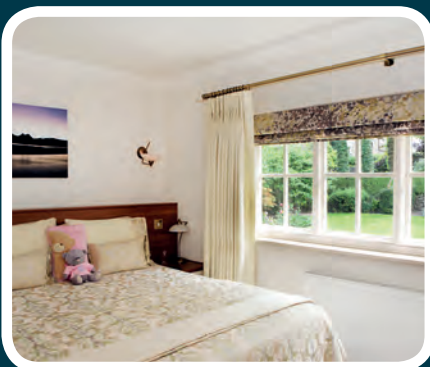
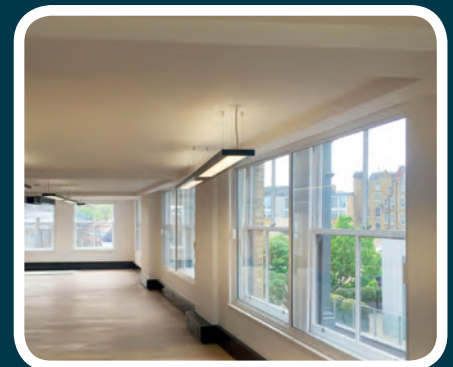
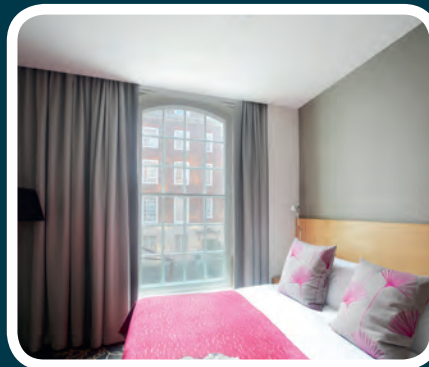
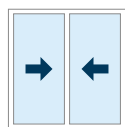


Specialists in Bespoke Secondary Glazing



Horizontal Sliding

SS2 or HSS2

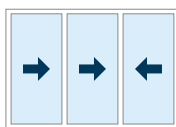


2 panel

Max width or max height

T	2,400mm	1,800mm
H	3,200mm	2,700mm

CO3 or HCO3

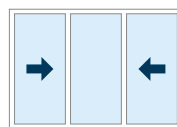


3 panel

Max width or max height

T	3,600mm	1,800mm
H	4,900mm	2,700mm

SS3 or HSS3

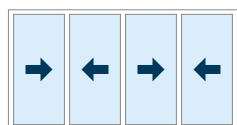


3 panel (fixed centre panel)

Max width or max height

T	3,600mm	1,800mm
H	4,900mm	2,700mm

SS4 or HSS4

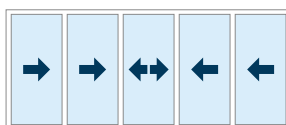


4 panel

Max width or max height

T	4,900mm	1,800mm
H	4,900mm	2,700mm

SS5 or HSS5



5 panel

Max width or max height

T	4,900mm	1,800mm
H	4,900mm	2,700mm

Vertical Sliding

BVS or HBVS

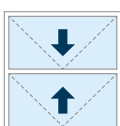


Balanced vertical slider

Max width or max height

T	1,500mm	3,000mm
H	1,500mm	3,000mm

TBVS or HTBVS



Tilt-in balanced vertical slider

Max width or max height

T	1,500mm	3,000mm
H	1,500mm	3,000mm

Insert Panel

INS

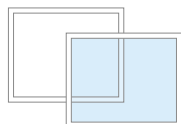


Max width or max height

T	1,200mm	2,000mm
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Lift Out

LO or HLO

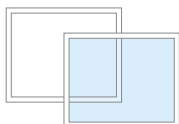


Lift out unit

Max width or max height

T	2,000mm	2,000mm
H	On Application	

SLLO



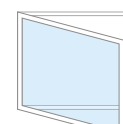
Slimline Lift out unit

Max width or max height

T	2,000mm	2,000mm
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Hinged Casement

HU



Traditional hinged casement

Max width or max height

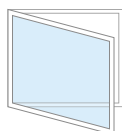
T	950mm	2,100mm
---	-------	---------

Optional extras:

- Curved head window
- Gothic head window
- Trickle vent
- Acoustic trickle vent
- Acoustic tile board
- Shaped corners
- Flyscreen

Hinged Casement - (Heritage hinged unit will house up to 28mm sealed unit)

HHU or HHU-TT

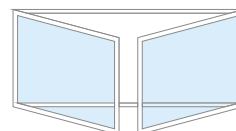


Heritage hinged casement

Max width or max height

H	1,400mm	2,400mm
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DHHU



Double heritage hinged casement

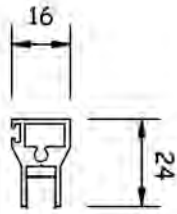
Max width or max height

H	2,800mm	2,800mm
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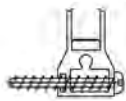
All windows are supplied fully assembled and ready to install. Units comprise of an aluminium outer frame joined to a seasoned timber surround.

Insert Panel (INS)

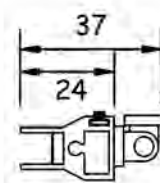
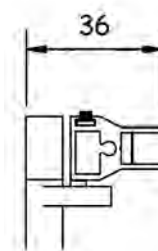
A fixed unit that can be directly and permanently fitted to a primary window or door. Alternatively, this unit can be fitted with turn button releases to enable removal for cleaning and maintenance.



Removable section with turn button



Fixed section



Hinged section

Features

- Slim, unobtrusive aluminium profile
- Most economical secondary system in the range
- Quick and simple installation
- Improved noise and thermal insulation
- Enhanced security
- Suitable for arched, shaped and bespoke application
- Ideal for use where space is limited - i.e. behind shutter

Variations of Basic Unit

- Removable with the use of small light weight turn buttons
- Variety of stock colours

Specification

- Glazing options: 4mm - 6.8mm
- 16mm x 24mm aluminium section - no timber subframe
- Pre-drilled for face fix only
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- Standard colour white high gloss - RAL 9910

Traditional
Configurations

INS



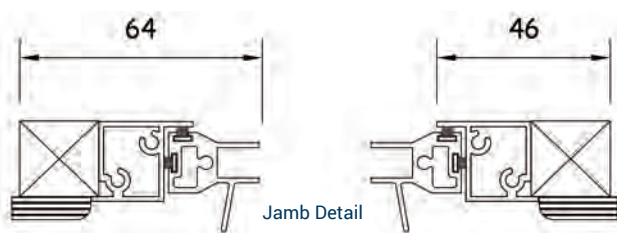
Based on 4mm Glass

Based on 4mm Glass

Max width: 1,200mm
or Max height: 2,000mm

Slimline Lift Out (SLLO)

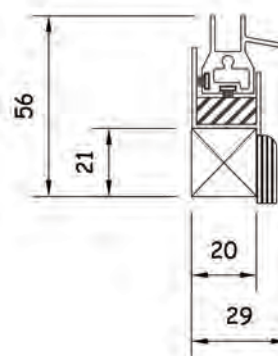
A removable secondary glazing panel within its own outer frame, which fixes to the face or reveal of the existing primary window. An ideal solution when only occasional cleaning access is required.



Head Detail



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Economical option to secondary glaze primary window
- Improved noise and thermal installation
- Suitable for arched and shaped applications
- Suitable to have bevelled timber subframe to fix in to bays / splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows
- Easy to remove panel for cleaning and maintenance of primary window

Variations of Basic Unit

- Standard and acoustic trickle vents are available
- Larger trims and timber trims available at additional costs
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh

Specification

- Glazing options: 4mm - 6.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Lift out section has one rib running along the section

Traditional
Configurations

SLLO



Based on 4mm Glass

Max width: 2,000mm
or Max height: 2,000mm



Optimum Noise Reduction: 52dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass

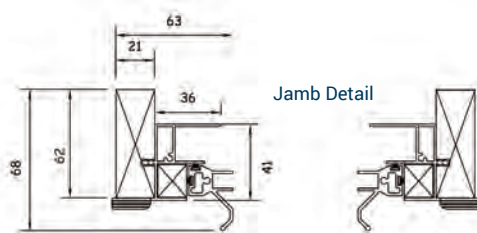
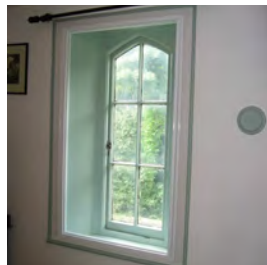


Optimum U Value: 1.868 W/m2K

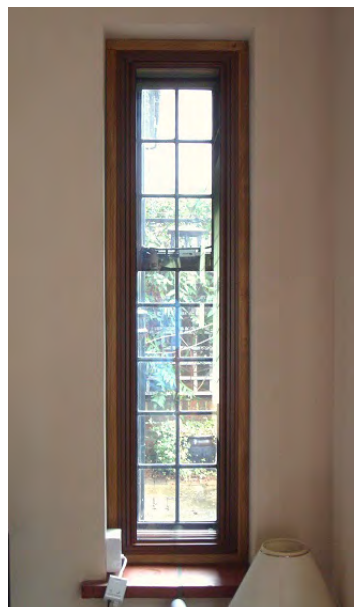
Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Lift Out (LO)

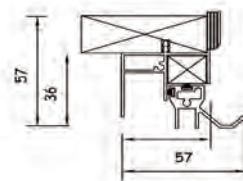
A removable panel within its own outer frame, fixed to the face or reveal of the existing window. These units use an aluminium twin track profile, to provide a secure fixing for larger panes of glass.



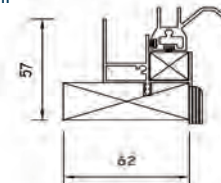
Jamb Detail



Head Detail



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Economical option to secondary glaze primary window
- Improved noise and thermal installation
- Suitable for arched and shaped applications
- Suitable to have bevelled timber subframe to fix in to bays / splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows
- Easy to remove panel for cleaning and maintenance of primary window

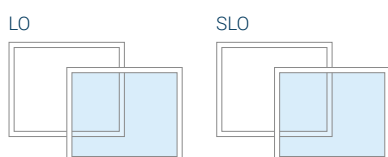
Variations of Basic Unit

- Anti lift bolt is available to secure panel in place (fitted through subframe)
- No Subframe version available
- Slimline option available
- Standard and acoustic trickle vents are available duty frame coupling section or timber to timber
- Larger trims and timber trims available at additional costs
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh
- Curved in plan option available

Specification

- Glazing options: 4mm - 6.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Lift out section has one rib running along the section

Traditional
Configurations



Based on 4mm Glass

Max width: 2,000mm
or Max height: 2,000mm

2,000mm
2,000mm



Optimum Noise Reduction: 52dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass



Optimum U Value: 1.868 W/m²K

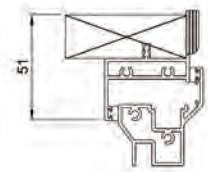
Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Hinged Unit (HU)

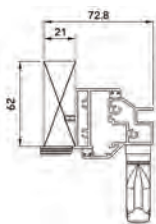
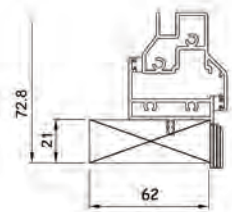
Our most discreet secondary glazing product, with 72mm sight lines and no transoms or mullions. The unit features single handle operation and multi-point locking. Side and base opening is also available.



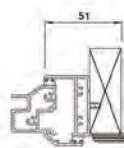
Head Detail



Cill Detail



Jamb Detail



Features

- Slim, unobtrusive aluminium profile
- Easy opening due to internal gearing
- Multi-point locking for enhanced security
- Improved noise and thermal installation
- Suitable for shaped applications
- Suitable to have bevelled timber subframe to fix into bays /splayed reveals
- Can be coupled or stacked with other traditional units in the range to treat large areas of glazing or long runs of windows
- Can be supplied with restrictors

Variations of Basic Unit

- Various handle options (locking Espag as standard)
- Egress as standard
- Standard and acoustic trickle vents are available
- No subframe version available
- Can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- LH, RH, top or bottom orientation
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh

Specification

- Glazing options: 4mm - 6.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Q-Lon seal to front, Woolpile seal to back
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910



Optimum Noise Reduction: TBC

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass

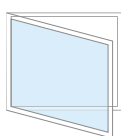


Optimum U Value: 1.868 W/m2K

Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Traditional
Configurations

HU



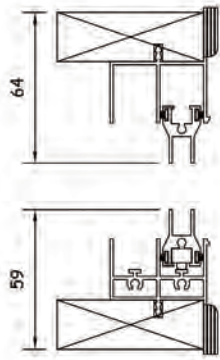
Based on 4mm Glass

Max width: 950mm
or Max height: 2,100mm

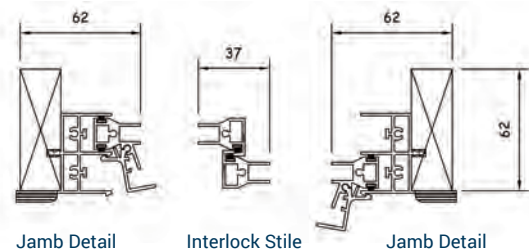
Horizontal Slider

A slim and versatile horizontal sliding system that provides easy access for cleaning and ventilation, and is suitable for treating most window types. Available with 2, 3, 4 or 5 sliding sashes (panels).

Head Detail



Cill Detail



Jamb Detail

Interlock Stile

Jamb Detail

Features

- Slim, unobtrusive aluminium profile
- Smooth sliding action on panels for easy operation using brass wheels
- All panels lift out for complete access to primary window
- Improved noise and thermal installation
- Suitable to have bevelled timber subframe to fix in to bays /splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows
- Available in right hand (RH) or left hand (LH) orientation

Specification

- Glazing options: 4mm - 6.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910

Variations of Basic Unit

- Locking and non-locking fitch lock available to secure panels (fitted to the interlock sections)
- Standard and acoustic trickle vents are available
- Can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Unit available with no subframe
- Larger trims and timber trims available at additional cost
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh



Optimum Noise Reduction: 52dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass



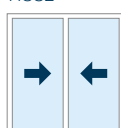
Optimum U Value: 1.868 W/m2K

Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Traditional Configurations

Based on 4mm Glass

HSS2



HC03 (Centre Opening)



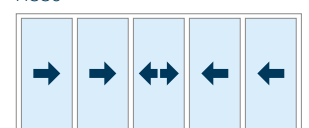
HSS3



HSS4



HSS5



Max width:

2,400mm

3,600mm

3,600mm

4,900mm

4,900mm

or Max height:

1,800mm

1,800mm

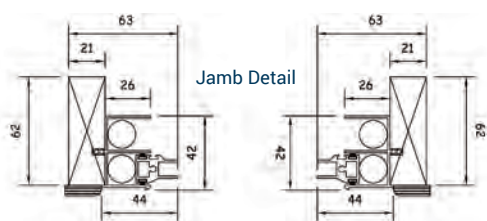
1,800mm

1,800mm

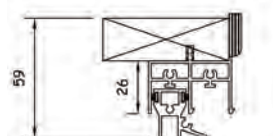
1,800mm

Balanced Vertical Slider (BVS)

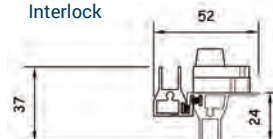
Vertical sliding secondary glazing designed especially for secondary glazing sash windows. These discreet units house self-supporting panes that remain in place at any chosen position.



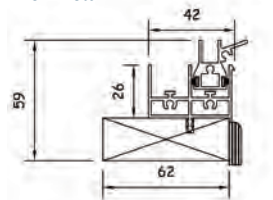
Head Detail



Interlock



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Smooth sliding action utilising spring balances to ensure ease of use and to support the weight of panel
- Improved noise and thermal installation
- Enhanced Security
- Suitable for arched applications
- Suitable to have bevelled timber subframe to fix in to bays / splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows

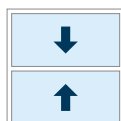
Specification

- Glazing options: 4mm - 6.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Fitch catch located centrally on mid rail

Traditional

BVS

Configurations



Based on 4mm Glass

Max width: 1,500mm

or Max height: 3,000mm

Variations of Basic Unit

- Tilt In Version of the unit available
- Goal Post subframe and aluminium available
- Locking Fitch Catch available
- Standard and acoustic trickle vents are available
- Can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Larger trims and timber trims available at additional costs
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh
- Curved in plan option available



Optimum Noise Reduction: 53dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass

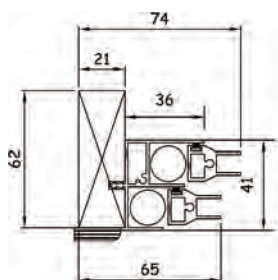


Optimum U Value: 1.868 W/m2K

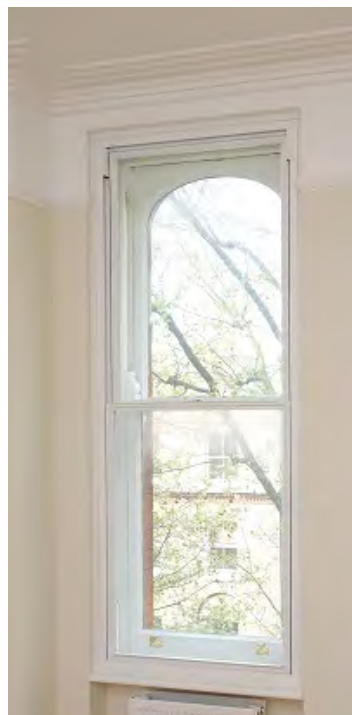
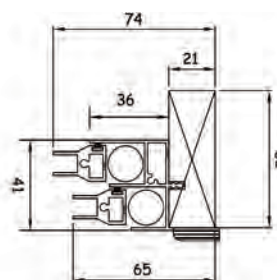
Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Tilt-In Balanced Vertical Slider (TBVS)

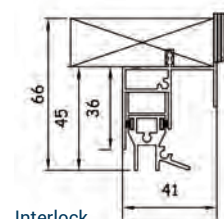
Discreet units with self-supporting panes. Tilt-in facility enables each secondary sash (panel) to be independently released from the outer frame and pivoted inwards through almost 180°.



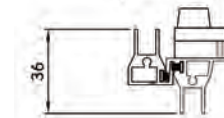
Jamb Detail



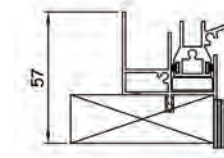
Head Detail



Interlock



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Smooth sliding action utilising spring balances to ensure ease of use and to support the weight of panel
- Both panels tilt-in to allow easy access for cleaning and maintenance
- Improved noise and thermal installation
- Suitable for arched applications (please note: top panel won't tilt)
- Suitable to have bevelled timber subframe to fix in to bays / splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows

Variations of Basic Unit

- Goal post subframe and aluminium available
- Locking Fitch Catch available
- Standard and acoustic trickle vents are available
- Tilt-in balanced vertical slider can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Larger trims and timber trims available at additional costs
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh

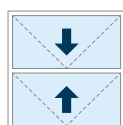
Specification

- Glazing options: 4mm - 6.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Fitch catch located centrally on mid rail

Traditional

Configurations

TBVS



Based on 4mm Glass

Max width: 1,500mm

or Max height: 3,000mm



Optimum Noise Reduction: 48dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass

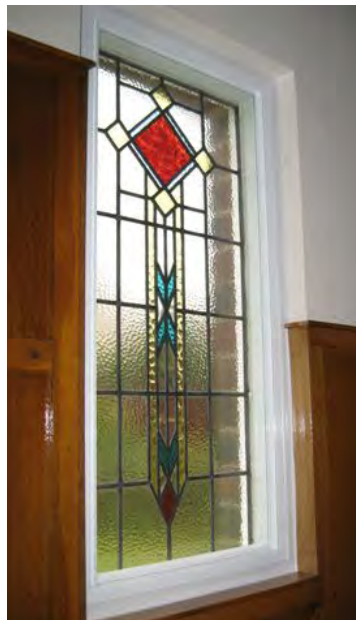


Optimum U Value: 1.868 W/m²K

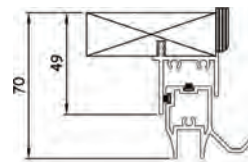
Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Lift Out (HLO)

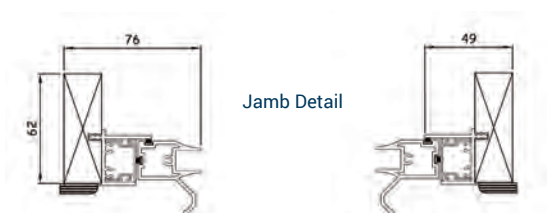
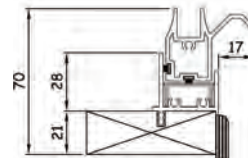
A removable secondary glazing panel within its own outer frame, which fixes to the face or reveal of the existing primary window. An ideal solution when only occasional cleaning access is required.



