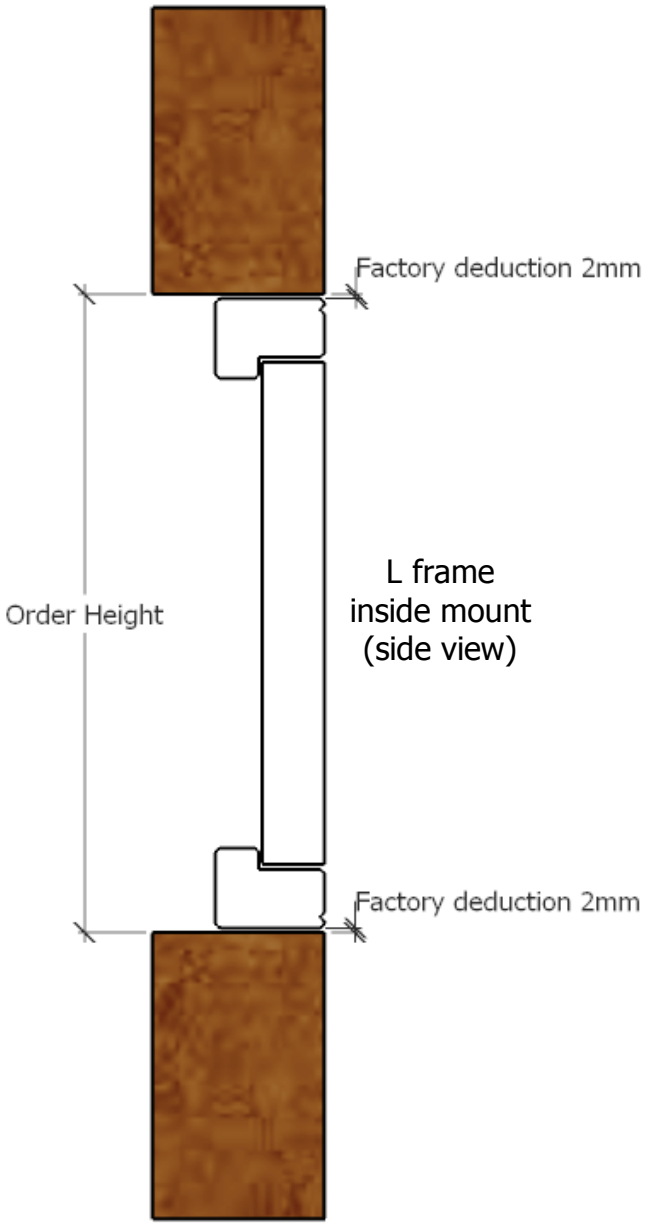
The quantity of hinges supplied will depend on the height of the shutter panel. The quantities will be as follows:
Panel ≤ 800mm will have 2 hinges
Panel from 801mm > 1400mm will have 3 hinges
Panel from 1401mm > 2000mm will have 4 hinges
Panel from 2001mm > 2500mm will have 5 hinges

Panorama Shutter Specifications

Hinged Frame Installation Positions



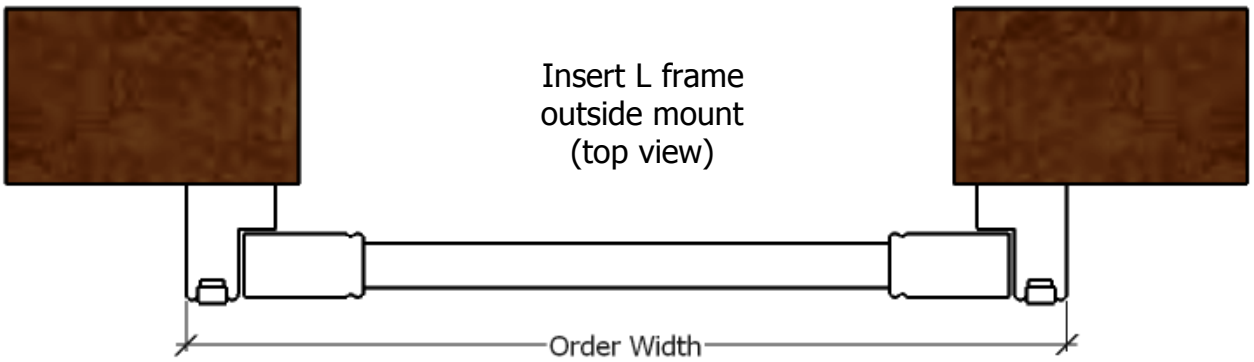
L frame
inside mount
(top view)

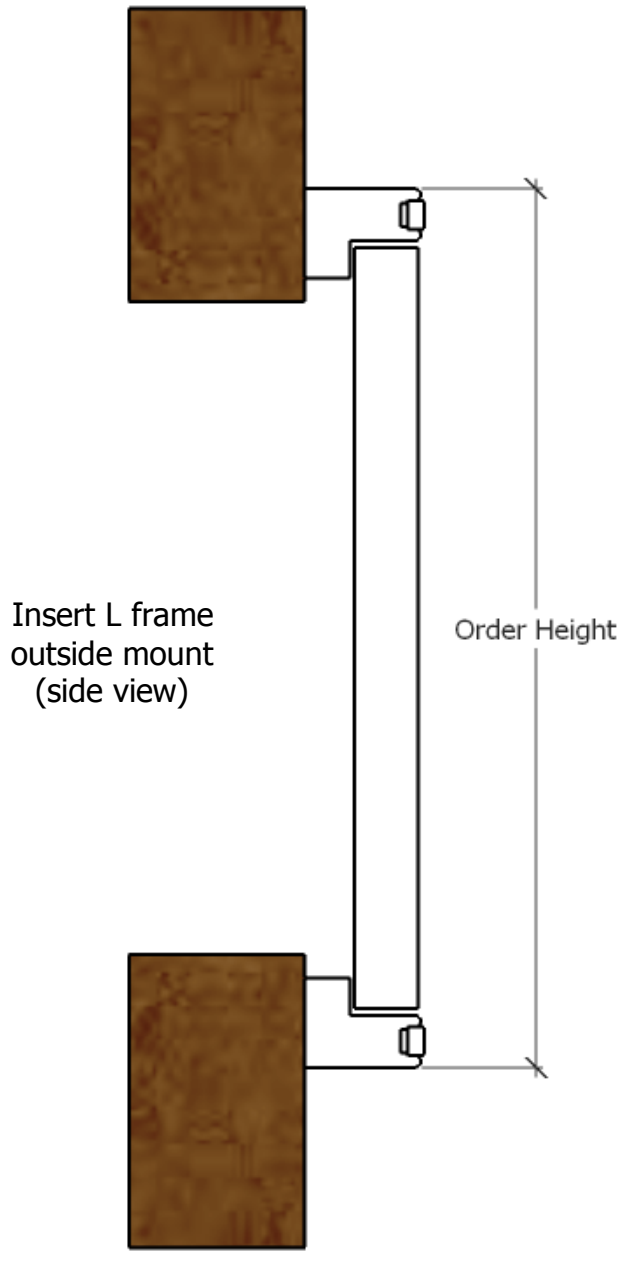


L frame
inside mount
(side view)