Head Detail



Cill Detail



Jamb Detail

Features

- Slim, unobtrusive aluminium profile
- Economical option to secondary glaze primary window
- Improved noise and thermal installation
- Suitable for arched and shaped applications
- Suitable to have bevelled timber subframe to fix in to bays/splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows
- Easy to remove panel for cleaning and maintenance of primary window

Variations of Basic Unit

- Anti lift bolt is available to secure panel in place (fitted through subframe)
- No subframe version available
- Standard and acoustic trickle vents are available
- Can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Larger trims and timber trims available at additional cost
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh

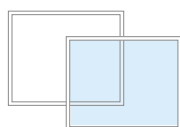
Specification

- Glazing options: 4mm - 8.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Lift out section has one rib running along the section

Heritage

Configurations

HLO



Based on 4mm Glass

Max width: 2,000mm

or Max height: 2,000mm



Optimum Noise Reduction: 52dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass

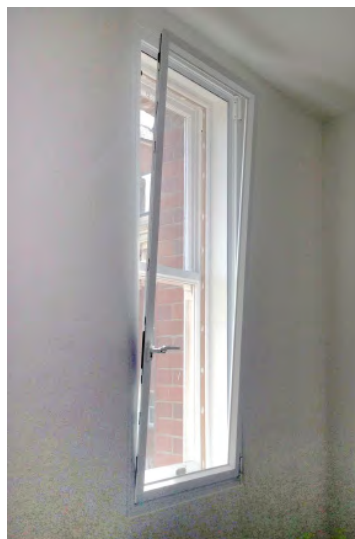
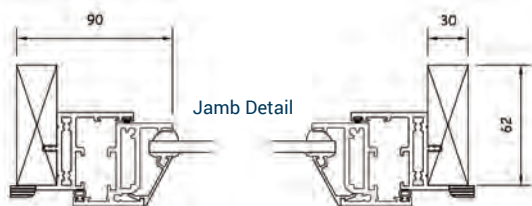


Optimum U Value: 1.868 W/m2K

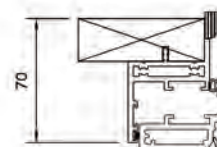
Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Hinged Unit (HHU)

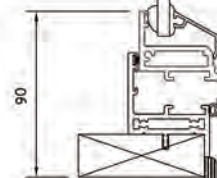
Our most discreet secondary glazing product, featuring single handle operation and multi-point locking. Side and base opening is available, plus there's a tilt and turn facility for easy maintenance.



Head Detail



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Easy opening due to internal gearing
- Multi-point locking for enhanced security
- Improved noise and thermal installation
- Suitable for arched and shaped applications
- Suitable to have bevelled timber subframe to fix into bays /splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows
- Can be supplied with restrictors

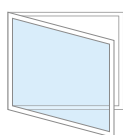
Specification

- Glazing options: 4mm - 8.8mm or double glazed
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Lift out section has one rib running along the section

Traditional

Configurations

HHU



Based on 4mm Glass

Max width: 1,400mm

or Max height: 2,400mm

Variations of Basic Unit

- Various handle and hinge options
- Tilt & Turn, Anti Ligature and Double Hinged (DHHU) options
- Standard and acoustic trickle vents are available
- No subframe version available
- Can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Variety of stock colours available, including all RAL options
- LH, RH, top or bottom orientation
- Can accept flyscreen mesh
- Can accept flyscreen mesh



Optimum Noise Reduction: 54dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass



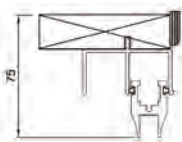
Optimum U Value: 0.97 W/m²K

Using 28mm double glazed sealed unit, with 80mm glass-to-glass

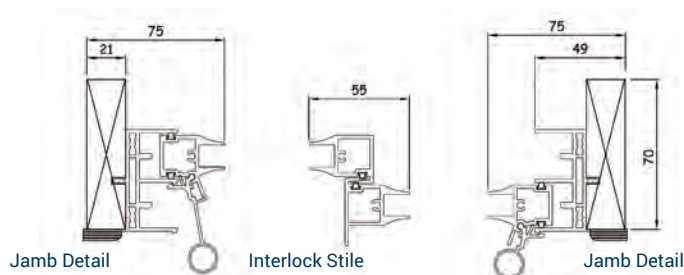
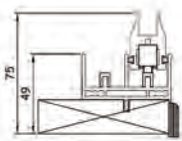
Horizontal Slider

A heavy duty horizontal sliding system that provides easy access for cleaning and ventilation, and is suitable for treating larger window types. Available with 2, 3, 4 or 5 sliding sashes (panels).

Head Detail



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Smooth sliding action on panels for easy operation using brass wheels housed in nylon blocks
- All panels lift out for complete access to primary window
- Improved noise and thermal installation
- Suitable to have bevelled timber subframe to fix in to bays /splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows
- Available in right hand (RH) or left hand (LH) orientation

Specification

- Glazing options: 4mm - 8.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910

Variations of Basic Unit

- Locking and non-locking fitch lock available to secure panels (fitted to the interlock sections)
- Standard and acoustic trickle vents are available
- Can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Unit available with no subframe
- Larger trims and timber trims available at additional cost
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh



Optimum Noise Reduction: 52dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass



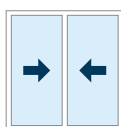
Optimum U Value: 1.868 W/m²K

Using 4mm toughened Low E glazing, with 80mm glass-to-glass

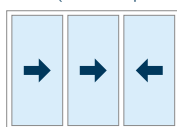
Heritage Configurations

Based on 4mm Glass

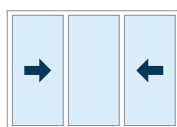
HSS2



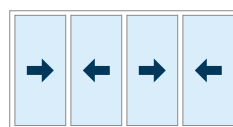
Hco3 (Centre Opening)



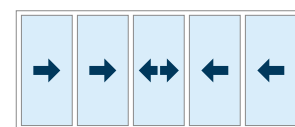
HSS3



HSS4



HSS5



Max width:

3,200mm

4,900mm

4,900mm

4,900mm

4,900mm

or Max height:

2,700mm

2,700mm

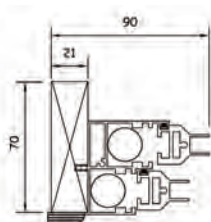
2,700mm

2,700mm

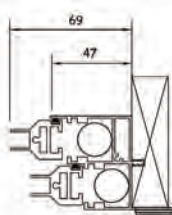
2,700mm

Balanced Vertical Slider (HBVS)

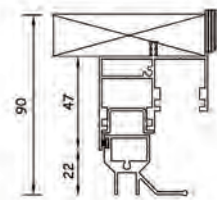
A removable panel within its own outer frame, fixed to the face or reveal of the existing window. These units use an aluminium twin track profile, to provide a secure fixing for larger panes of glass.



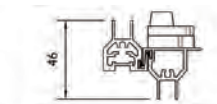
Jamb Detail



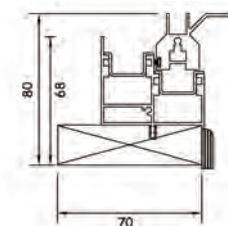
Head Detail



Interlock



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Smooth sliding action utilising spring balances to ensure ease of use and to support the weight of panel
- Improved noise and thermal installation
- Enhanced security
- Suitable for arched applications
- Suitable to have bevelled timber subframe to fix into bays /splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows

Specification

- Glazing options: 4mm - 8.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Fitch catch located centrally on mid rail

Heritage

Configurations

HBVS



Based on 4mm Glass

Max width: 1,500mm

or Max height: 3,000mm

Variations of Basic Unit

- Tilt In Version of the unit available
- Goal Post subframe and aluminium available
- Locking Fitch Catch available
- Standard and acoustic trickle vents are available
- Balanced vertical slider can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Larger trims and timber trims available at additional costs
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh



Optimum Noise Reduction: 49dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass

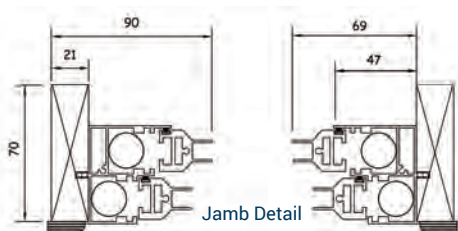
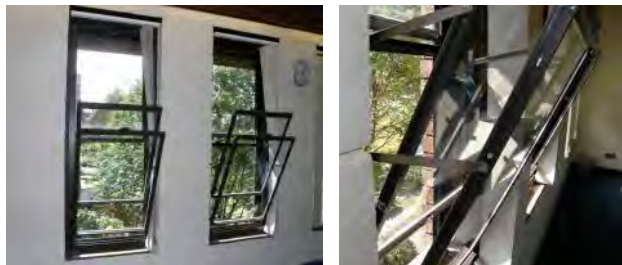


Optimum U Value: 1.868 W/m2K

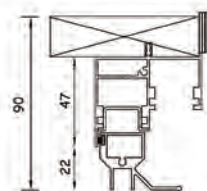
Using 4mm toughened Low E glazing, with 80mm glass-to-glass

Tilt-In Balanced Vertical Slider (HTBVS)

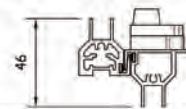
Heavy duty units with self-supporting panes. Tilt-in facility enables each secondary sash (panel) to be independently released from the outer frame and pivoted inwards through almost 180°.



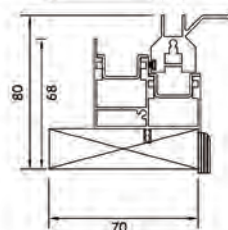
Head Detail



Interlock



Cill Detail



Features

- Slim, unobtrusive aluminium profile
- Smooth sliding action utilising spring balances to ensure ease of use and to support the weight of panel
- Both panels tilt-in to allow easy access for cleaning and maintenance
- Improved noise and thermal installation
- Suitable for arched applications
- Suitable to have bevelled timber subframe to fix in to bays / splayed reveals
- Can be coupled or stacked with other units in the range to treat large areas of glazing or long runs of windows

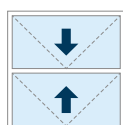
Specification

- Glazing options: 4mm - 8.8mm
- Choice of timber subframes
- Pre-drilled and countersunk to suit either face fix or reveal fix
- Woolpile inserted in to panel section groove to create outer frame seal
- Gasket colour option of black or white
- PVCu trims supplied for the face of the units to create a neat, clean finish
- Standard colour white high gloss - RAL 9910
- Fitch catch located centrally on mid rail

Heritage

Configurations

HTBVS



Based on 4mm Glass

Max width: 1,500mm

or Max height: 3,000mm

Variations of Basic Unit

- Goal post subframe and aluminium available
- Locking Fitch Catch available
- Standard and acoustic trickle vents are available
- Tilt-in balanced vertical slider can be coupled and stacked using a heavy duty frame coupling section or timber to timber
- Larger trims and timber trims available at additional costs
- Variety of stock colours available, including all RAL options
- Can accept flyscreen mesh



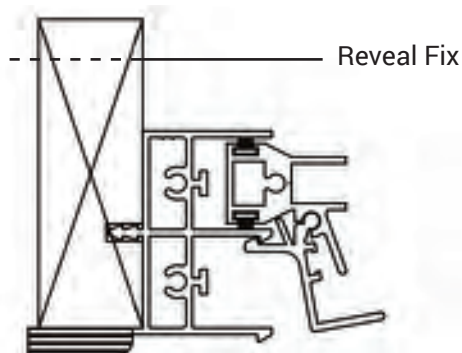
Optimum Noise Reduction: 49dB (Rw)

Using 6.4mm acoustic laminate glazing, with 200mm glass-to-glass



Optimum U Value: 1.868 W/m²K

Using 4mm toughened Low E glazing, with 80mm glass-to-glass



Traditional Reveal Fix Subframe Size:

Slimline Lift Out:

Reveal Fix - 20mm x 21mm

Lift Out:

Reveal Fix - 62mm x 21mm

Option without a subframe

Insert:

Reveal Fix - NA

Horizontal Sliders:

Reveal Fix - 62mm x 21mm

Option without a subframe

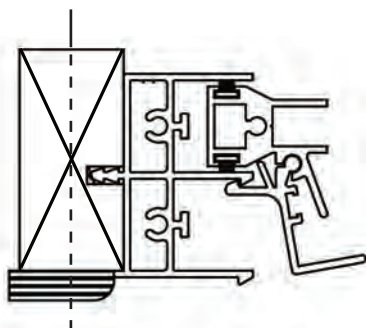
Balanced Vertical Slider & Tilt In Balanced Vertical Slider

Reveal Fix - 62mm x 21mm

Hinged Unit:

Reveal Fix - 62mm x 21mm

Face Fix



Traditional Face Fix Subframe Size:

Slimline Lift Out:

Face Fix - 20mm x 21mm

Lift Out:

Face Fix - 45mm x 21mm

Insert:

Face Fix - No subframe, Fix through aluminium profile

Horizontal Sliders:

Face Fix - 45mm x 21mm

Balanced Vertical Slider & Tilt In Balanced Vertical Slider

Face Fix - 45mm x 21mm

Hinged Unit:

Face Fix - 45mm x 21mm

Traditional Fixing Options & Timber Sizes

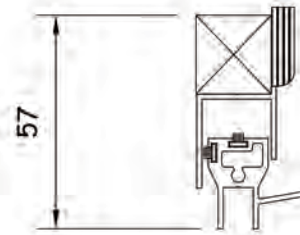
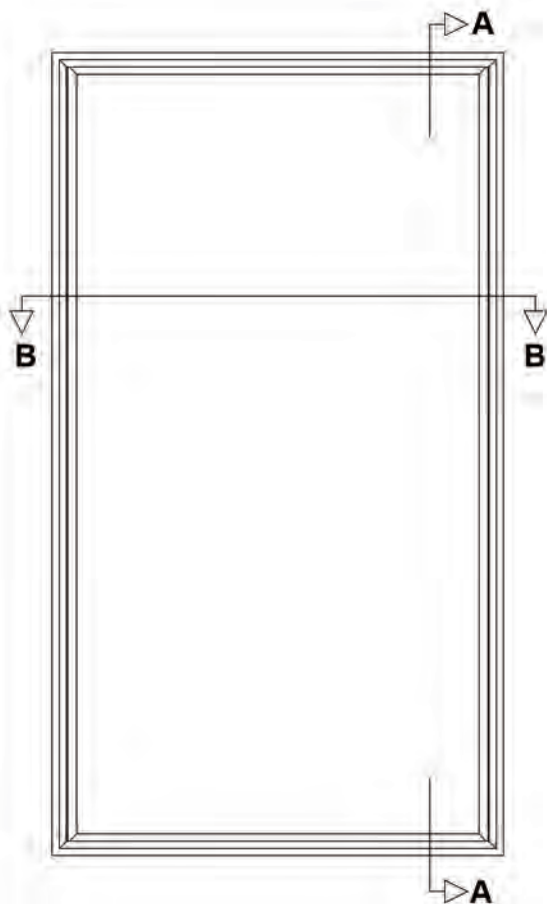
Rev:1



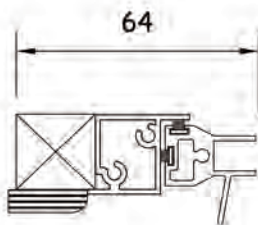
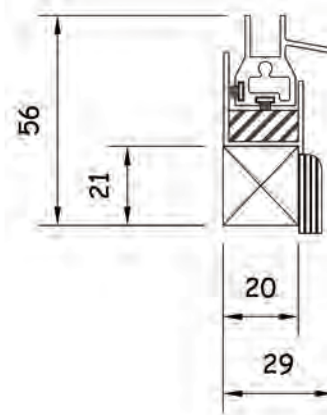
GRANADA
secondary glazing

Campbell Way
Dinnington
Sheffield
S25 3QD

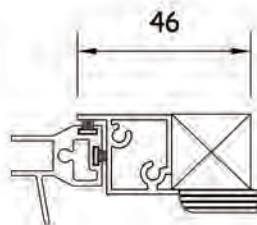
Tel: 01909 499 899
W: www.granadaglazing.com



Section A-A



Section B-B



Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard size: Face Fix: 20mm x 21mm & Reveal Fix 20mm x 21mm

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Chubb lock
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Slim Line Lift Out Face Fix

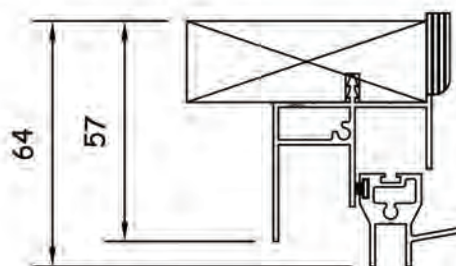
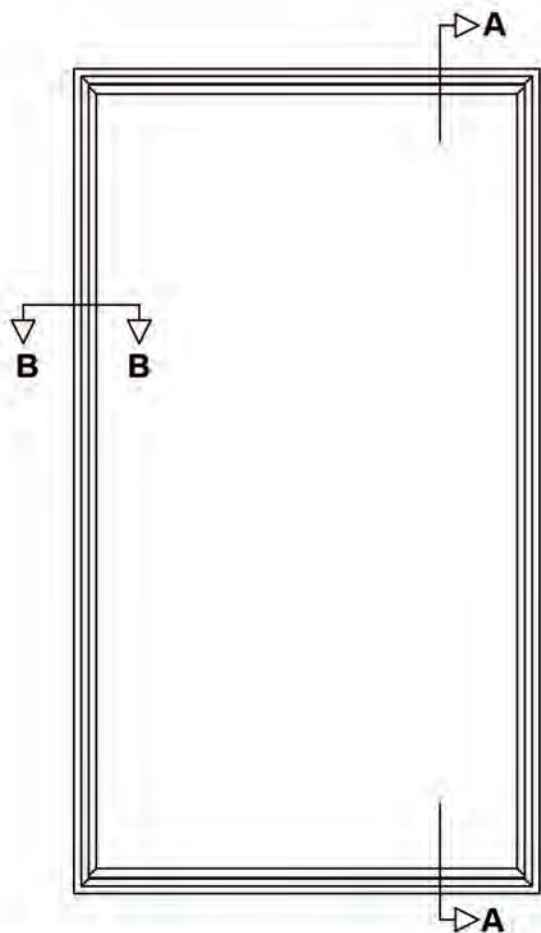
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Rev: 1

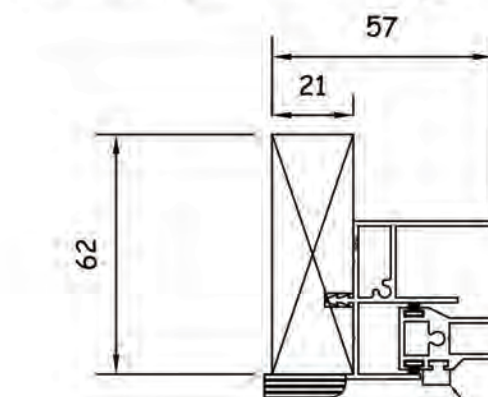
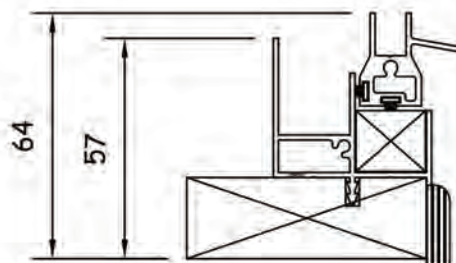


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Sheffield
S25 3QD

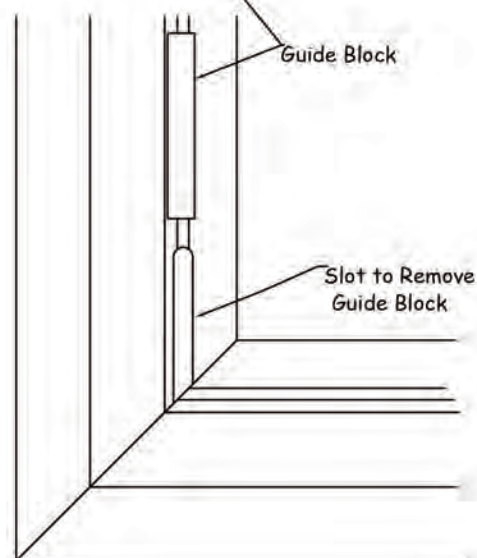
Tel: 01909 499 899
W: www.granadaglazing.com



Section A-A



Section B-B



Optional Extras

- White gasket
- Chubb lock
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- Where stacking over 800mm wide, bespoke design required
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Type: Lift Out Reveal Fix Shuffle Glaze

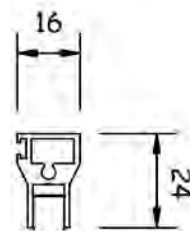
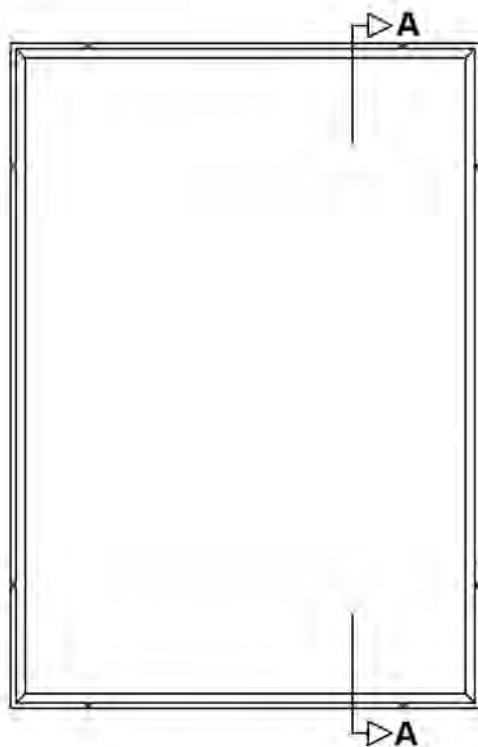
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Rev: 1

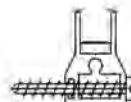


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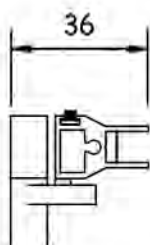


Section A-A

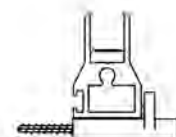
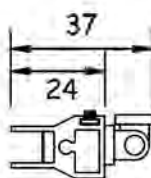


(Direct Face Fixed)

Optional Extra



(Hinged with Turnbuckle)



(Tunbuckle Fixing)

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss.

Standard gasket colour is black.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- RAL colours
- Flyscreen



GRANADA
secondary glazing

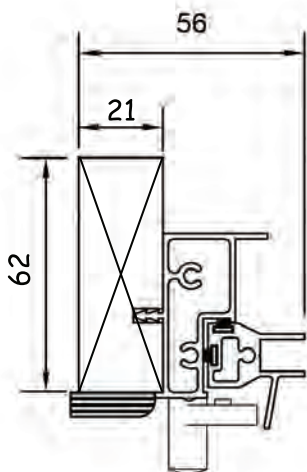
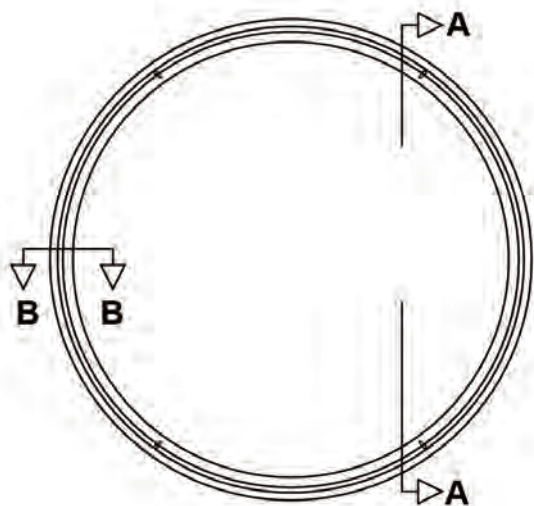
Campbell Way
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S25 3QD

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W: www.granadaglazing.com

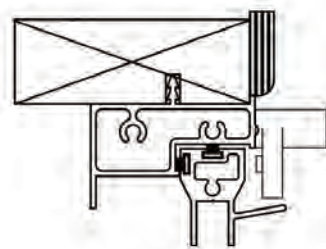
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Reference: INS

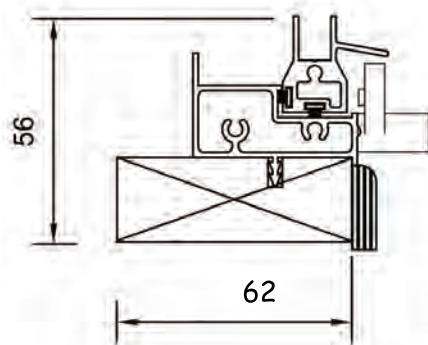
Rev: 1



Section B-B



Section A-A



Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix: 45mm x 21mm & Reveal Fix: 62mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

Frames include MDF trim as standard - PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Maximum size -

4mm glazing 1200mm diameter
6mm glazing 2000mm diameter

Optional Extras

- White gasket
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Lift Out Circular Reveal Fix

Reference: LO

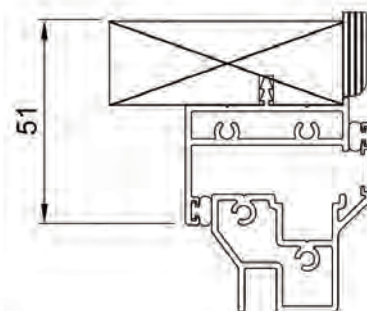
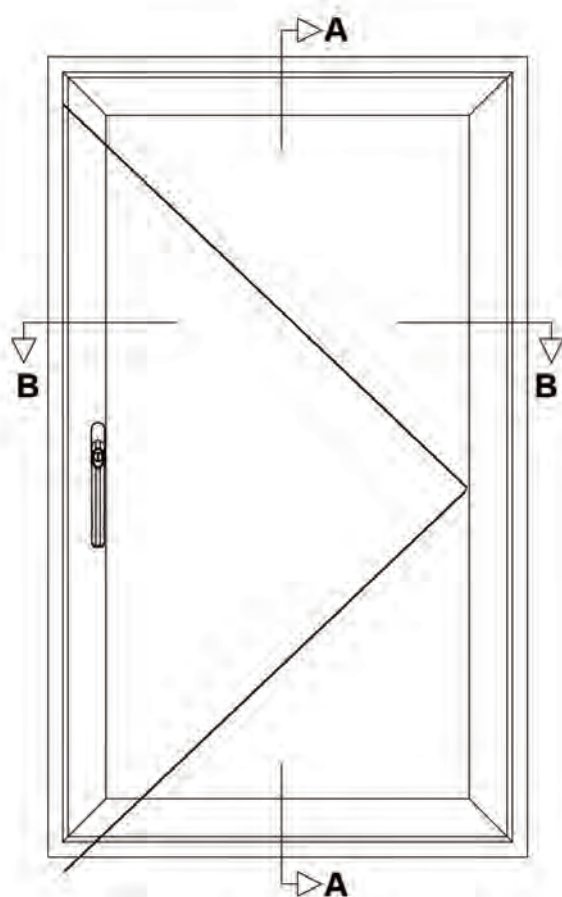
Rev: 1



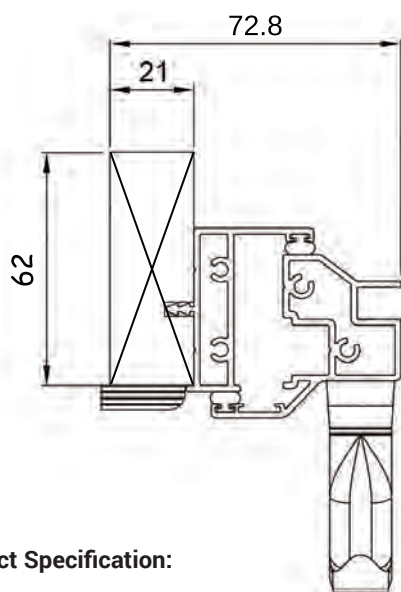
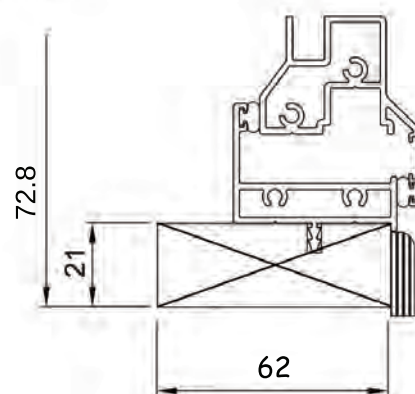
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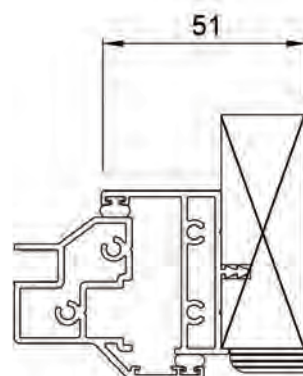
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Section A-A detail.



Section B-B detail.



Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix: 45mm x 21 mm & Reveal Fix: 62mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- Glazing: 4 to 6.8
- Minimum size 347w x 385h
- Maximum size 950w x 2100h
- Locking Handle
- Espagnolette Gearing
- Friction Hinges - Egress (size permitting)
- Foam seals front and back
- Hinge Fixing: Left, Top & Bottom
- Timber sizes other than standard available on request

Type: Hinged Unit Reveal Fix (Right Hung)

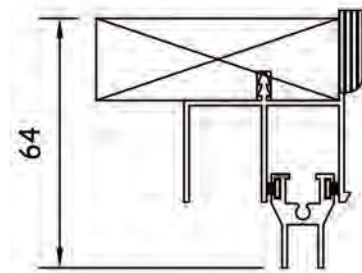
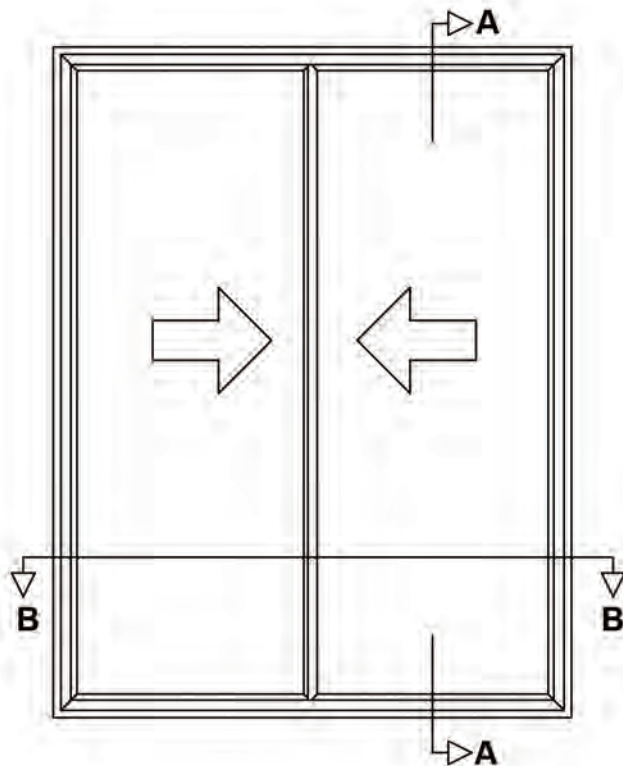
Reference: HU

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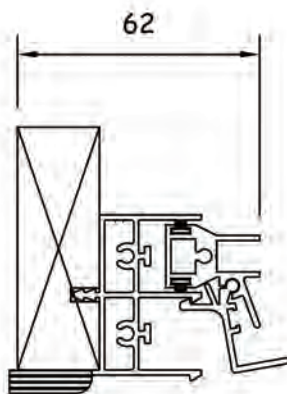
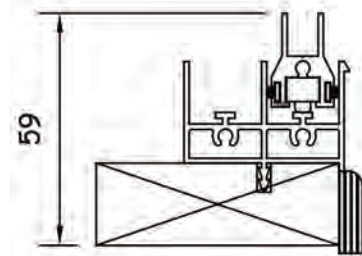


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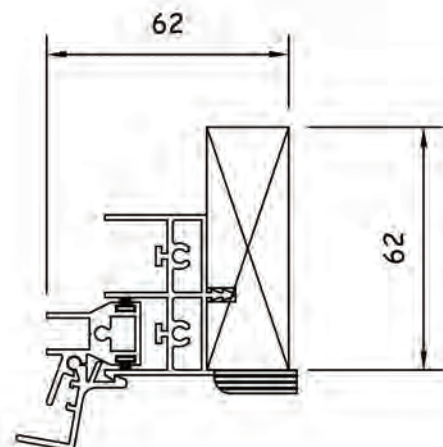
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Section A-A



Section B-B



Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm. All frames are factory glazed.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

*Left hand orientation on request



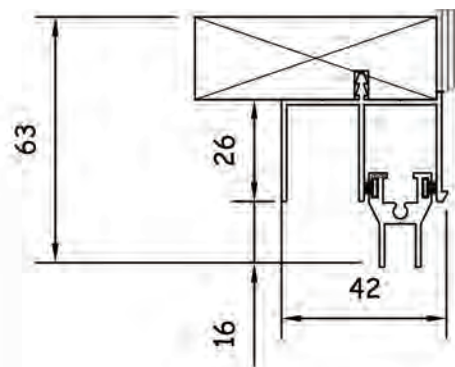
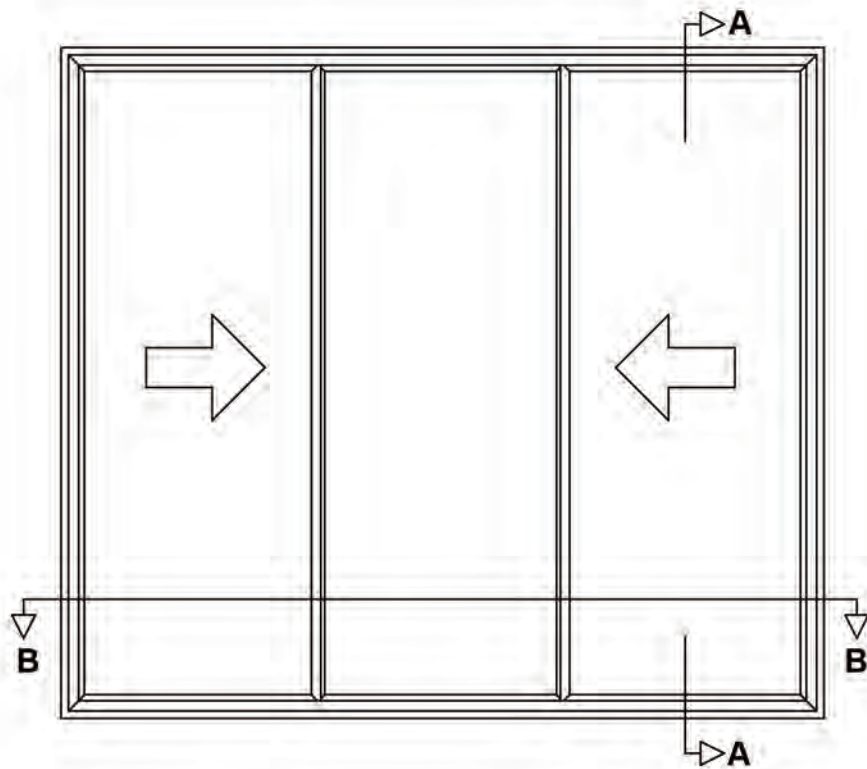
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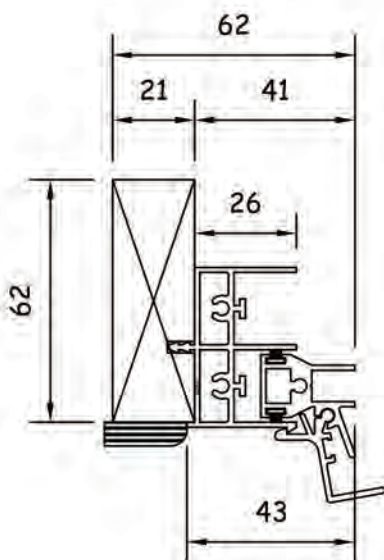
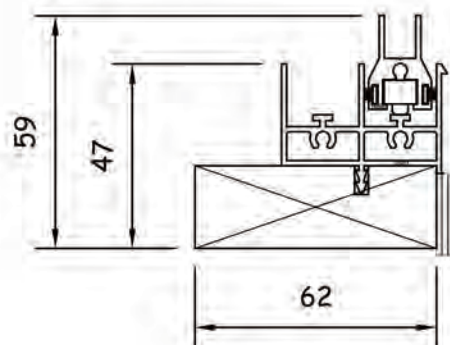
Type: 2 Pane Horizontal Slider Right Hand* - Reveal Fix

Reference: SS2

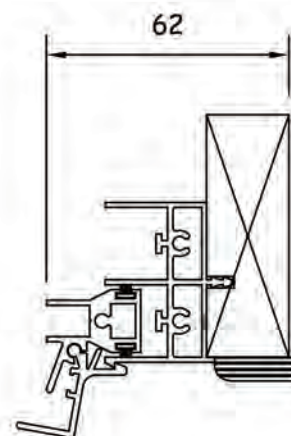
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Section A-A



Section B-B.



Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: 3 Pane Horizontal Slider Reveal Fix

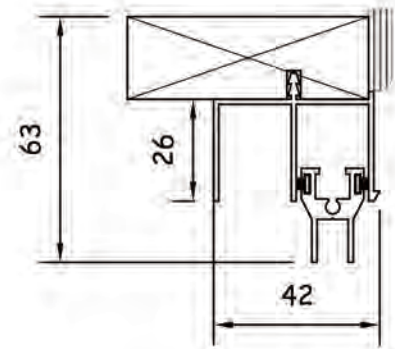
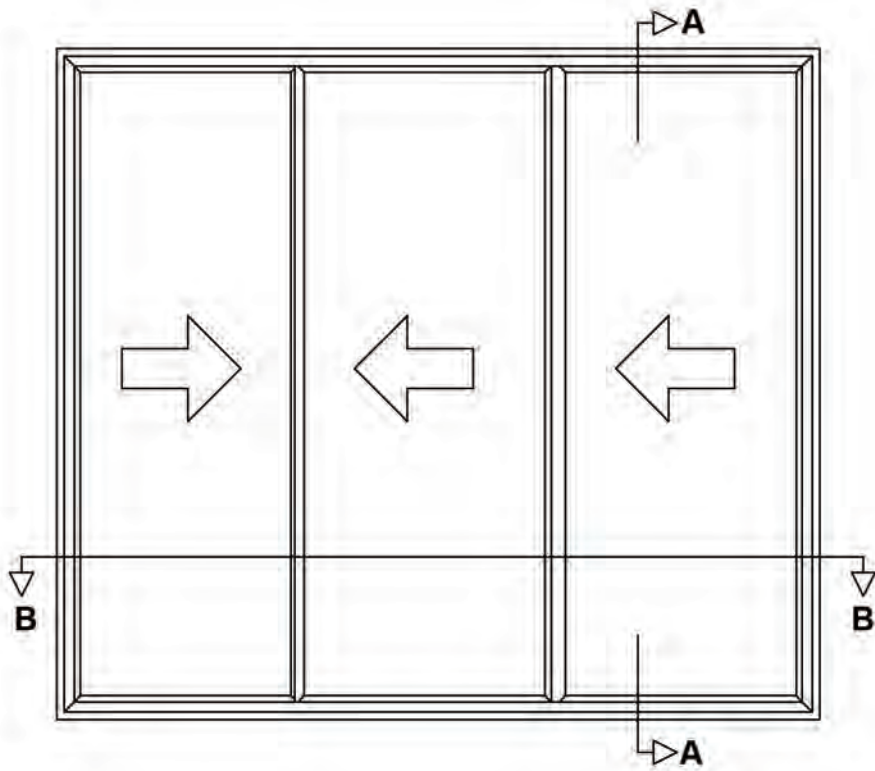
Reference: SS3

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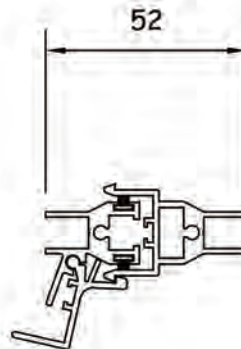
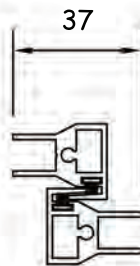
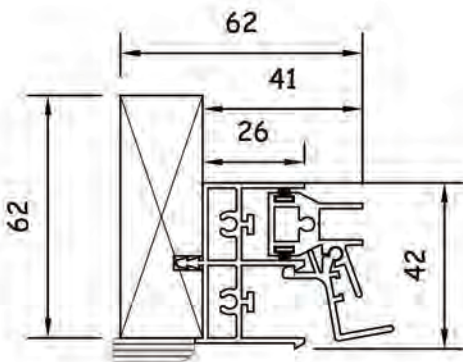
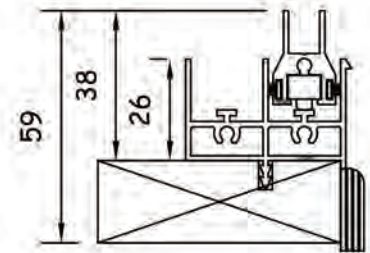


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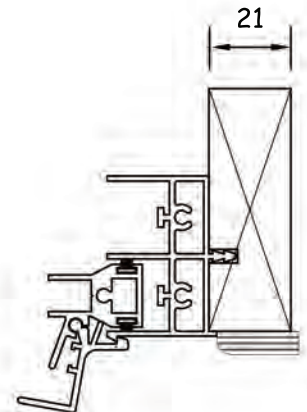
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Section A-A



Section B-B



Optional Extras

- White gasket
- Locking fit catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix 62mm x 21mm & Face Fix: 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

*Left hand orientation on request.