Standard L Frame Fitting

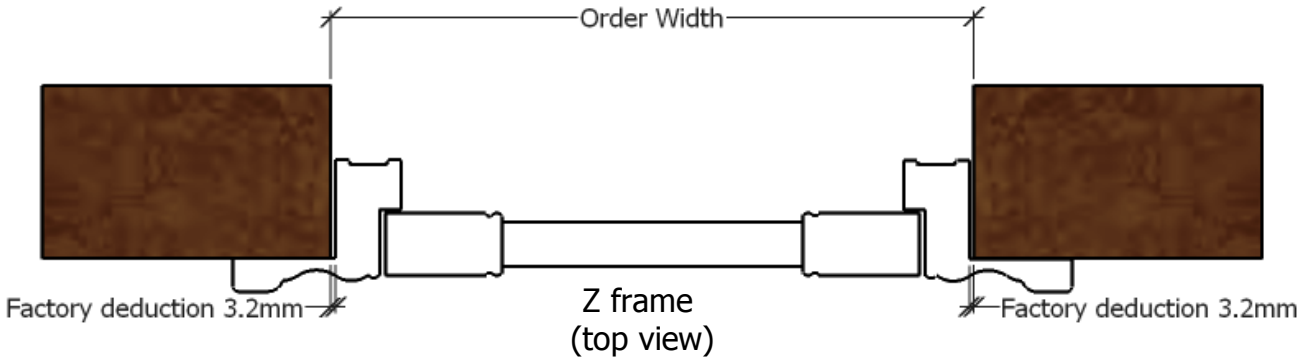
Panorama Shutter Specifications



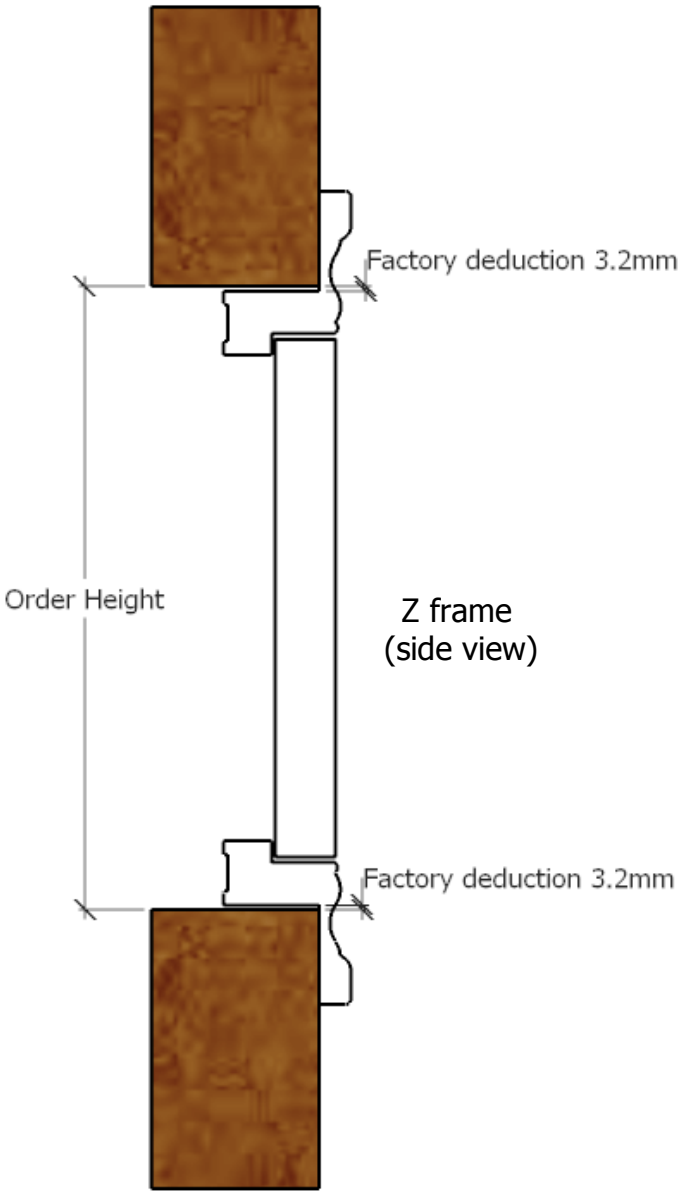


Standard Insert L Frame Fitting

Panorama Shutter Specifications



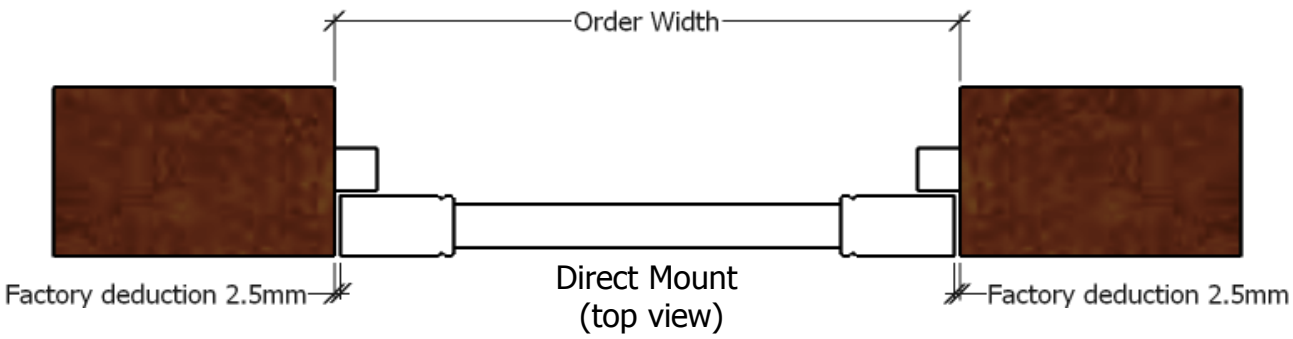
Z frame
(top view)

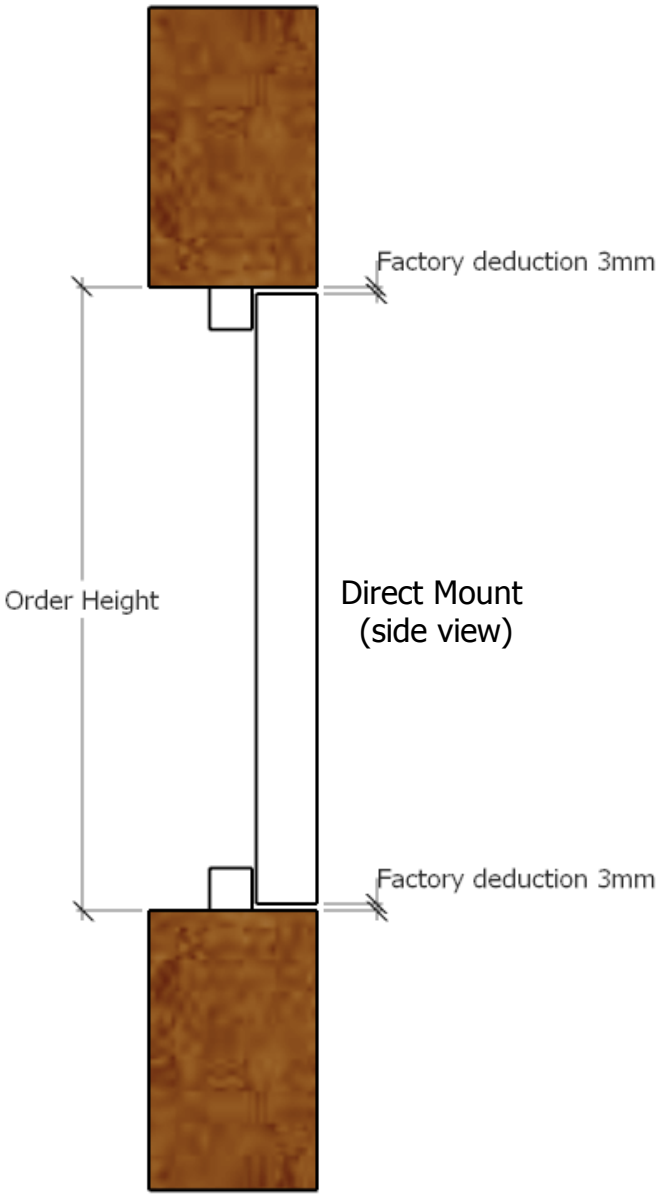


Z frame
(side view)