Type: Center Opening 3 Pane Horizontal Slider Right Hand* - Reveal Fix

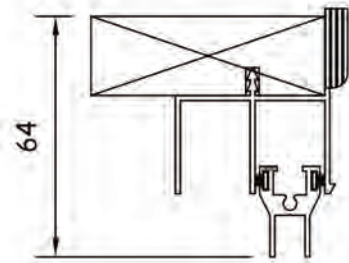
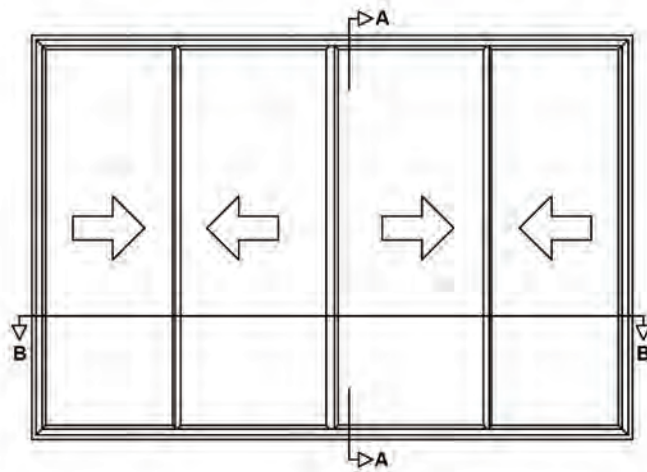
Reference: C03 RH

Rev. 1

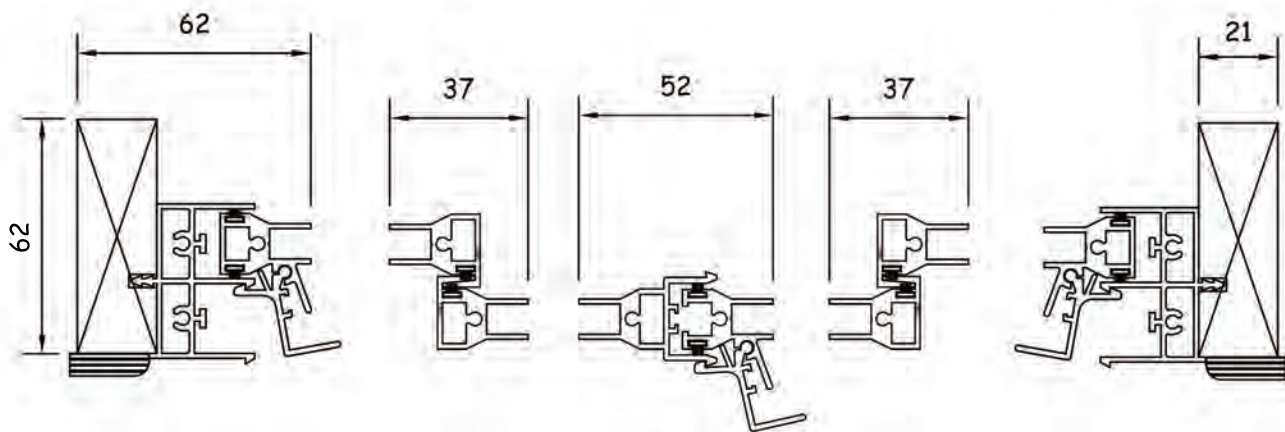
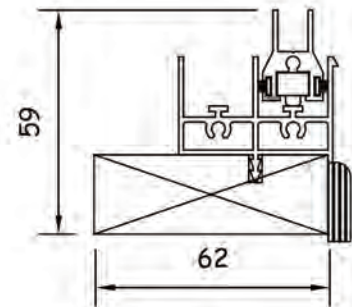


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Section A-A



Section B-B.

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix 62mm x 21mm & Face Fix 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request



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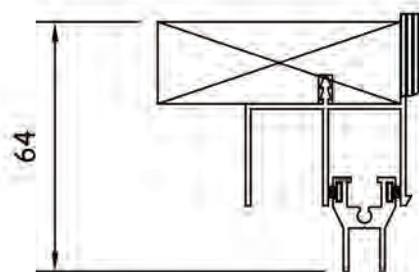
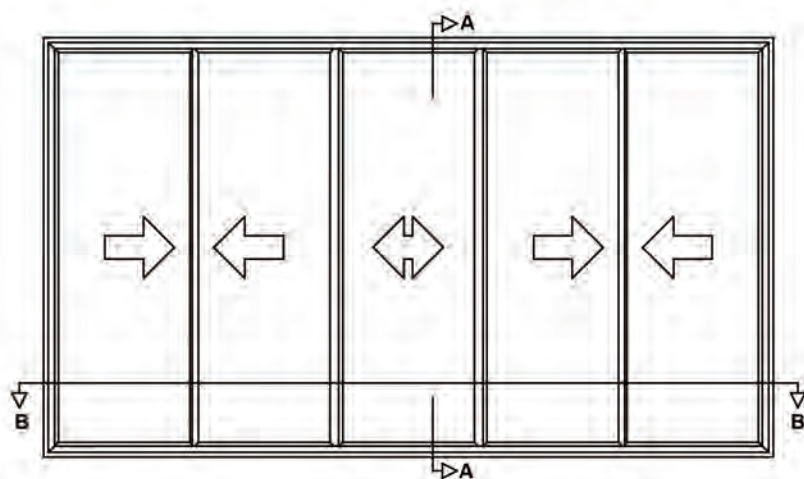
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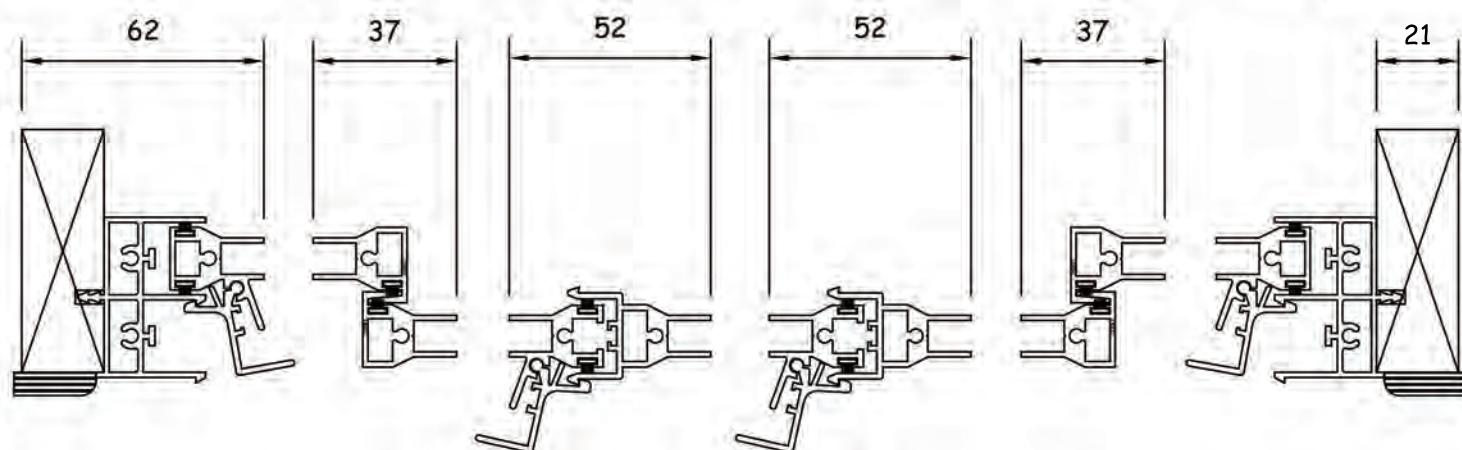
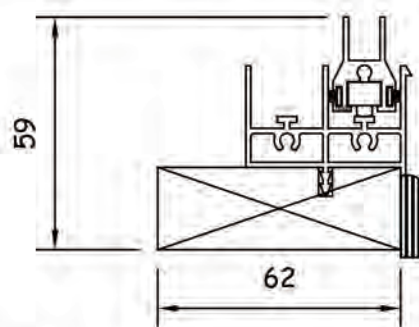
Type: 4 Pane Horizontal Slider Reveal Fix

Reference: SS4

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Section A-A



Section B-B.

Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: 5 Pane Horizontal Slider Reveal Fix

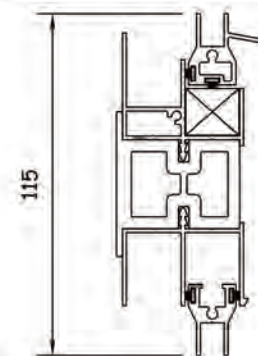
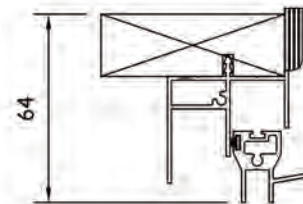
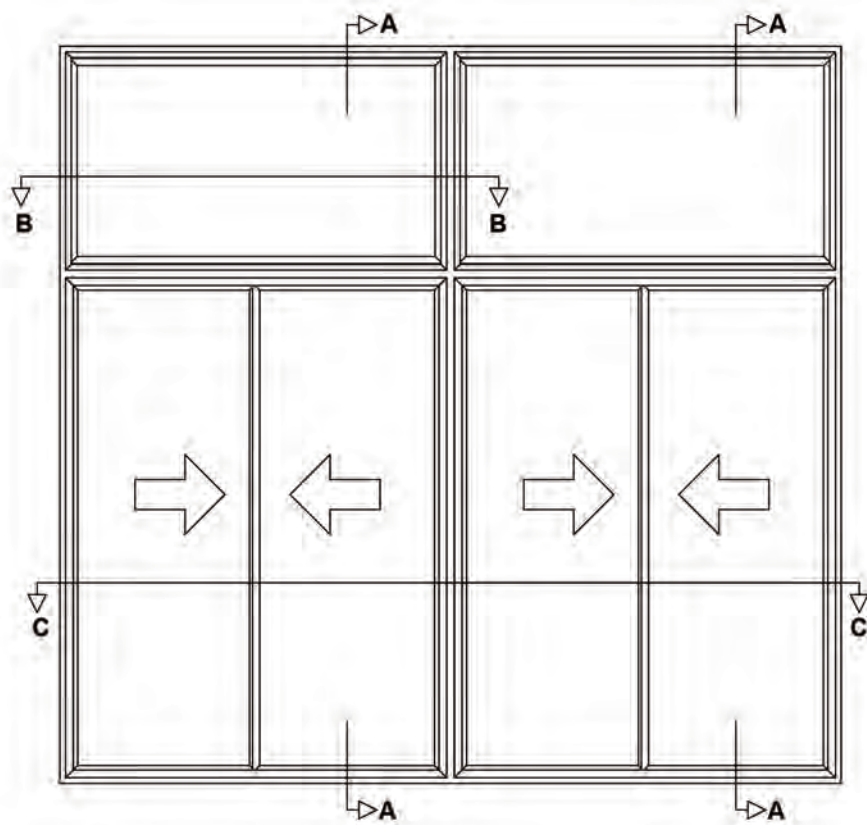
Reference: SS5

Rev: 1



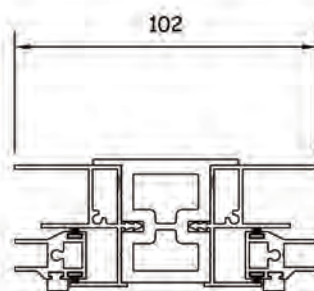
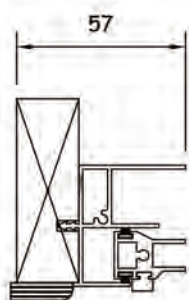
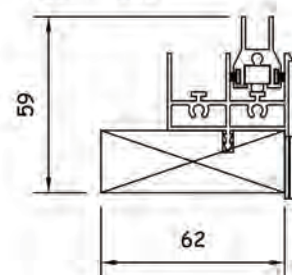
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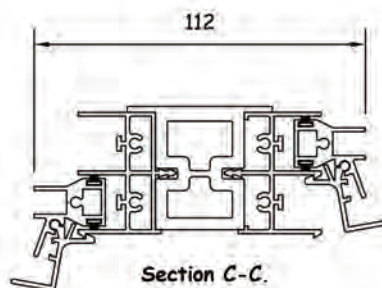
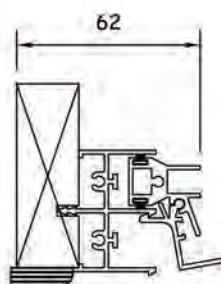
Stacking
Transom

Section A-A

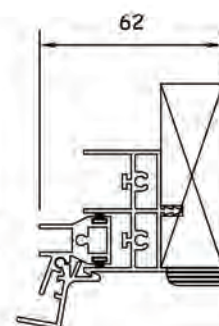
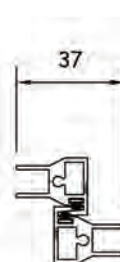


Section B-B

Coupling Mullion



Section C-C.



Example of coupling mullion and stacking transom.

Type: Shuffle Glazed Lift Out Stacked Over Coupled SS2 Reveal Fix

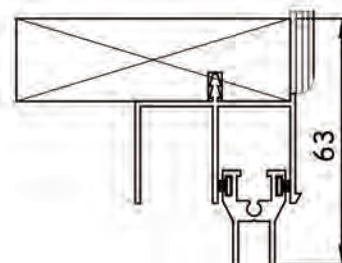
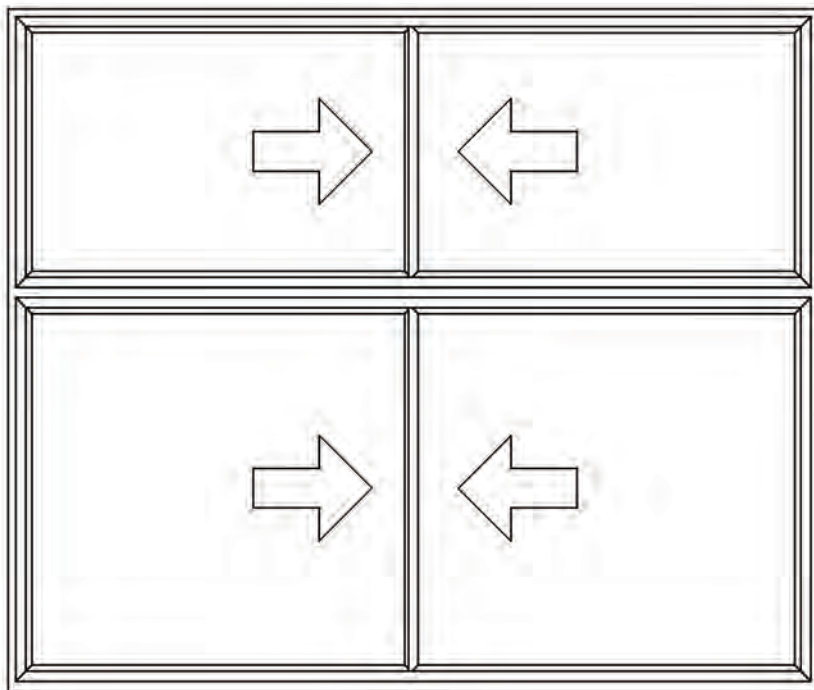
Drg. No. LO Coupled Over SS2
Coupled RF

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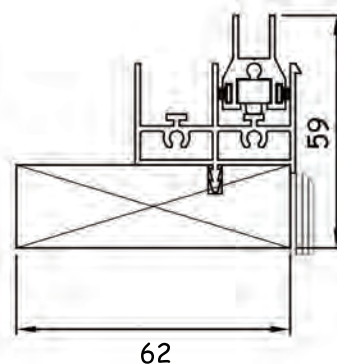
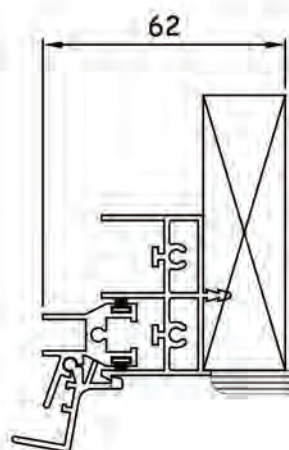
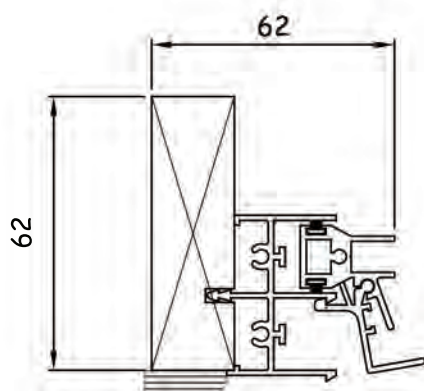
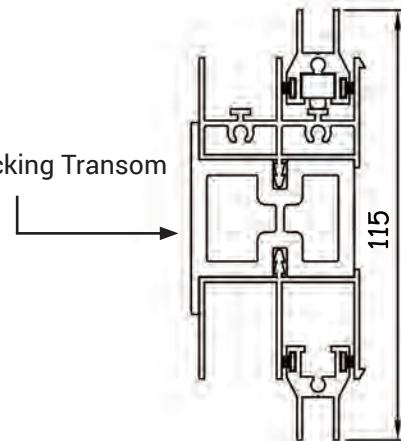


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Stacking Transom



Example of stacking transom.