Standard Z Frame Fitting

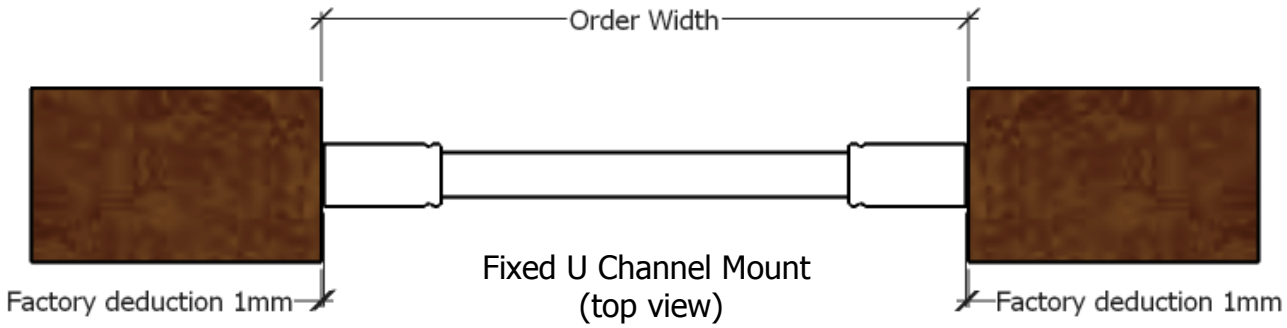
Panorama Shutter Specifications



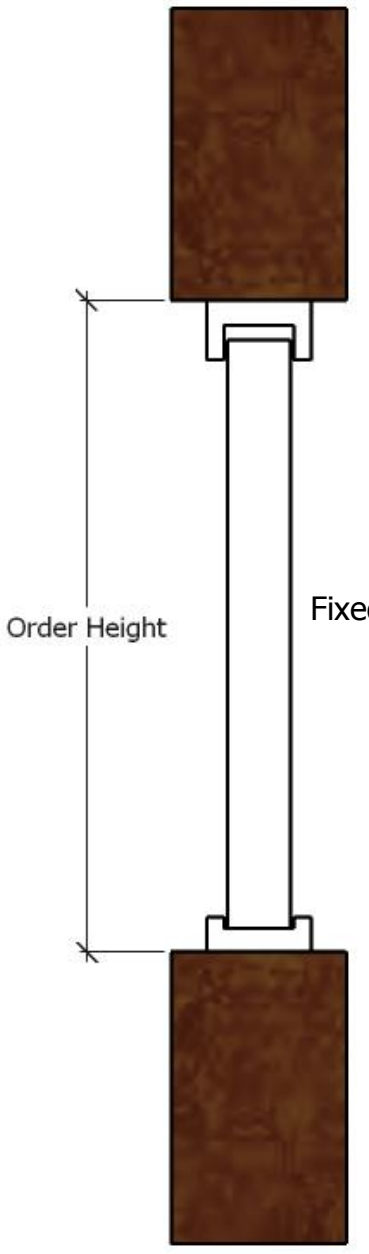


Standard Direct Mount Fitting

Panorama Shutter Specifications



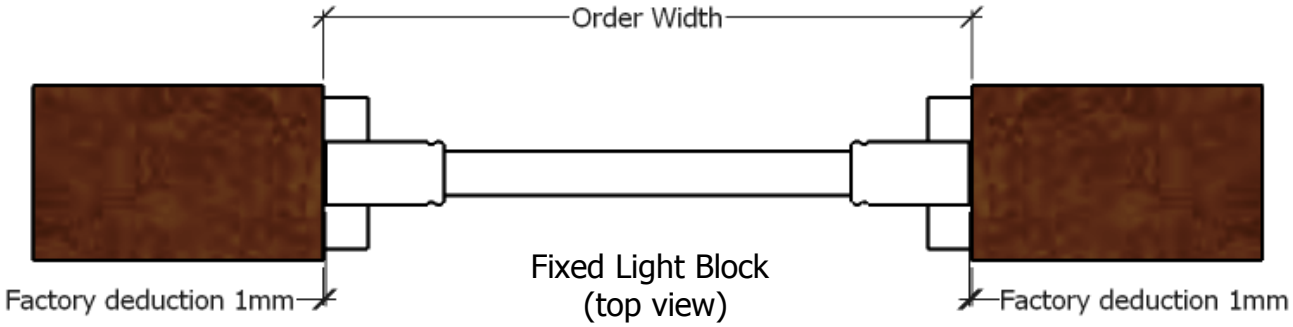
Fixed U Channel Mount
(top view)



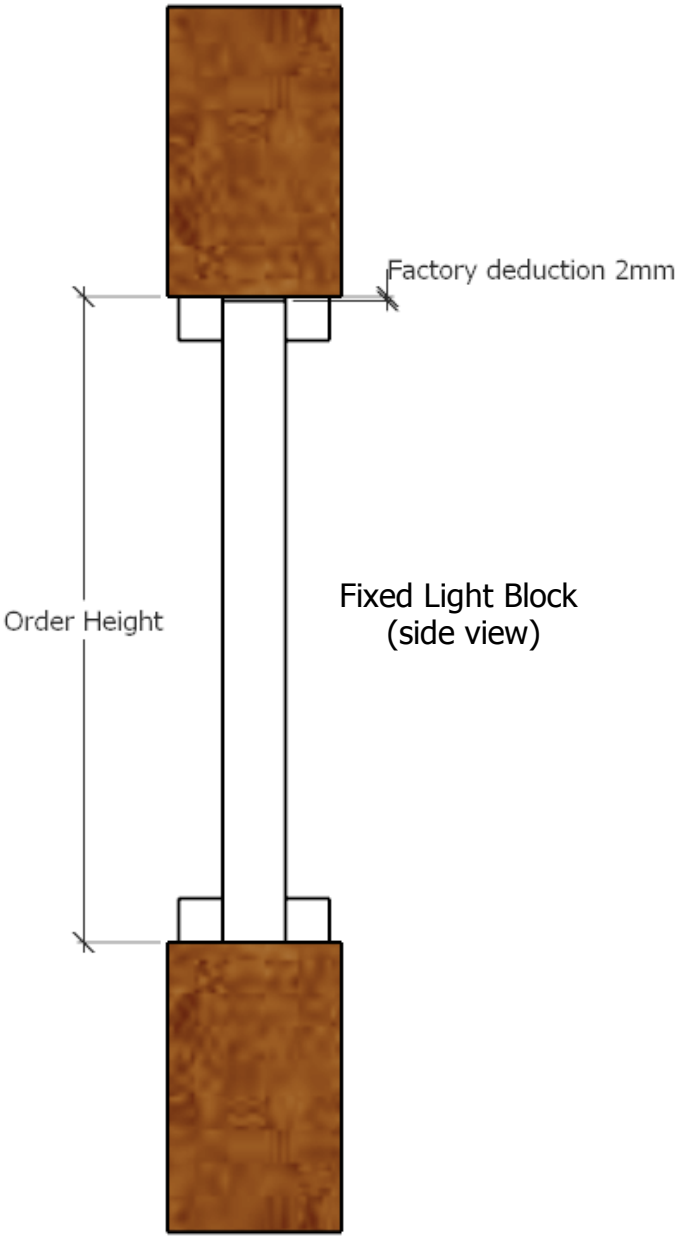
Fixed U Channel Mount
(side view)

Standard Fixed Panel Fitting
– U Channel Top & Bottom

Panorama Shutter Specifications



Fixed Light Block
(top view)



Fixed Light Block
(side view)

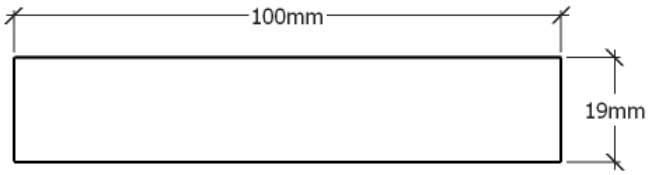
Optional Fixed Panel Fitting
– Light Block

Panorama Shutter Specifications

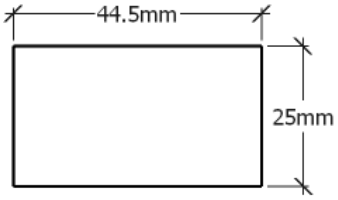
Bi-fold Panels

Bi-fold Framing Components

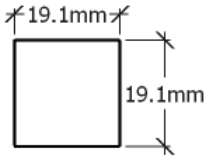
Framing is available for easy mounting of bi-fold shutters. A header is required, as the track and fascia are mounted to it, and sideboards, mounting strips, side fascias and bottom boards are available depending on the needs of the opening. The default header, sideboard and bottom board size is 100mm, but a larger 160mm size can be requested to avoid installation issues where clearance is a problem.



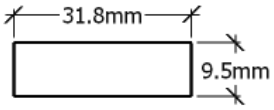
Header/Sideboard/Bottom Board



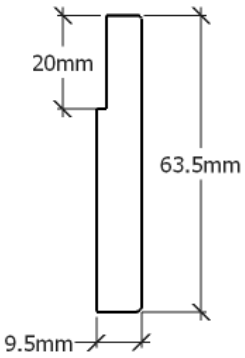
Header
Support Strip



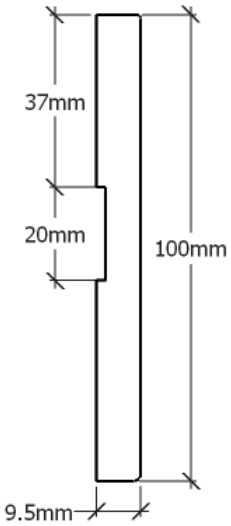
Sideboard
Support Strip



Sideboard
Fascia



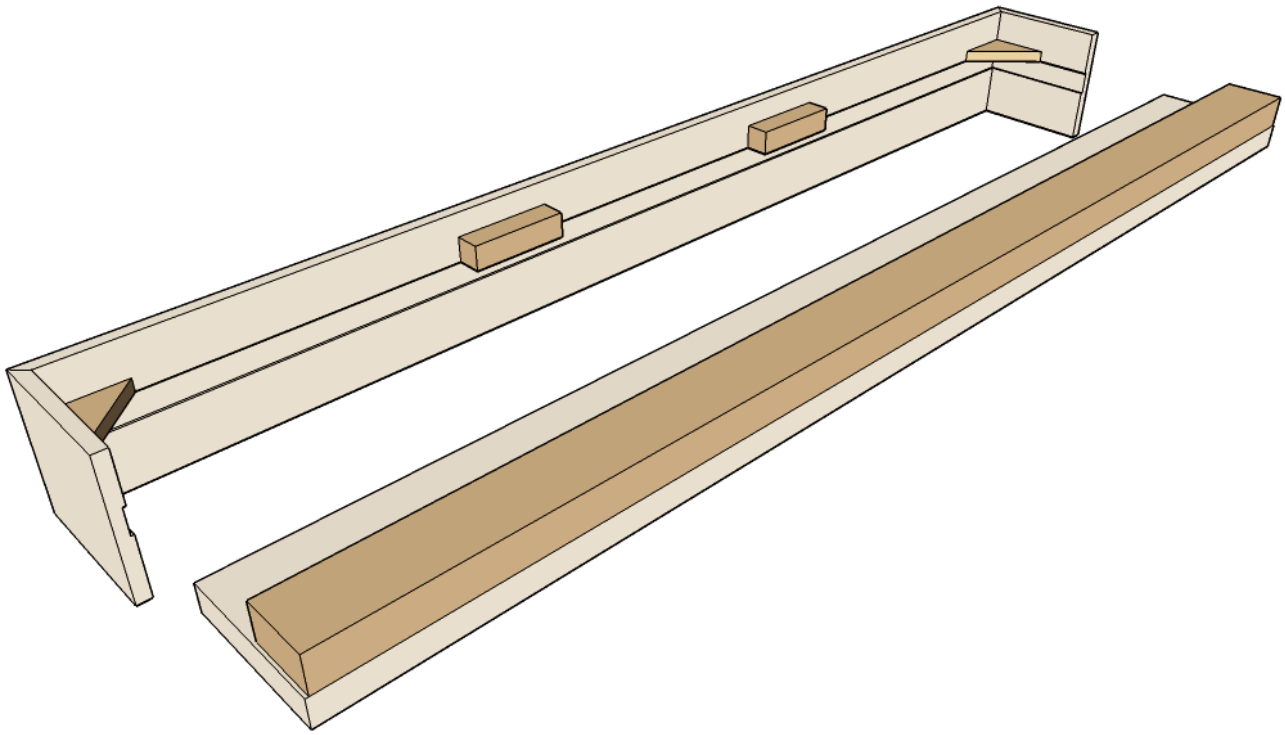
Top Fascia
Inside mount



Top Fascia
Outside mount

Panorama Shutter Specifications

All outside mount bi-fold openings will be supplied with the mounting strip screwed to the header and the track attached in the correct location. The fascia returns will be supplied already connected to the fascia, including mitre supports that can be used to attach the fascia to the header easily during installation. Sideboard support strips are provided loose to enable versatile mounting locations depending on door frame construction.
If required, components can be supplied loose for outside mount if requested on the order form.



Inside mount bi-fold openings will be supplied with each of the frame components loose for the installer to assemble on site.

Openings to be mounted part inside/part outside the opening should be ordered as inside mount, so that the frame components are supplied loose for more versatile installation. Be aware that the larger 100mm fascia will need to be requested in the notes if it is required, as the 63mm fascia is normally supplied as standard for inside mount.
The fascia returns can then be customised to suit requirements by the installer on site.

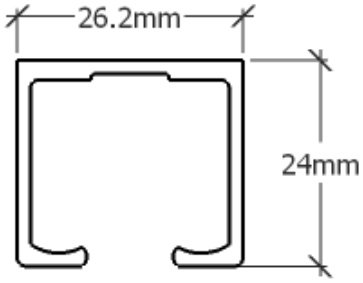
Frame Length

Bi-fold framing components are supplied at a maximum length of 3500mm. When an opening width is wider than 3500mm, the header will be supplied split in two pieces, to be joined with supplied dowels. The header support strip will also be supplied in two pieces, with the split offset from the header split to allow a stronger joint.

The fascia join will be centred to make the appearance even and tidy.

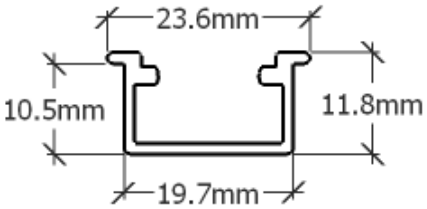
Panorama Shutter Specifications

Bi-fold Tracking Components



Top Track

Bottom M Track



Bottom U Track

All tracks are available in white colour only.