Type: SS2 Stacked over SS2 With Transom

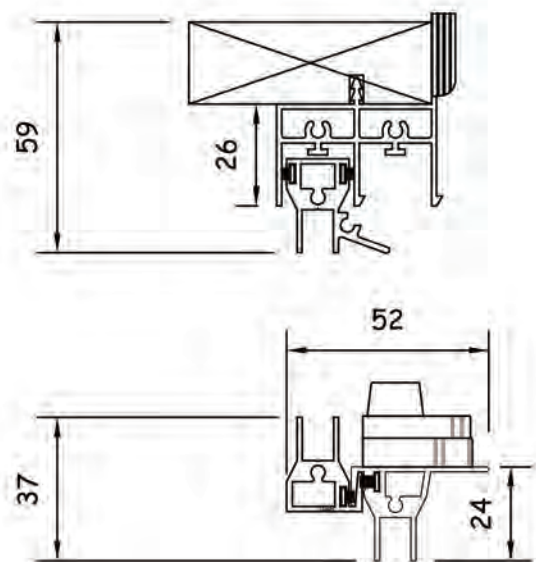
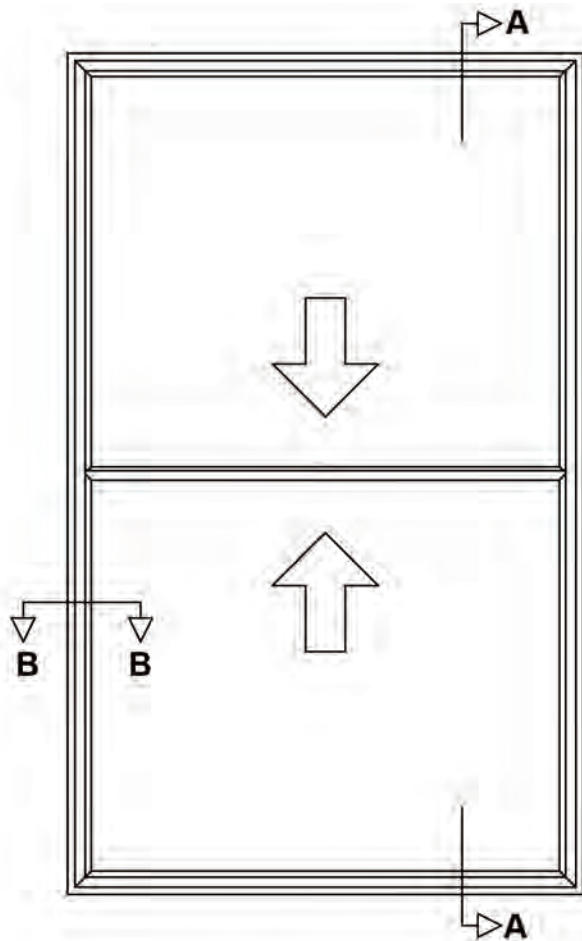
Reference: SS2

Rev: 1

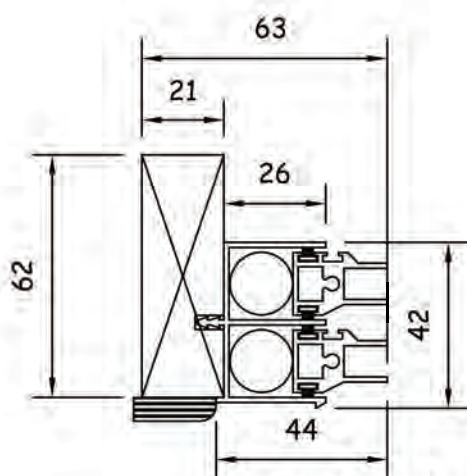
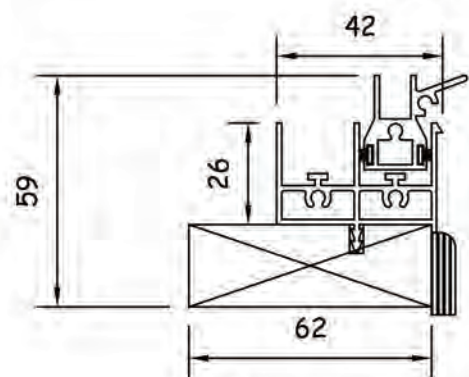


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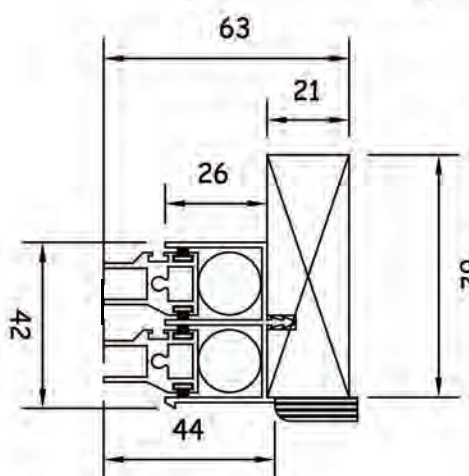
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Section A-A



Section B-B



Optional Extras

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

- Locking fitch catch
- White gasket
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request



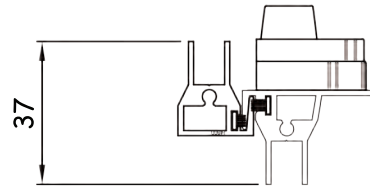
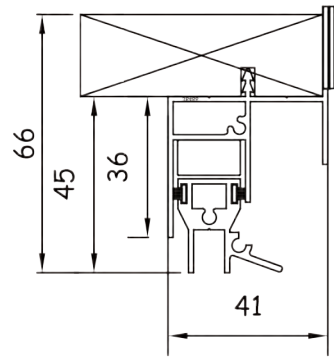
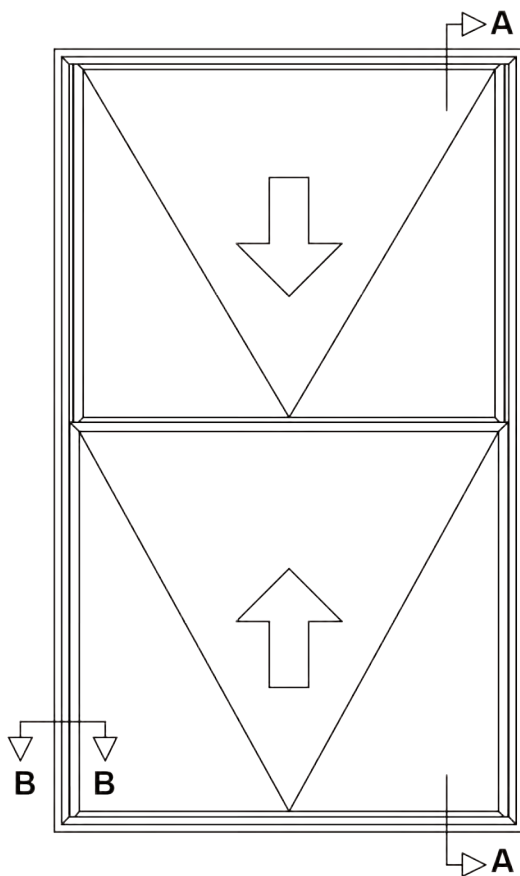
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Type: Balanced Vertical Slider Reveal Fix

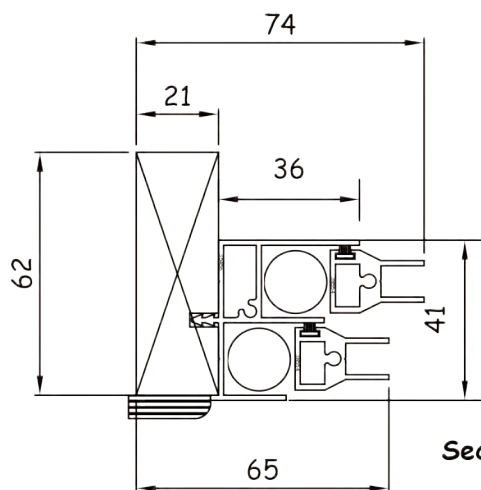
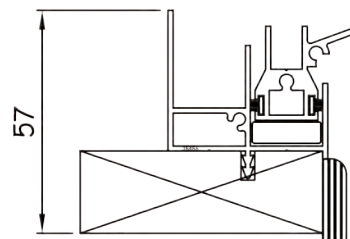
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Rev. 1

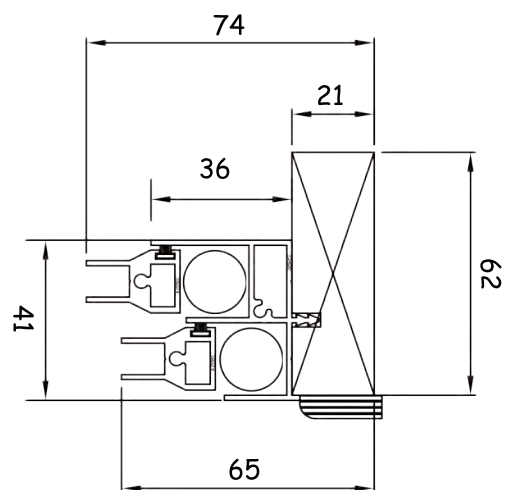
Tel: 01909 499 899
W: www.granadaglazing.com



Section A-A



Section B-B



Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- Locking fitch catch
- White gasket
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Tilting Balanced Vertical Slider Reveal Fix

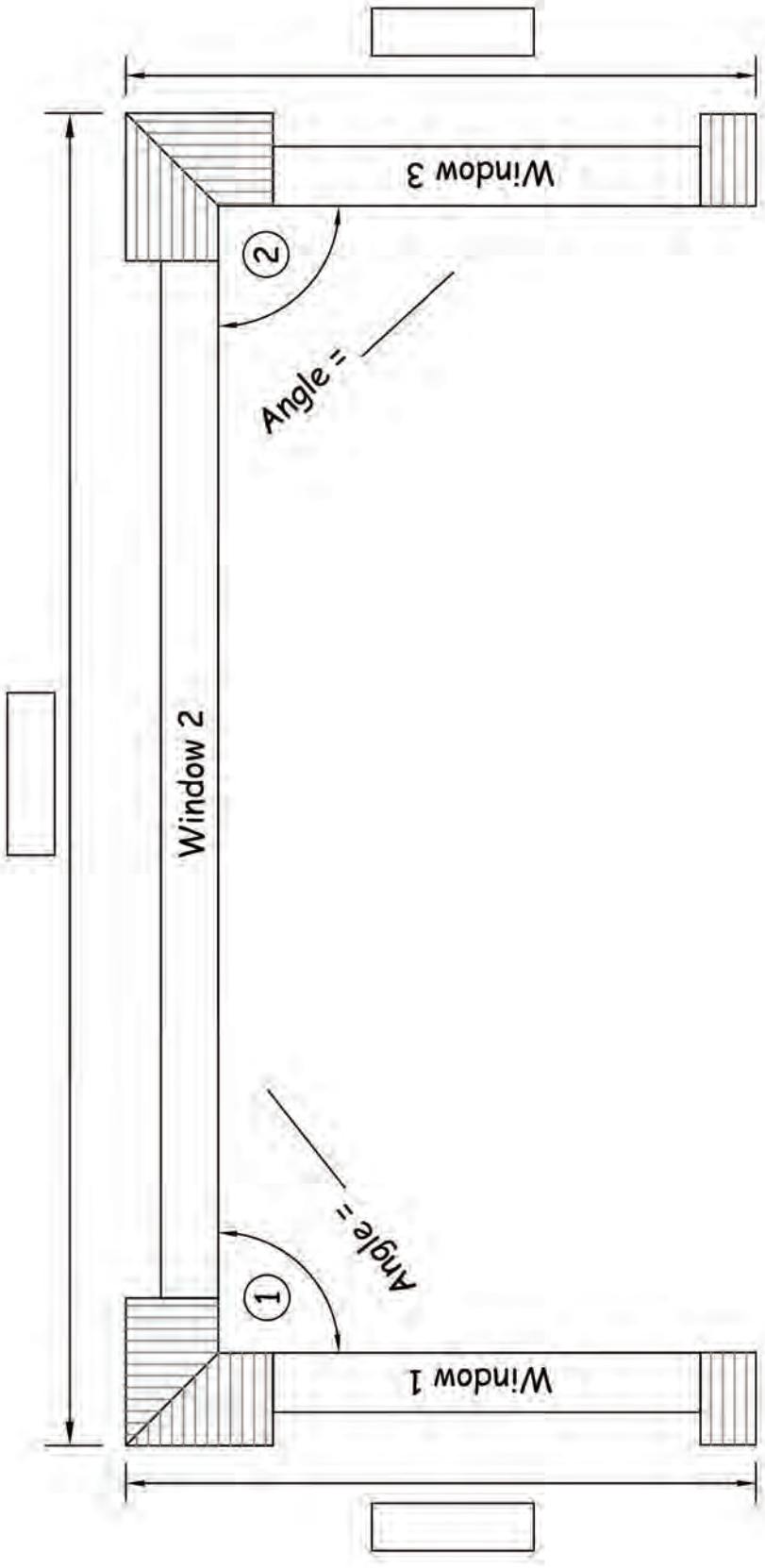
Reference: TBVS

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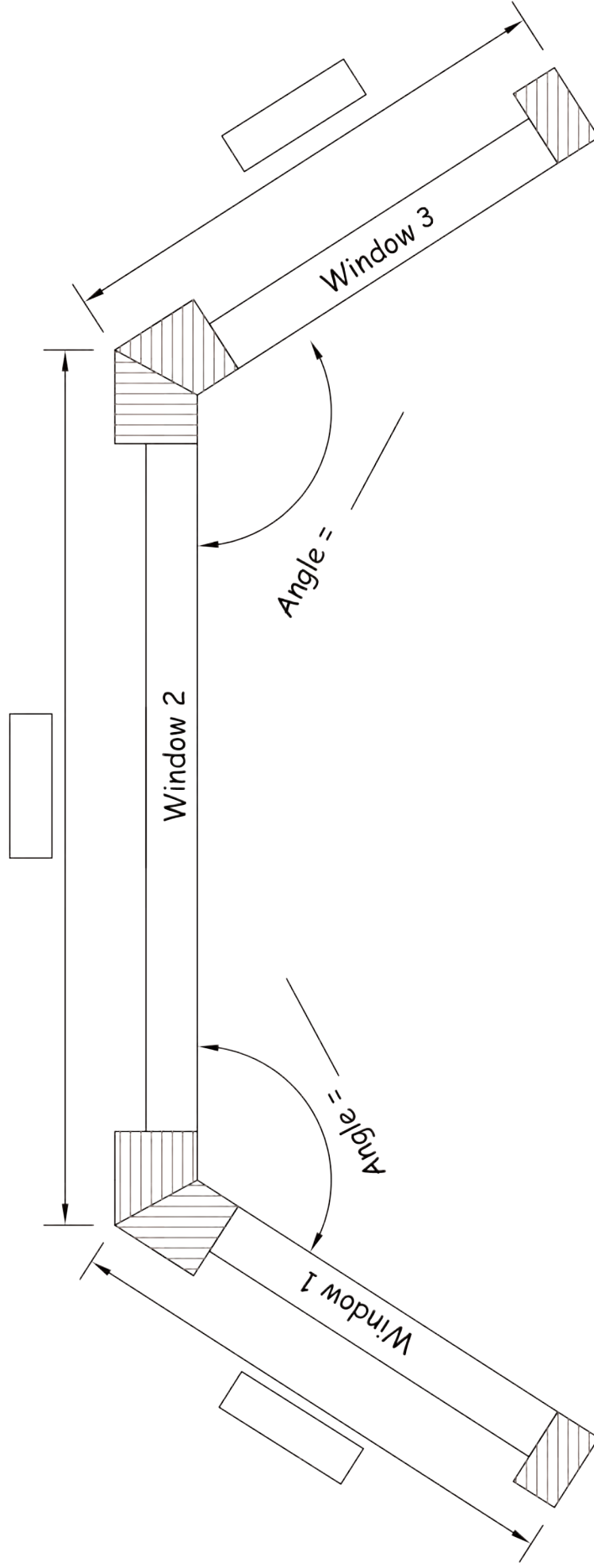


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Type: Square Bay Measuring Form	

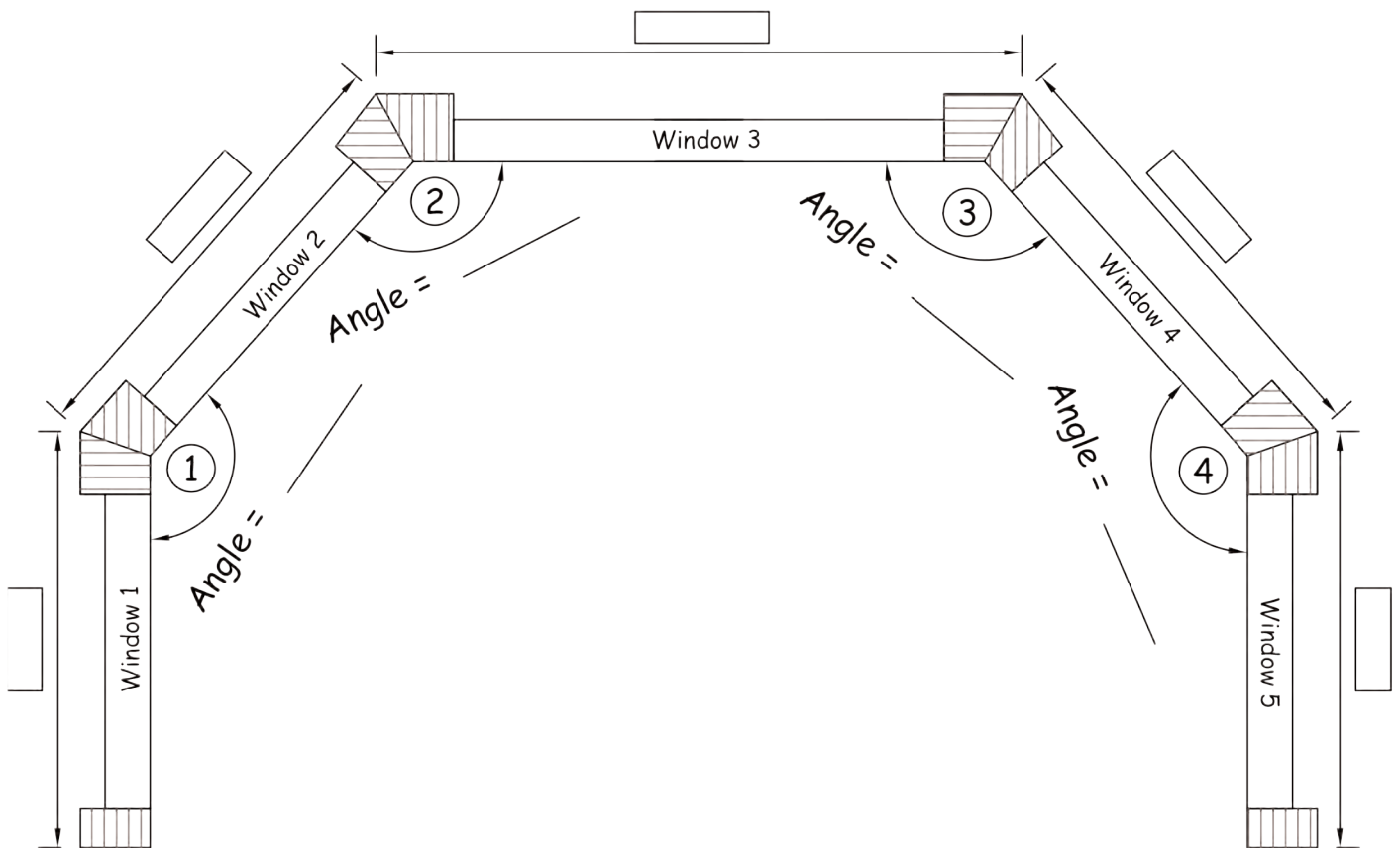
Bay No.



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Tel: 01909 499 899
W: www.granadaglazing.com

Type: 3 Bay Measuring Form



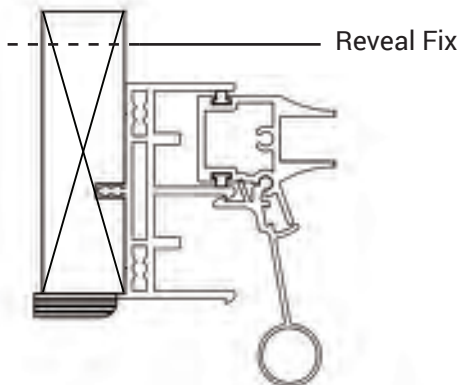
Type: 5 Part Bay Order Form



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Heritage Reveal Fix Subframe Size:

Lift Out:

Reveal Fix - 62mm x 21mm

Horizontal Sliders:

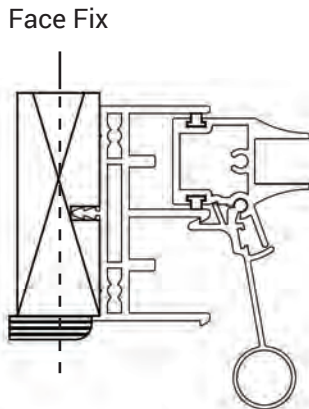
Reveal Fix - 70mm x 21mm

Balanced Vertical Slider & Tilt In Balanced Vertical Slider

Reveal Fix - 70mm x 21mm

. *Hinged Unit.* :

Reveal Fix - 62mm x 30mm



Heritage Face Fix Subframe Size:

Lift Out:

Face Fix - 45mm x 21mm

Horizontal Sliders:

Face Fix - 62mm x 21mm

Balanced Vertical Slider & Tilt In Balanced Vertical Slider

Face Fix - 62mm x 21mm

. **Hinged Unit. :**

Face Fix - 45mm x 30mm

Please Note:

When coupling or stacking other heritage units timber size required:

Reveal Fix: 70mm x 30mm

Face Fix: 62mm x 30mm.