Top Pivot

Bottom Pivot &
Bottom Pivot Bracket

Panorama Shutter Specifications

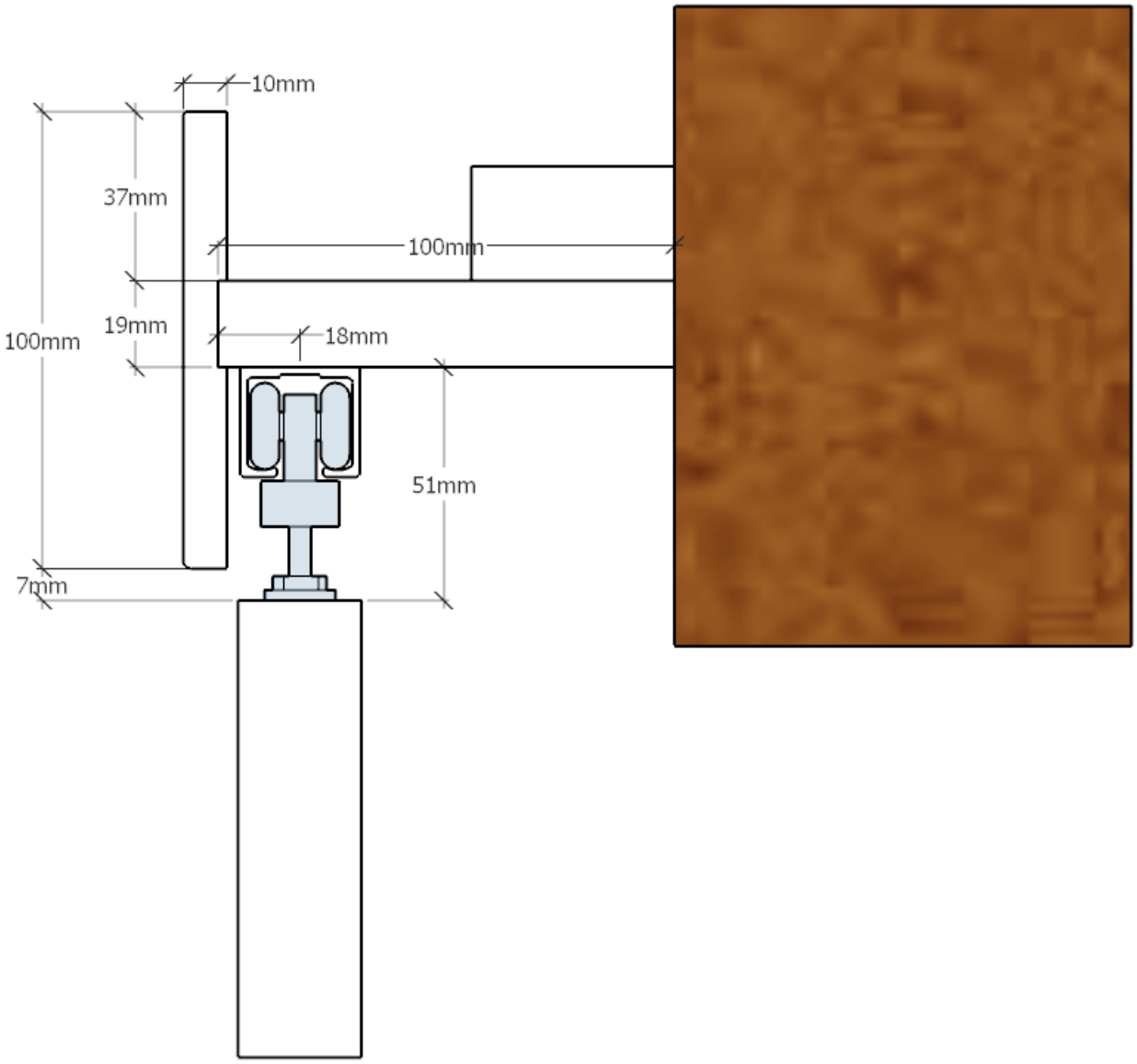
Wheel Carrier

Spring Loaded Guide

Adjustment Spanners

Panorama Shutter Specifications

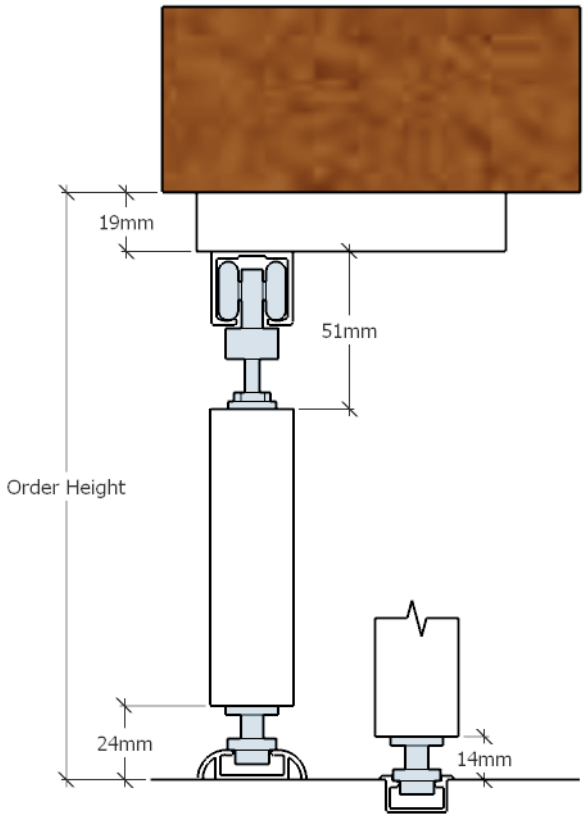
Bi-fold Frame and Track Position



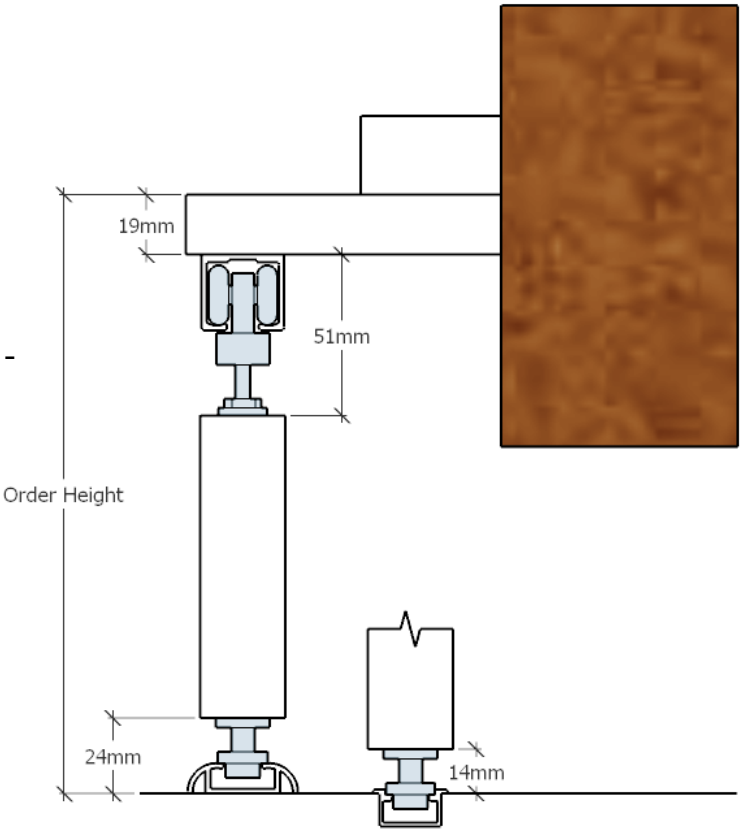
Panorama Shutter Specifications

Bi-fold Top and Bottom Track Deductions

Inside Mount -
M or U Track



Outside Mount -
M or U Track

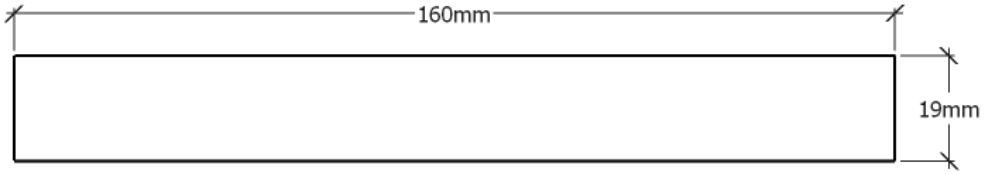


Panorama Shutter Specifications

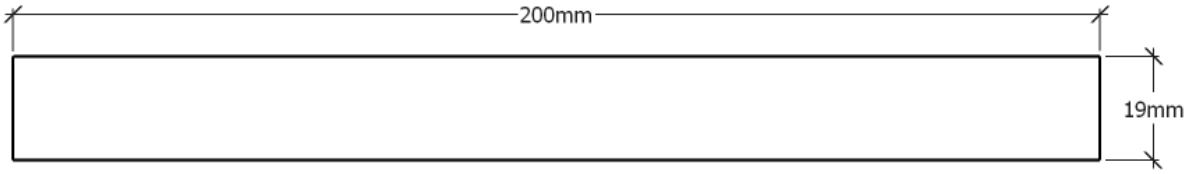
Sliding Panels

Slider Framing Components

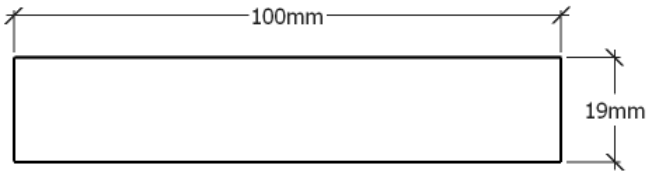
Framing is available for easy mounting of sliding shutters. A header is required, as the tracks and fascia are mounted to it, and sideboards, mounting strips and side fascias are available depending on the needs of the opening. It is highly recommended to use sideboards for a sliding application, even for inside mount applications, as they provide additional support to the header, which takes the weight of all of the panels.



160mm Header/Sideboard
For panels sliding in the closed position for all louvre sizes
& panels sliding in the open position for 63mm louvres

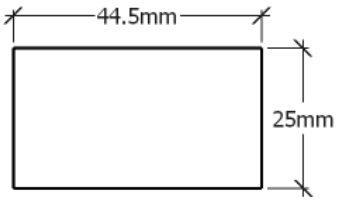


200mm Header/Sideboard
For panels sliding in the open position for 89mm louvres

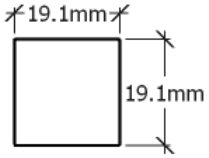


100mm Header/Sideboard
For panels sliding on a single track (past wall)

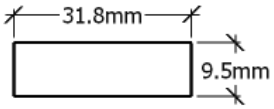
Panorama Shutter Specifications



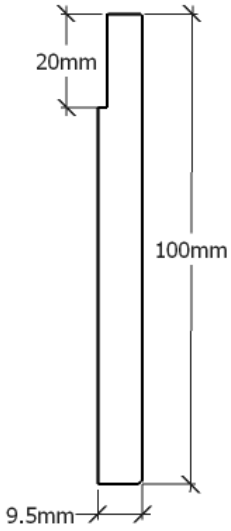
Header
Support Strip



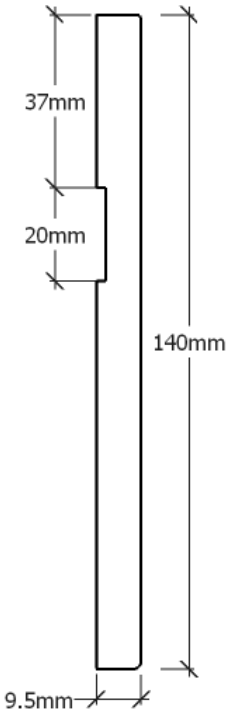
Sideboard
Support Strip



Sideboard
Fascia



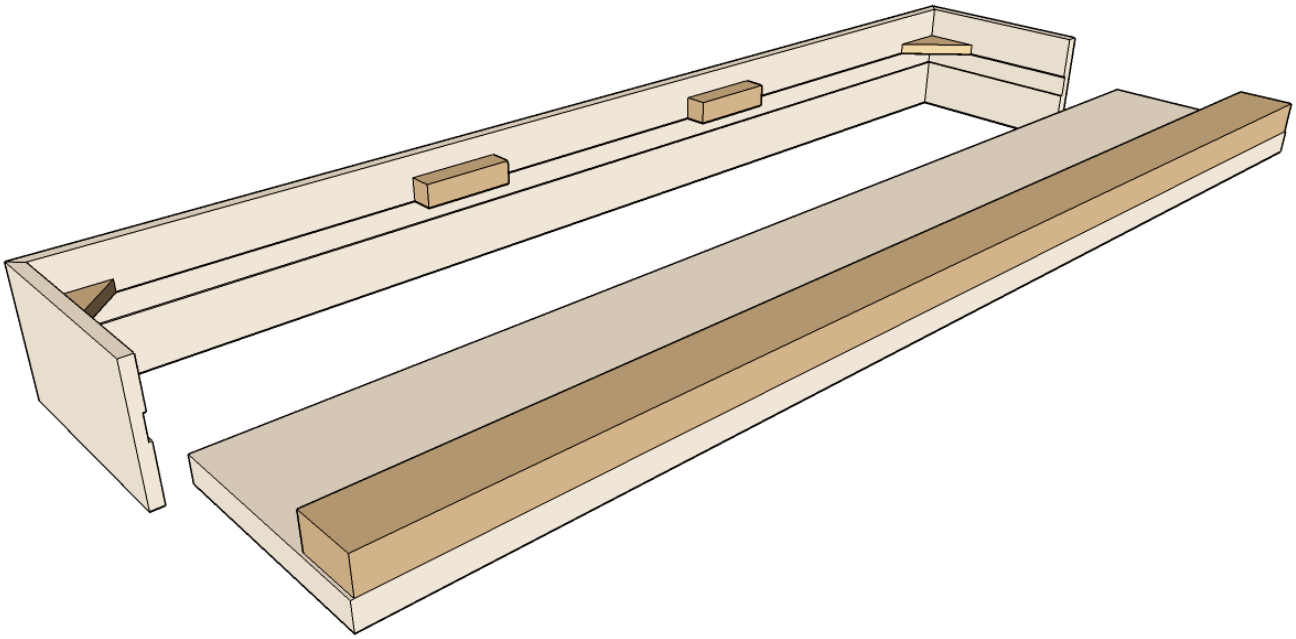
Top Fascia
Inside mount



Top Fascia
Outside mount

Panorama Shutter Specifications

All outside mount sliding openings will be supplied with the mounting strip screwed to the header and the tracks attached in the correct location. The fascia returns will be supplied already connected to the fascia, including mitre supports that can be used to attach the fascia to the header easily during installation. Sideboard support strips are provided loose to enable versatile mounting locations depending on door frame construction.
If required, components can be supplied loose for outside mount if requested on the order form.



Inside mount sliding openings will be supplied with each of the frame components loose for the installer to assemble on site.

Openings to be mounted part inside/part outside the opening should be ordered as inside mount, so that the frame components are supplied loose for more versatile installation. Be aware that the larger 140mm fascia will need to be requested in the notes if it is required, as the 100mm fascia is normally supplied as standard for inside mount.
The fascia returns can then be customised to suit requirements by the installer on site.