When stacking with other heritage products where a support bar is required subframe timbers must be 80mm x 21mm

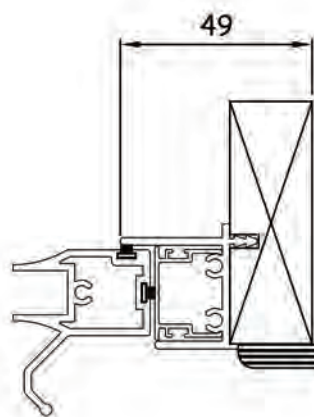
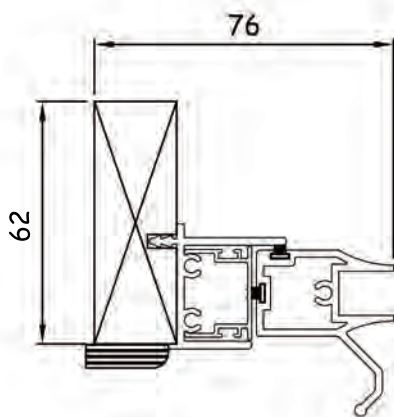
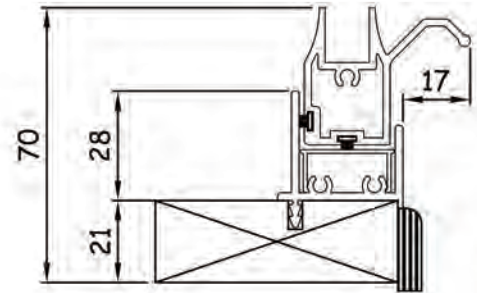
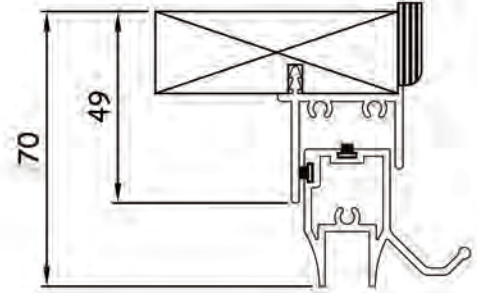
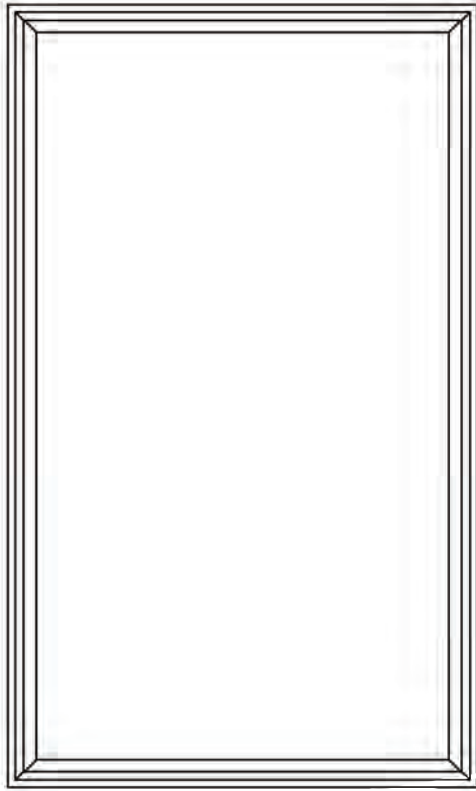
Heritage Fixing Options & Timber Sizes

Rev:1



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Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 21mm & Face Fix: 45mm x 21mm*.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

* When coupling or stacking other heritage units timber size required: Reveal Fix: 70mm x 21mm & Face Fix: 62mm x 21mm.

Optional Extras

- White gasket
- Chubb lock
- Where stacking over 800mm, bespoke design required
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Heritage Lift Out - Reveal Fix

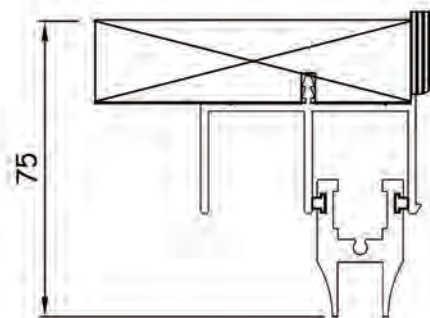
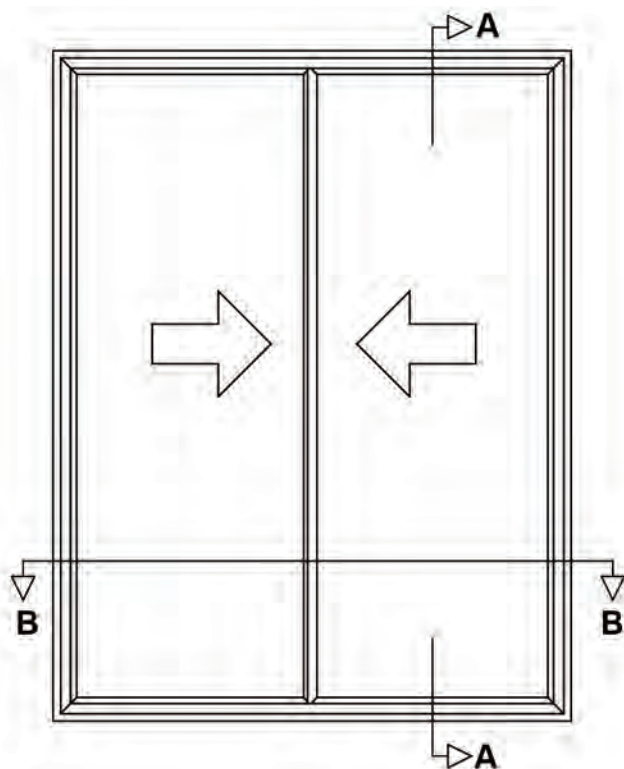
Reference: HLO

Rev. 1

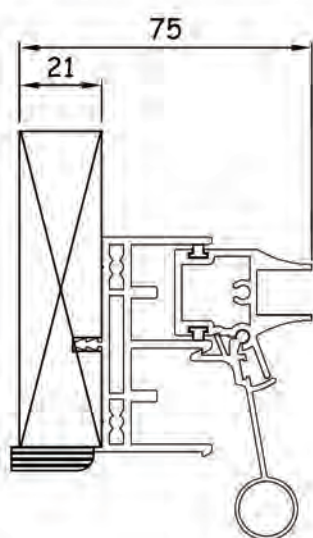
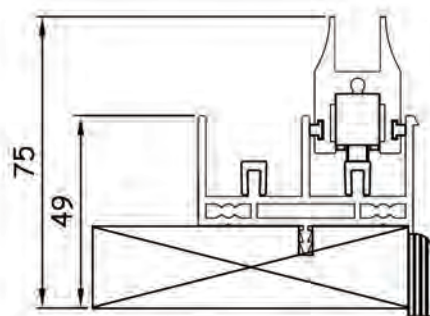


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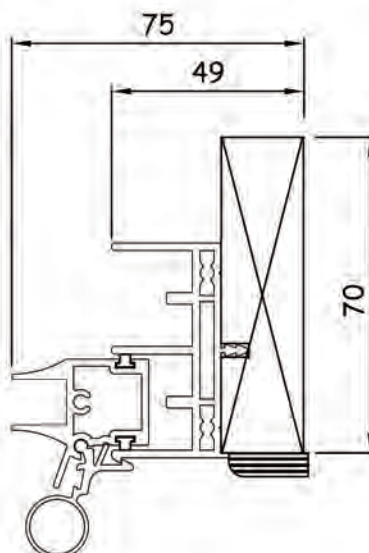
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Section A-A detail.



Section B-B detail
Right Hand.



Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber.
Standard sizes: Face Fix: 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

*Left hand orientation on request

Type: Heritage 2 Pane Horizontal Slider Right Hand* - Reveal Fix

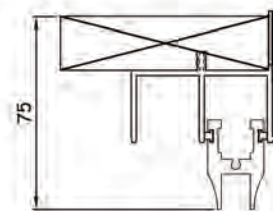
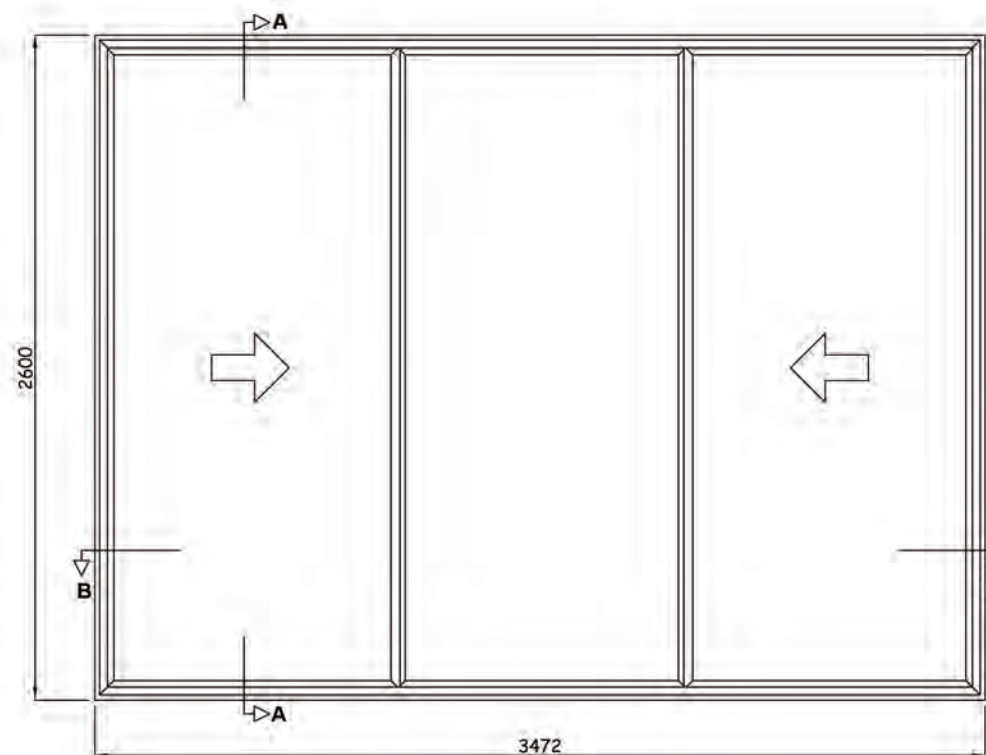
Reference: HSS2

Rev. 1

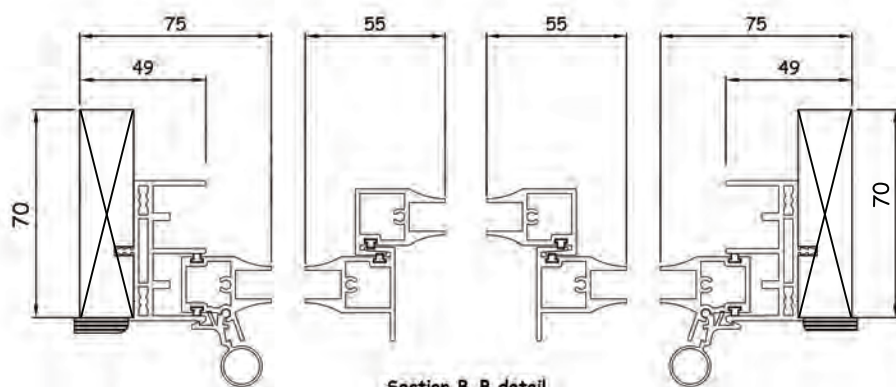
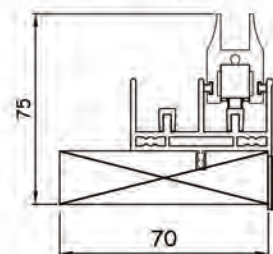


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Section A-A detail



Section B-B detail

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix: 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Heritage Horizontal Slider 3 Pane Reveal Fix

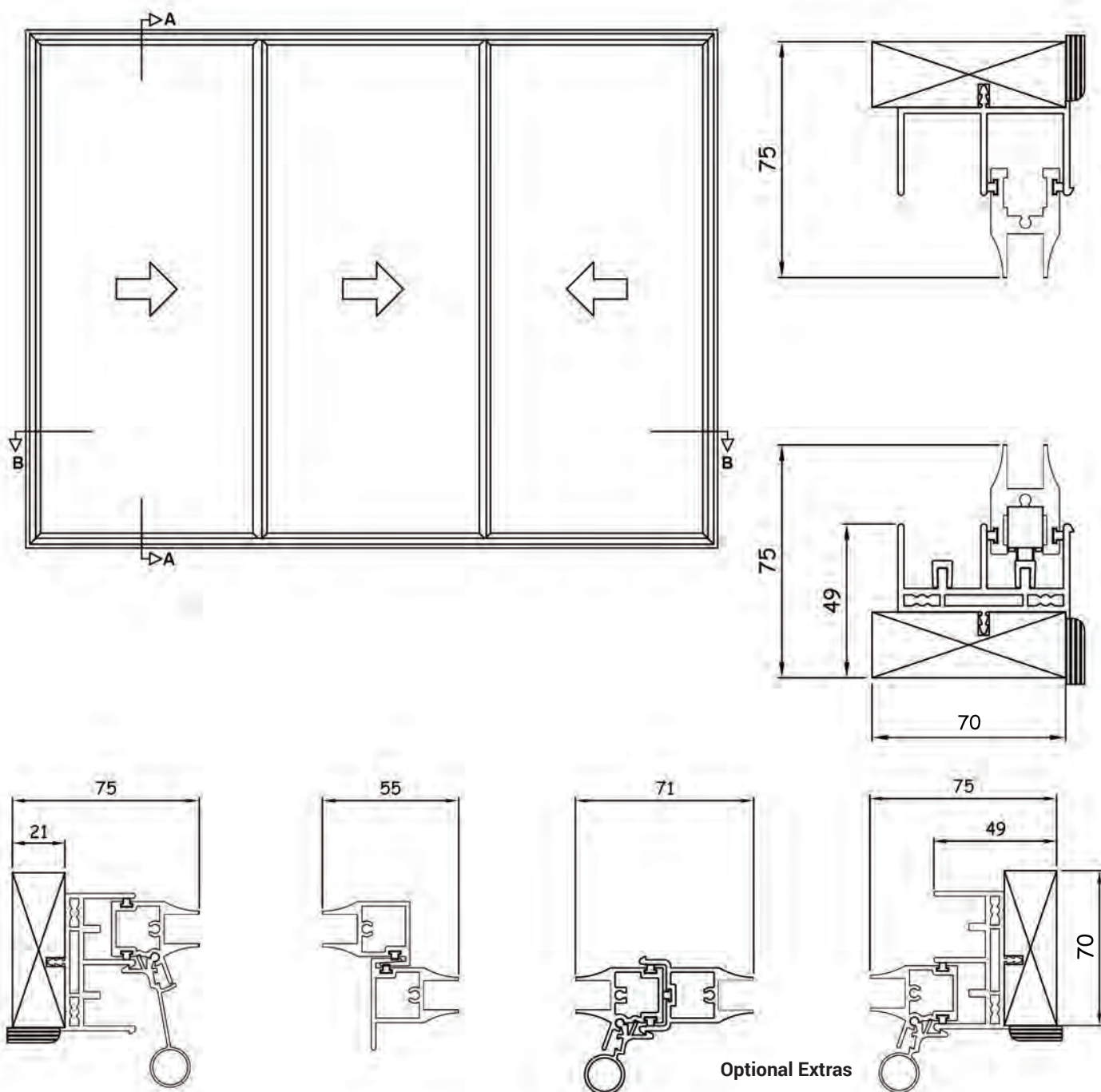
Reference: HSS3

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Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber.

Standard sizes: Face Fix: 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

*Left hand orientation on request

Type: Heritage Center Opening 3 Pane Horizontal Slider Right Hand* - Reveal Fix

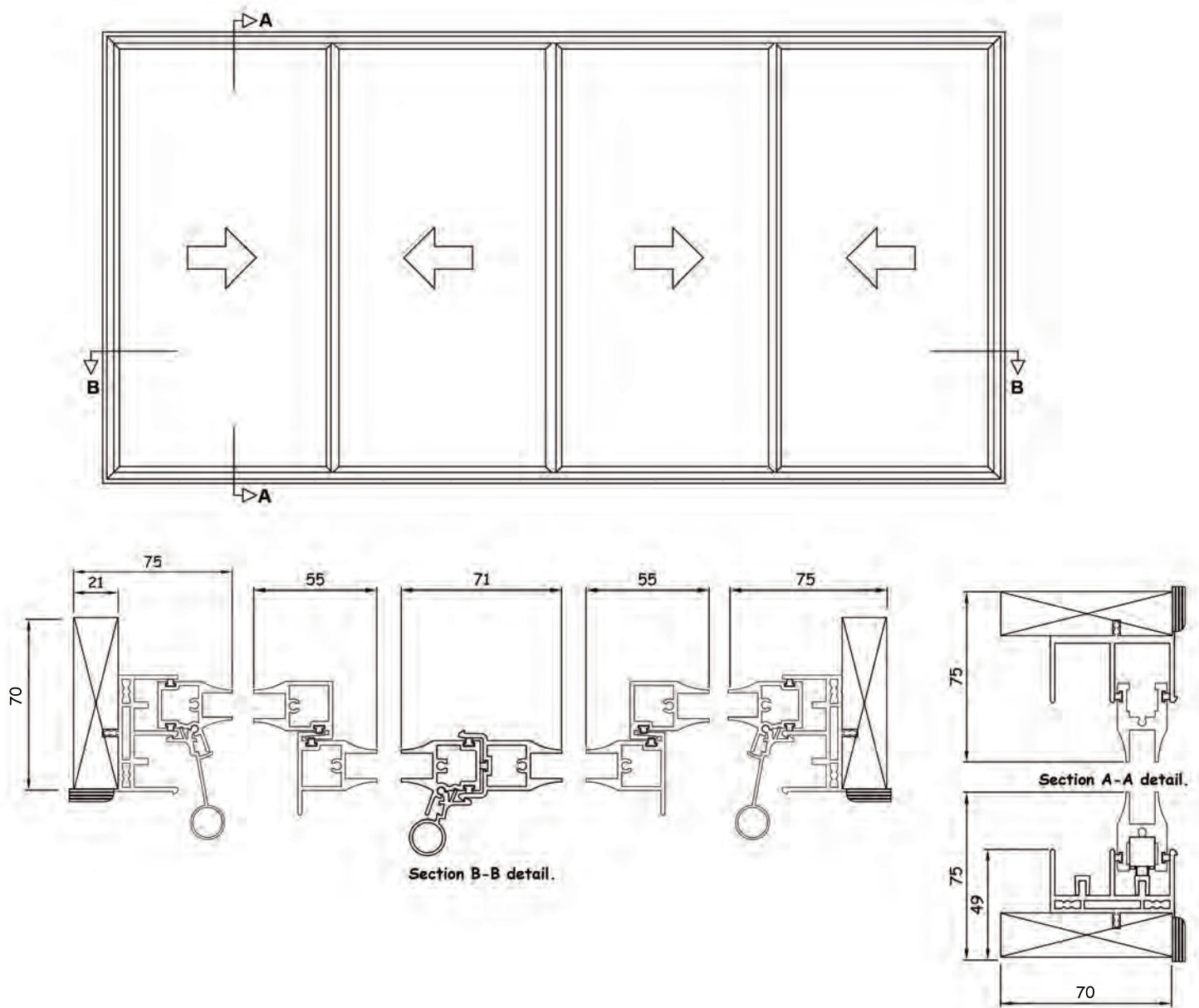
Reference: HCO3

Rev. 1



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Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix: 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Heritage Horizontal Slider 4 Pane Reveal Fix