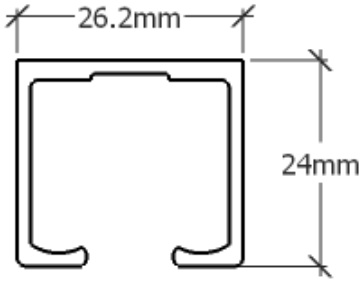
Frame Length

Slider framing components are supplied at a maximum length of 3500mm. When an opening width is wider than 3500mm, the header will be supplied split in two pieces, to be joined with supplied dowels. The header support strip will also be supplied in two pieces, with the split offset from the header split to allow a stronger joint.

The fascia join will be centred to make the appearance even and tidy.

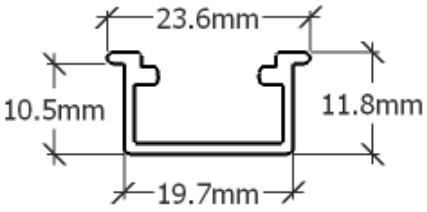
Panorama Shutter Specifications

Slider Tracking Components



Top Track

Bottom M Track



Bottom U Track

All tracks are available in white colour only.

Wheel Carrier

Spring Loaded Guide

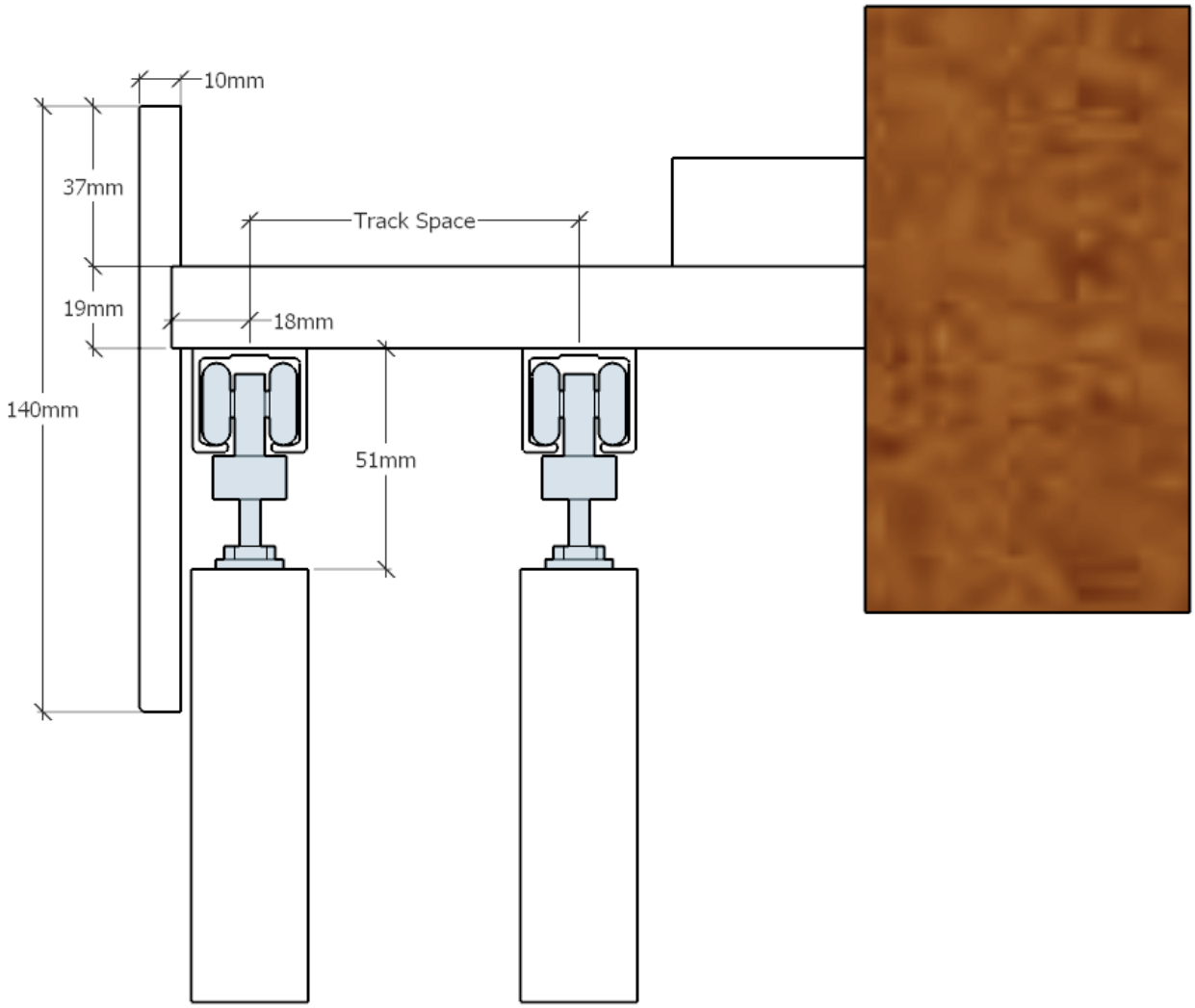
Panorama Shutter Specifications

Track Stop

Adjustment Spanners

Panorama Shutter Specifications

Slider Frame and Track Positions



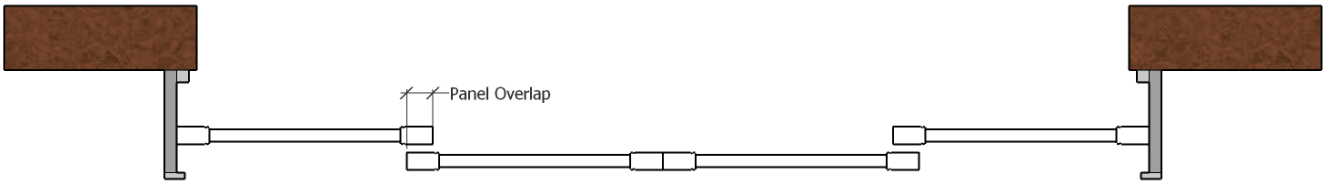
Tracks will be pre-attached to the header using the positioning chart below, depending on the choice of panels sliding with the louvres in the closed position or panels sliding with the louvres in the open position:

Louvre Size	Header Width		Track Space (centre to centre of track)	
	Closed	Open	Sliding Closed	Sliding Open
63	160	160	40	76
89	160	200	40	102
114	160	200	40	N/A

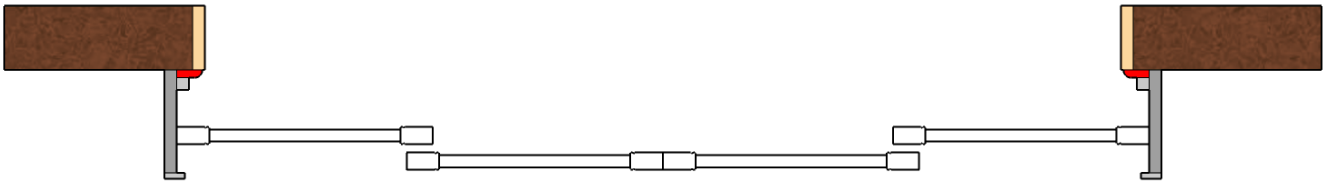
Panorama Shutter Specifications

For most applications, 114mm louvres sliding with the louvres in the open position does not fit completely within the maximum size header, and should be considered/measured carefully, taking into account the louvres and Clearview tiltrod opening on the back panel/s. Where this option is still requested, the tracks will be supplied loose for the installer to fit to the header on site to suit the conditions.

When face mounting, sideboards are mounted to the wall using sideboard support strips as shown below, depending on whether architraves are present or not. The standard panel overlap will be 38mm.



Face mount,
no architraves

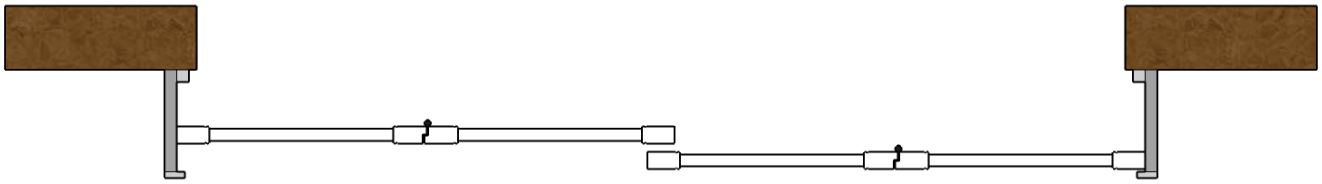


Face mount,
with architraves

Co-joined Panels

Where two sliding panels need to be joined together to slide/operate as one panel, rabbeted stiles will be used between the panels, and 76mm rabbet hinges will be used to join the panels. This eliminates the light between the panels, and makes joining the panels as simple as inserting hinge pins. The barrel of the hinge will go to the back of the panels, keeping them out of sight from the front of the panels.

This will be done as default for layouts such as FFBB, BBFFBB etc., or if requested as 'co-joined panels' in the instructions. If you specifically do not want adjacent panels joined together, please also note in the instructions.

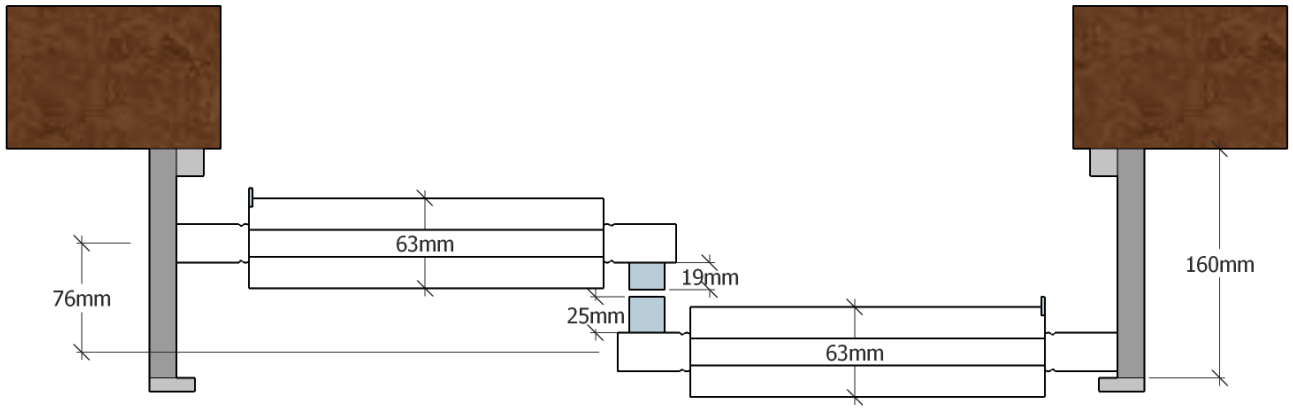


Panorama Shutter Specifications

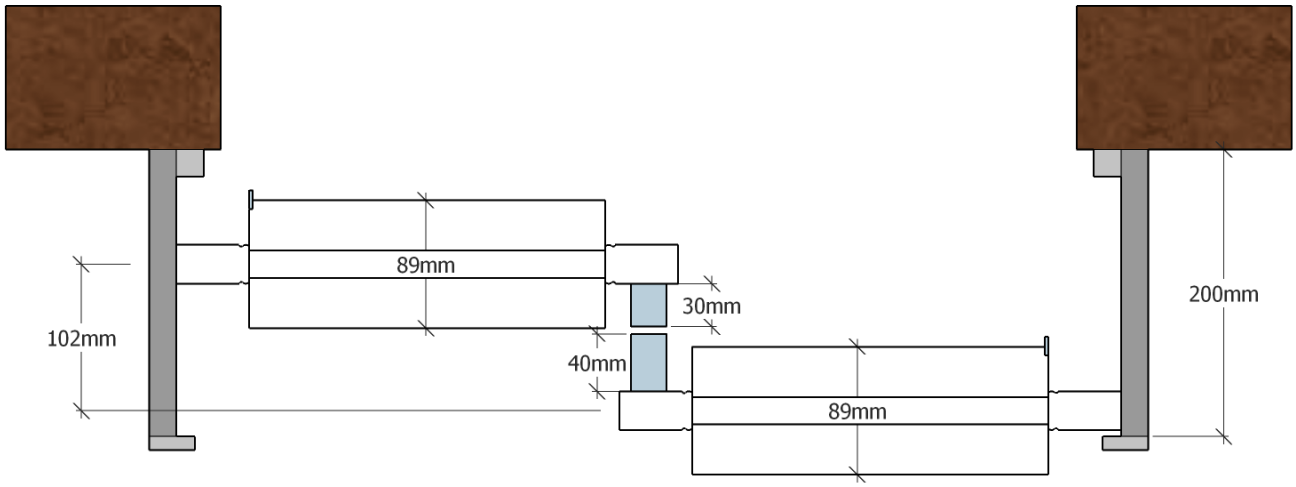
Light Strips

Light strips are available for sliding shutters where the panels will slide with the louvres in the open position. They are not supplied where the panels will slide with the louvres in the closed position, or for 114mm louvres.

They are supplied loose for the installer to fit on site. The dimensions and positions of these strips will be as follows:



For 63mm Louvres
Sliding Open



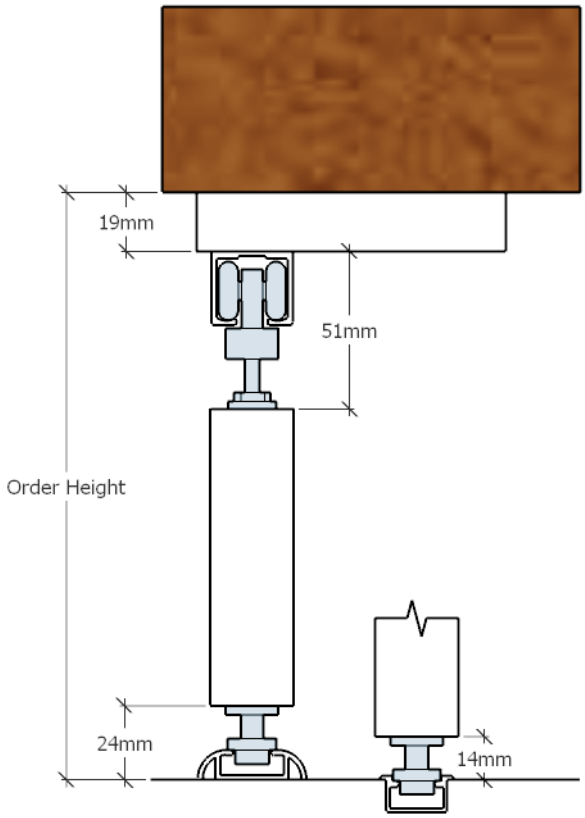
For 89mm Louvres
Sliding Open

Light Strip	63mm Louvres	89mm Louvres
Height (mm)	19 & 25	30 & 40
Width (mm)	25	

Panorama Shutter Specifications

Sliding Top and Bottom Track Deductions

Inside Mount -
M or U Track



Outside Mount -
M or U Track