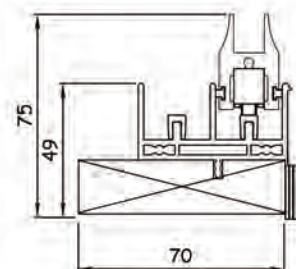
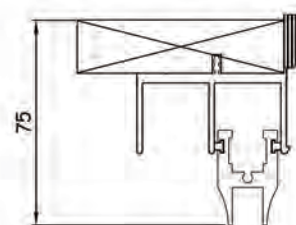
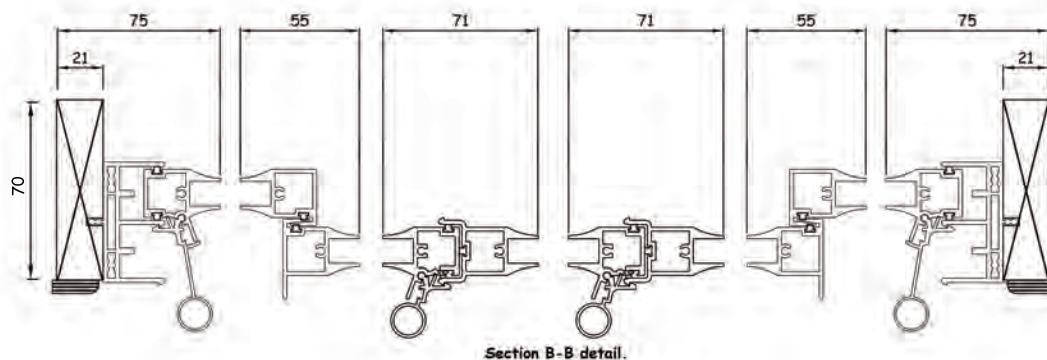
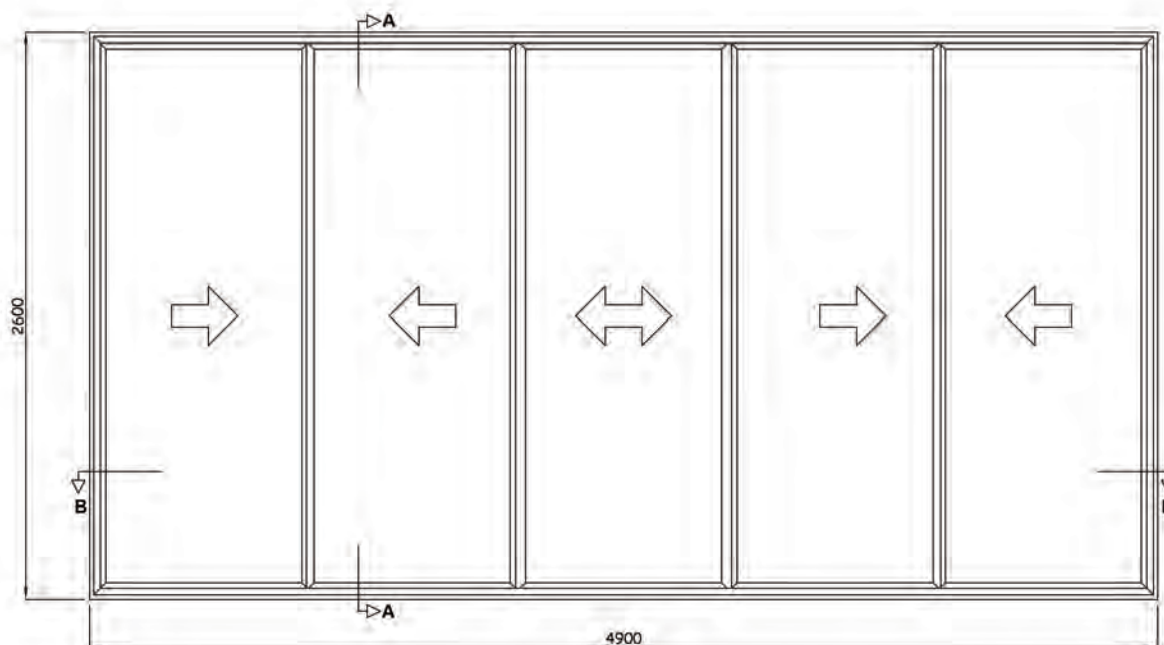
Reference: HSS4

Rev: 1



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Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix: 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Primed MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- White gasket
- Locking fitch catch
- Travel limit stop
- 25mm x 25mm box support bar where stacked
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Heritage Horizontal Slider 5 Pane Reveal Fix

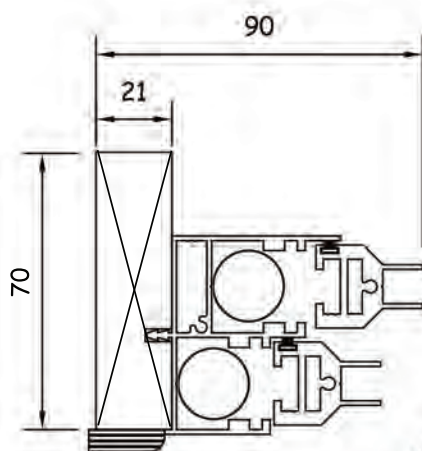
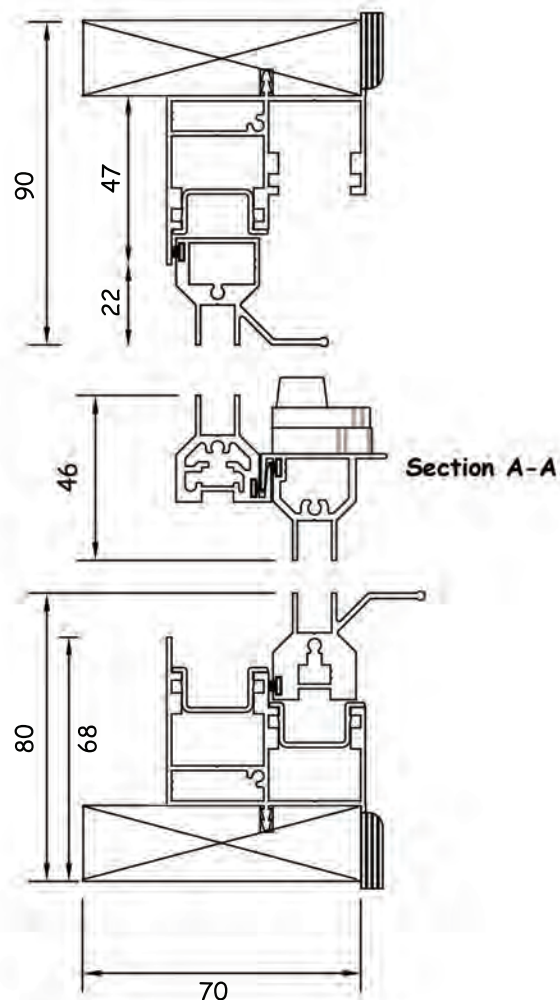
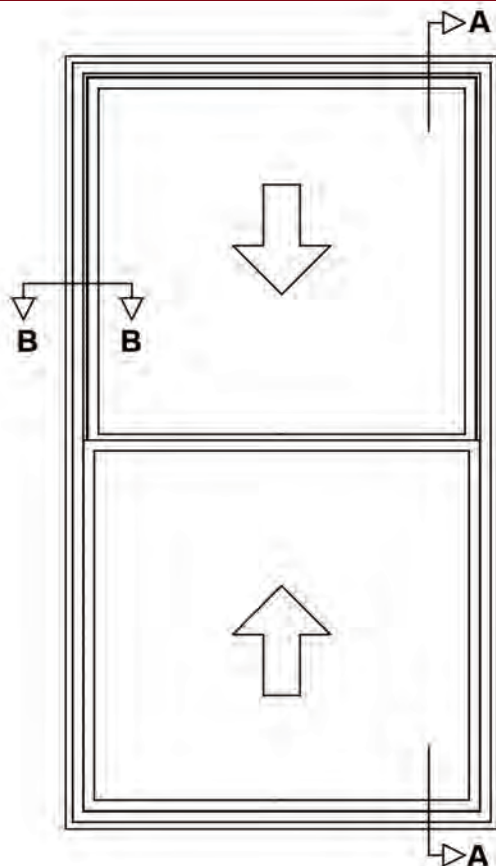
Reference: HSS5

Rev: 1

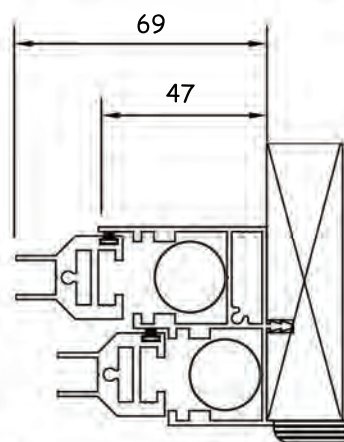


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Section B-B



Optional Extras:

- Locking fitch catch
- White gasket
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Type: Heritage Balanced Vertical Slider Reveal Fix

Reference: HBVS

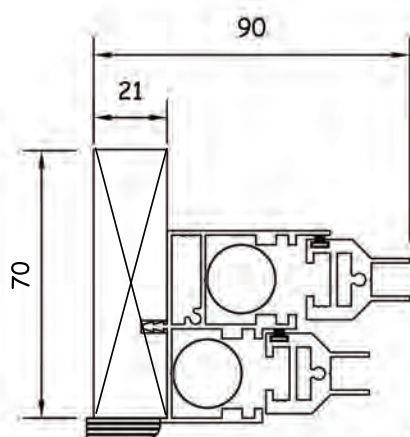
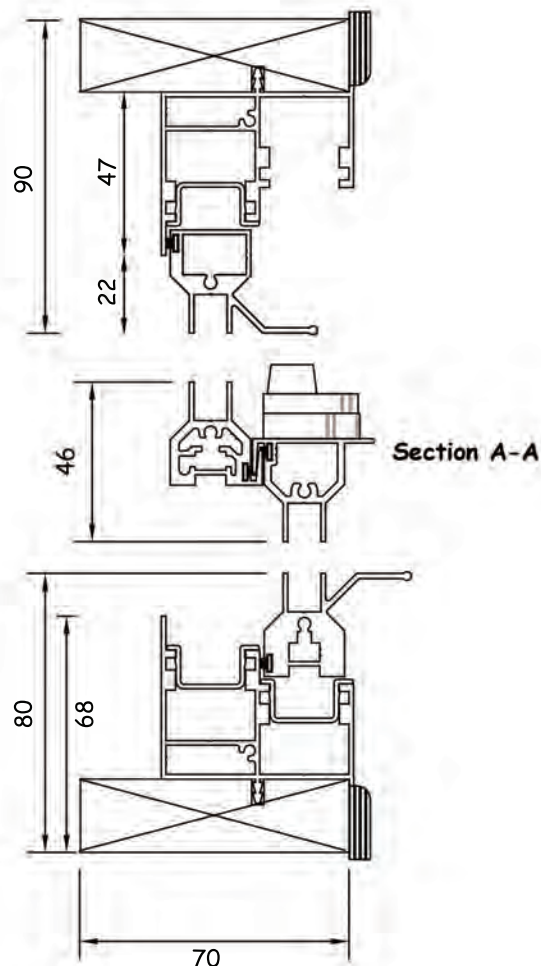
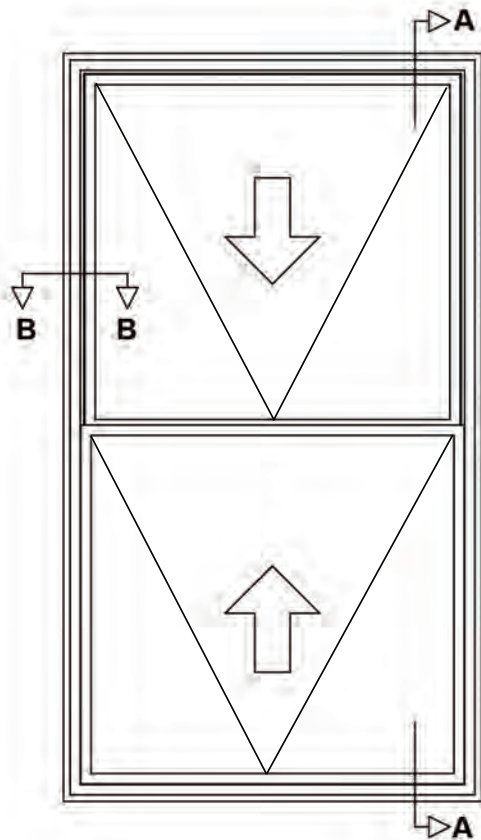
Rev. 1



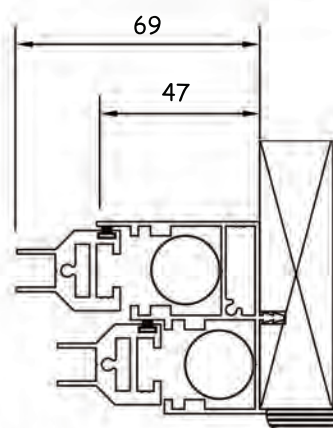
GRANADA
secondary glazing

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Section B-B



Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Face Fix: 62mm x 21mm & Reveal Fix: 70mm x 21mm.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

Optional Extras

- Locking fitch catch
- White gasket
- Aluminium coupling mullion
- Stacking interlock transom
- Trickle vents / acoustic trickle vents
- RAL colours
- Flyscreen
- Timber sizes other than standard available on request

Type: Heritage Tilt In Balanced Vertical Slider Reveal Fix

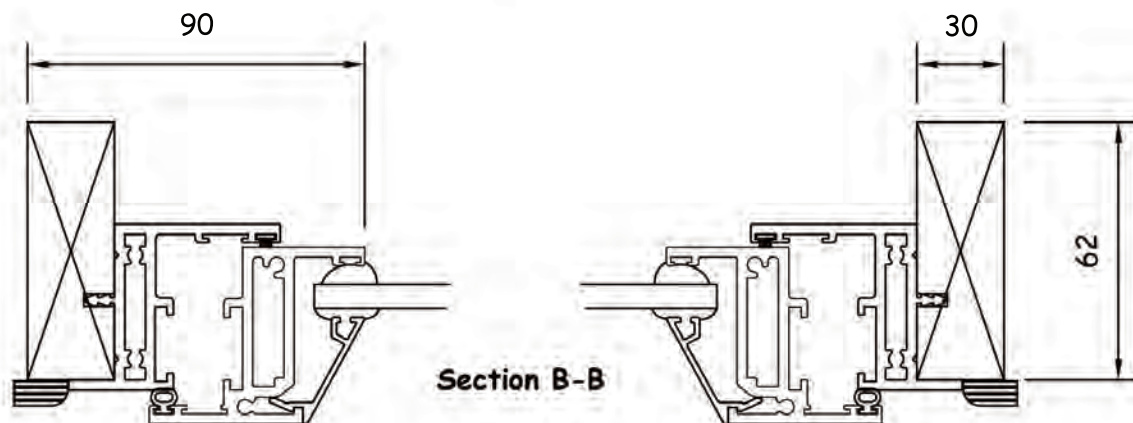
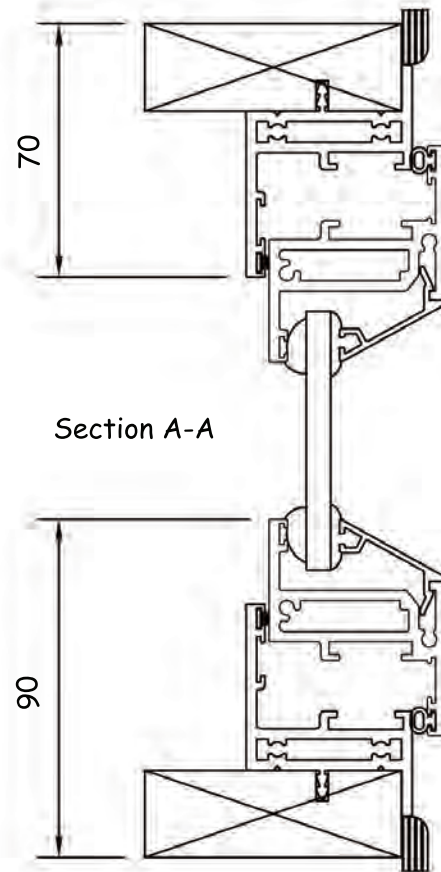
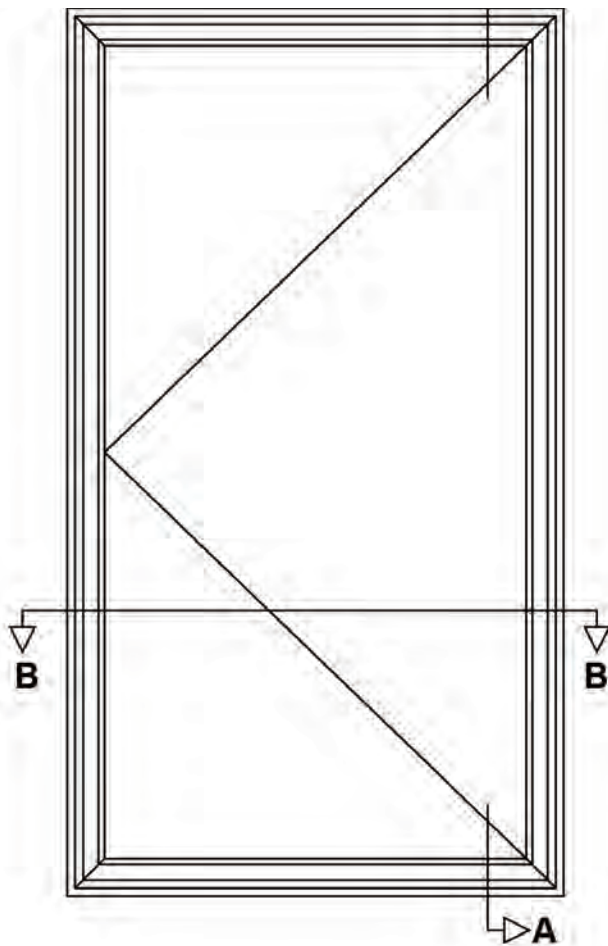
Reference: HTBVS

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Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 30mm & Face Fix: 45mm x 30mm**.

All frames are factory glazed.

Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice. * Where bottom hung a restrictor is required.

****When coupling or stacking other heritage units timber size required: Reveal Fix: 70mm x 30mm & Face Fix: 62mm x 30mm.**

- Concealed hinges
- Restrictor catch
- Tilt & turn gearing
- Aluminium coupling mullion
- Stacking interlock transom
- Full anti-ligature spec
- Trickle vent / acoustic trickle vents (in sash)
- RAL colours
- Double glazed
- Right, top or bottom* hung
- Timber sizes other than standard available on request

Type: Heritage Hinged Unit Reveal Fix (Left Hung)

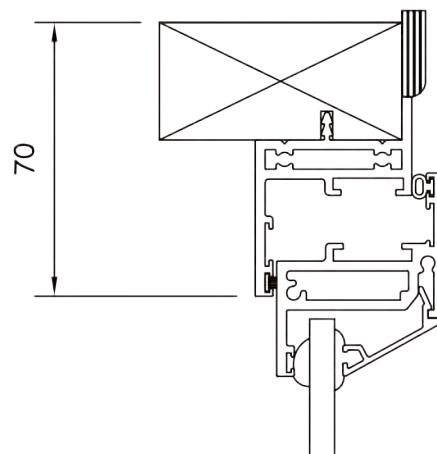
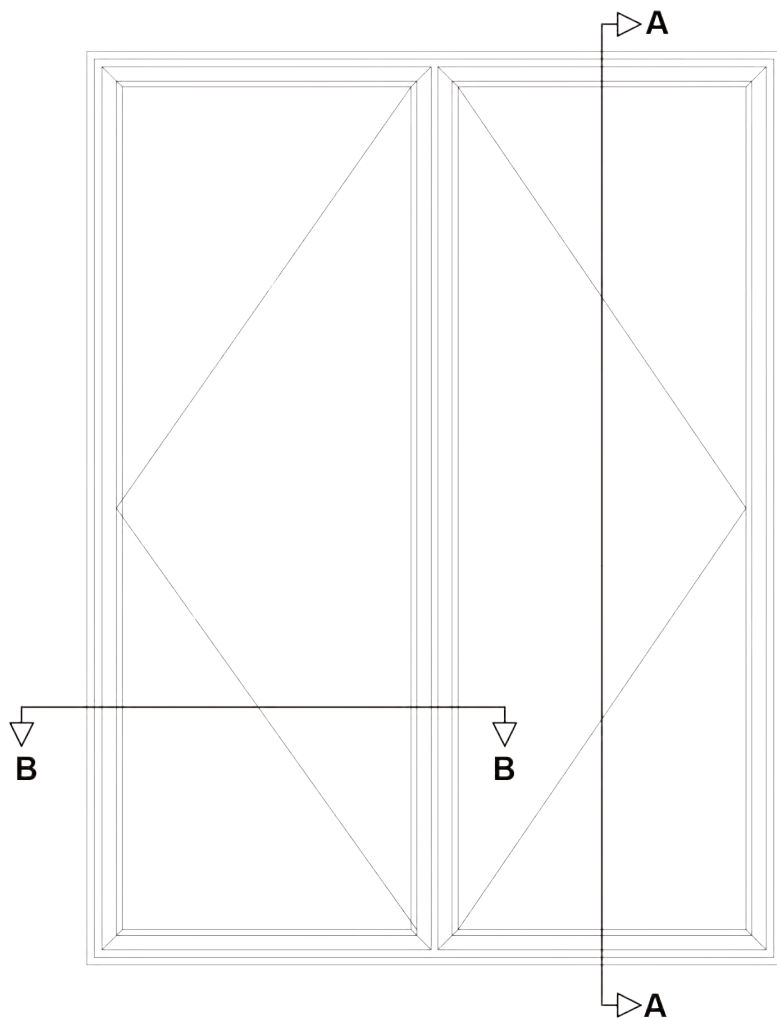
Reference: HHU

Rev: 1

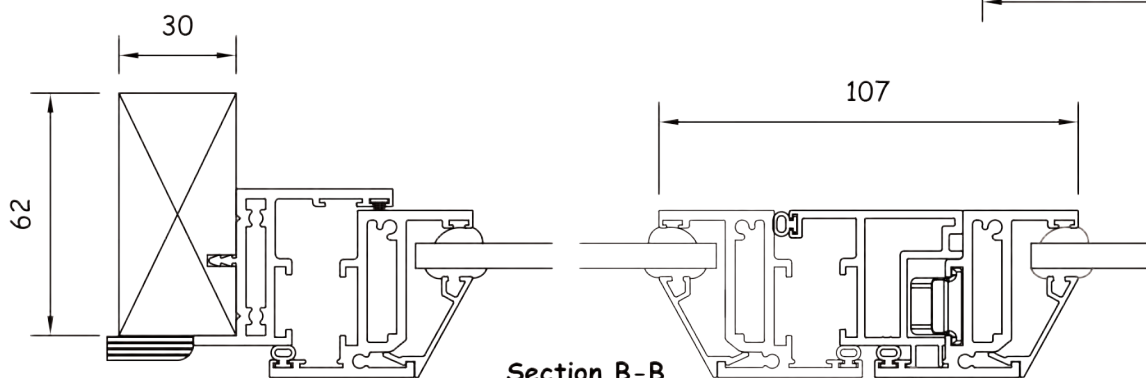
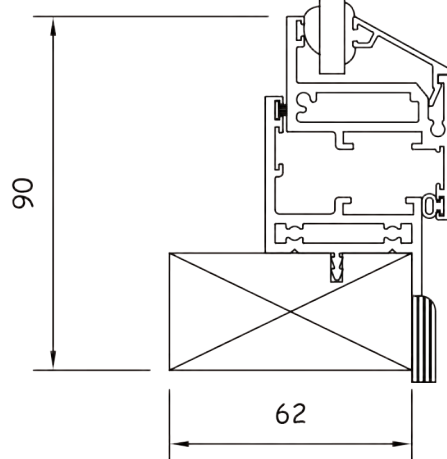


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Section A-A



Section B-B

Optional Extras

- Heritage locking handle
- Spag Locking handle
- Actuator handle
- Concealed hinges
- Aluminium coupling mullion
- Stacking interlock transom
- Full anti-ligature spec
- Trickle vent / acoustic trickle vents (in sash)
- Double glazed
- RAL colours
- Timber sizes other than standard available on request

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. The sub-frame is manufactured from primed high quality, environmentally certified (MTCS) engineered timber. Standard sizes: Reveal Fix: 62mm x 30mm & Face Fix: 45mm x 30mm.

All frames are factory glazed.
Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice. ***When coupling or stacking other heritage units timber size required: Reveal Fix: 70mm x 30mm & Face Fix: 62mm x 30mm.**

Type: Heritage Double Hinged Unit Reveal Fix

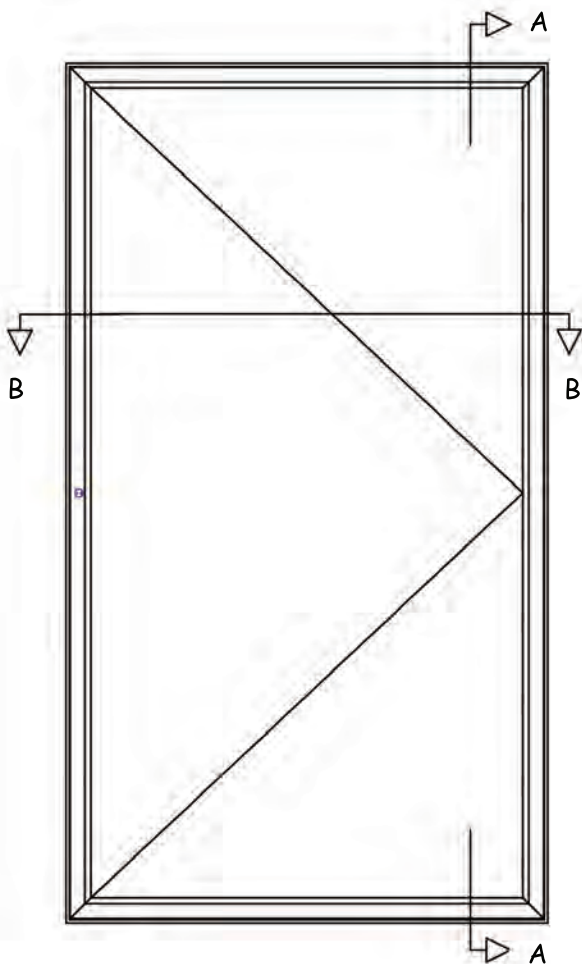
Reference: HDHU

Rev. 1

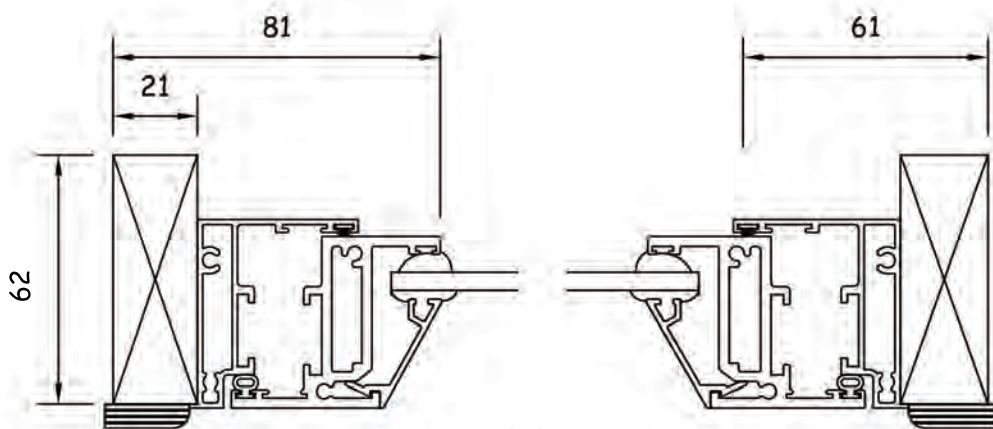
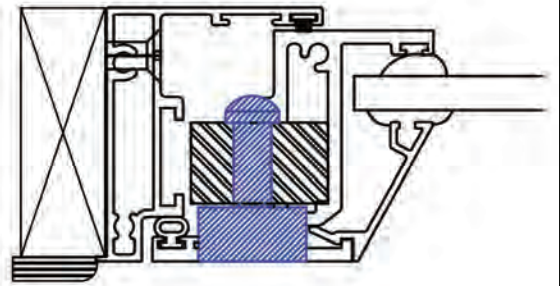


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Optional Extra - Hinged Unit Actuator detail



A-A & B-B Section

Optional Extras

Standard Product Specification:

Aluminium 6063T6 alloy to BS EN 755 standard, powder coated to BS 6496 to 60 micron finish.

Stock finish: White - Interpon SA 098E high gloss. Standard sizes:
Reveal Fix: 62mm x 21mm & Face Fix: 50mm x 21mm.

All frames are factory glazed.
Standard gasket colour is black.

All frames include pvc-u trim as standard - Painted MDF or PEFC timber available upon request.

Locking system to be of multi-point espagnolette type operated by detachable handle and concealed hinges.

In line with our company policy of continuous product development and improvement, Granada reserves the right to make minor alterations to specification without notice.

- Heritage locking handle
- Spag Locking handle
- Restrictor catch
- Tilt & turn gearing
- Trickle vents / acoustic trickle vents (in sash)
- Double Glazed
- RAL colours
- Timber sizes other than standard available on request

Type: Anti Ligature Heritage Hinged Unit Reveal Fix

Reference: ALHU

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Sound Performance Test Results

Window Type	BVS - Balanced Verticle Slider
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	49dB

Date of Test: 29th November 2012

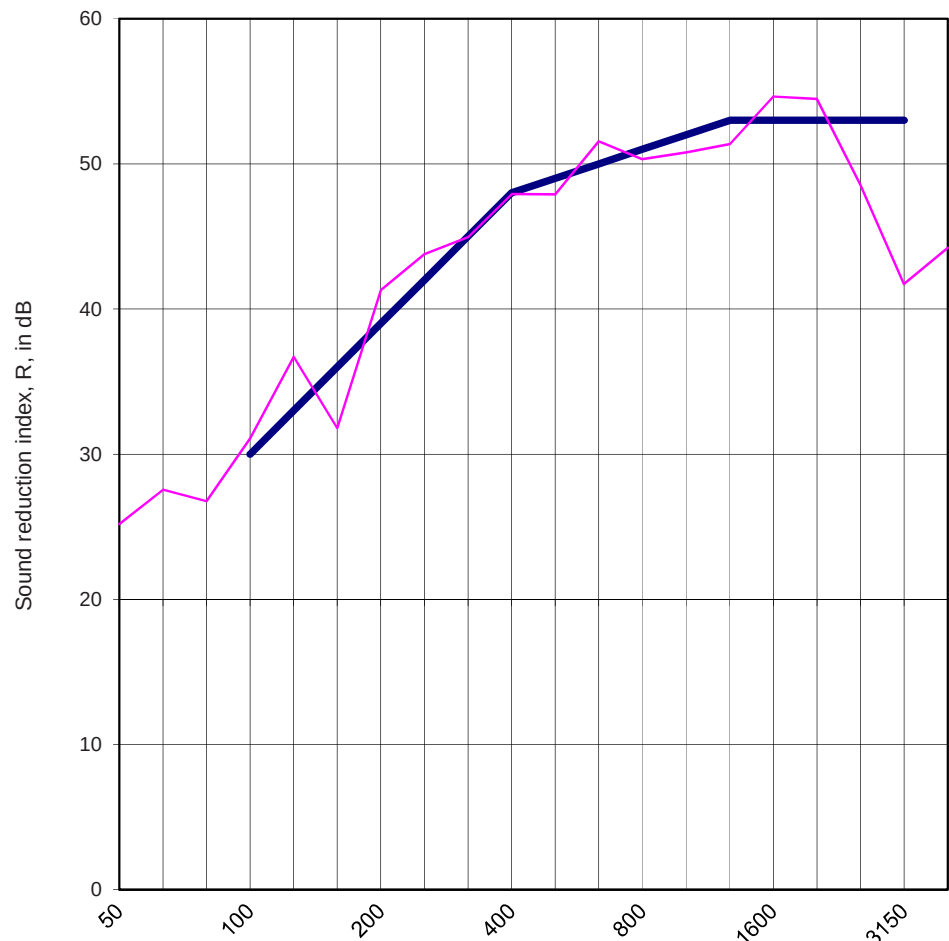
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	25.2
63 ⁺	27.6
80 ⁺	26.8
100	31.1
125	36.7
160	31.8
200	41.3
250	43.8
315	45.0
400	47.9
500	47.9
600	51.6
800	50.3
1000	50.8
1250	51.4
1600	54.6
2000	54.5
2500	48.6
3150	41.7
4000	44.2
5000	47.3
AAD-	24.7

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

⁺ indicates that the frequency was tested outside of UKAS accreditation and is for information only

Granada Glazing Limited, Campbell Way, Dinnington, Sheffield, S25 3QD

Tel: 01909 499850 Fax: 01909 499903 Email: enquiries@granadaglazing.com Web: www.grnadaglazing.com

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Sound Performance Test Results

Window Type	BVS - Balanced Verticle Slider
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	53dB

Test Report Ref. No: MTZ/F12024/P003

Date of Test: 31st October 2012

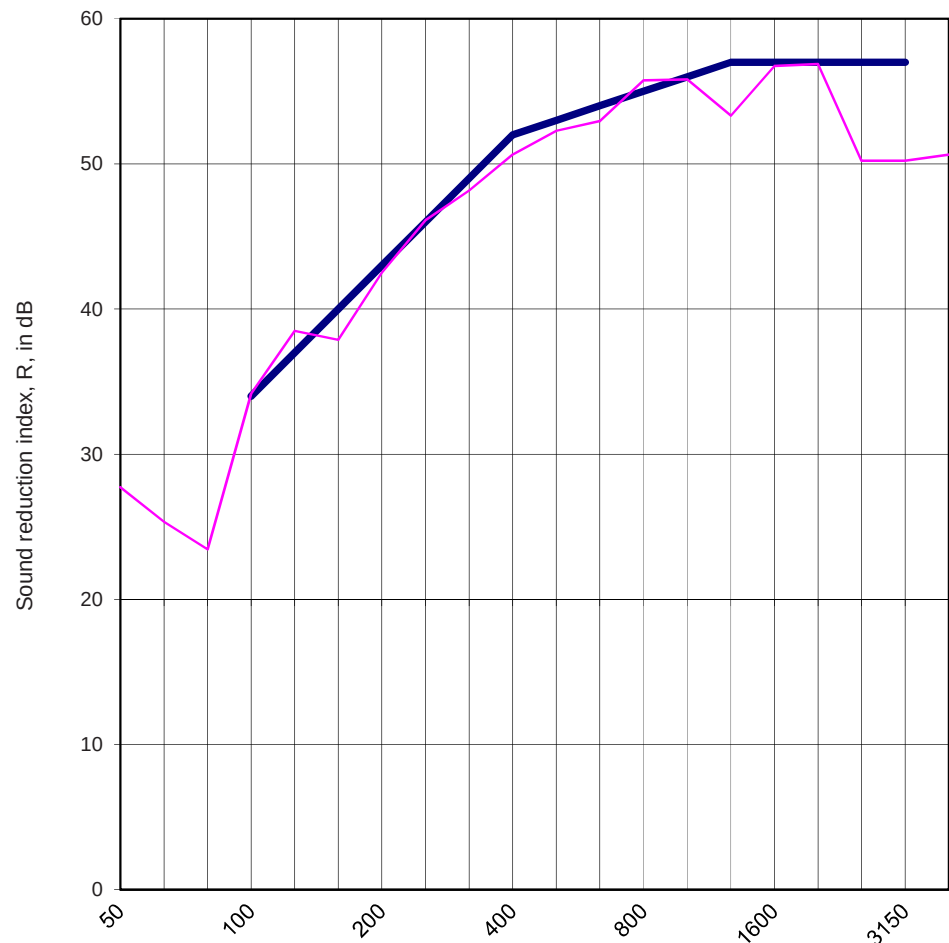
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	27.7
63 ⁺	25.3
80 ⁺	23.4
100	34.2
125	38.5
160	37.9
200	42.5
250	46.1
315	48.2
400	50.6
500	52.3
600	52.9
800	55.8
1000	55.8
1250	53.3
1600	56.7
2000	56.9
2500	50.2
3150	50.2
4000	50.6
5000	49.2
AAD-	24.4

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Granada Glazing Limited, Campbell Way, Dinnington, Sheffield, S25 3QD

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Registered in England and Wales Reg. No. 8720307 VAT Reg. No. 171 7461 05

Sound Performance Test Results

Window Type	BVS - Balanced Verticle Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	51dB

Test Report Ref. No: MTZ/F12029/02/P011

Date of Test: 29th November 2012

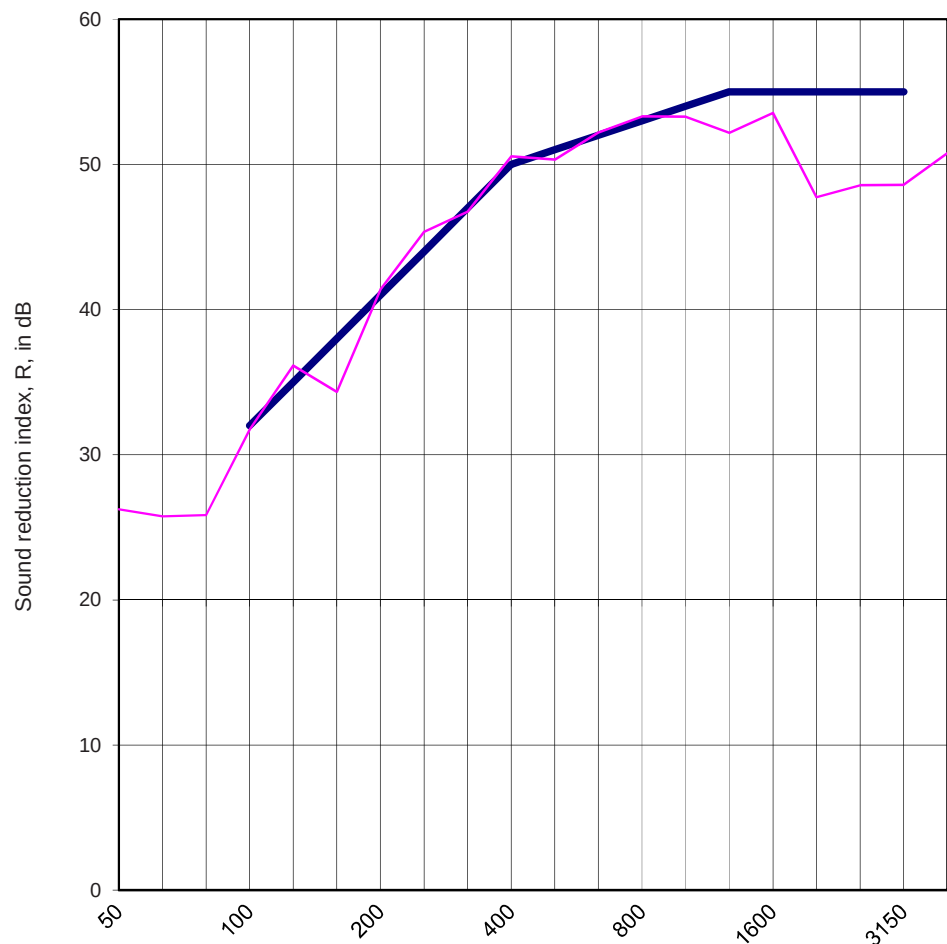
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	26.2
63 ⁺	25.8
80 ⁺	25.8
100	31.7
125	36.1
160	34.3
200	41.4
250	45.4
315	46.7
400	50.6
500	50.3
600	52.2
800	53.3
1000	53.3
1250	52.2
1600	53.5
2000	47.7
2500	48.6
3150	48.6
4000	50.8
5000	49.6
AAD-	30.0

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	BVS - Balanced Verticle Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	6.4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	51dB

Test Report Ref. No: MTZ/F12024/P002

Date of Test: 31st October 2012

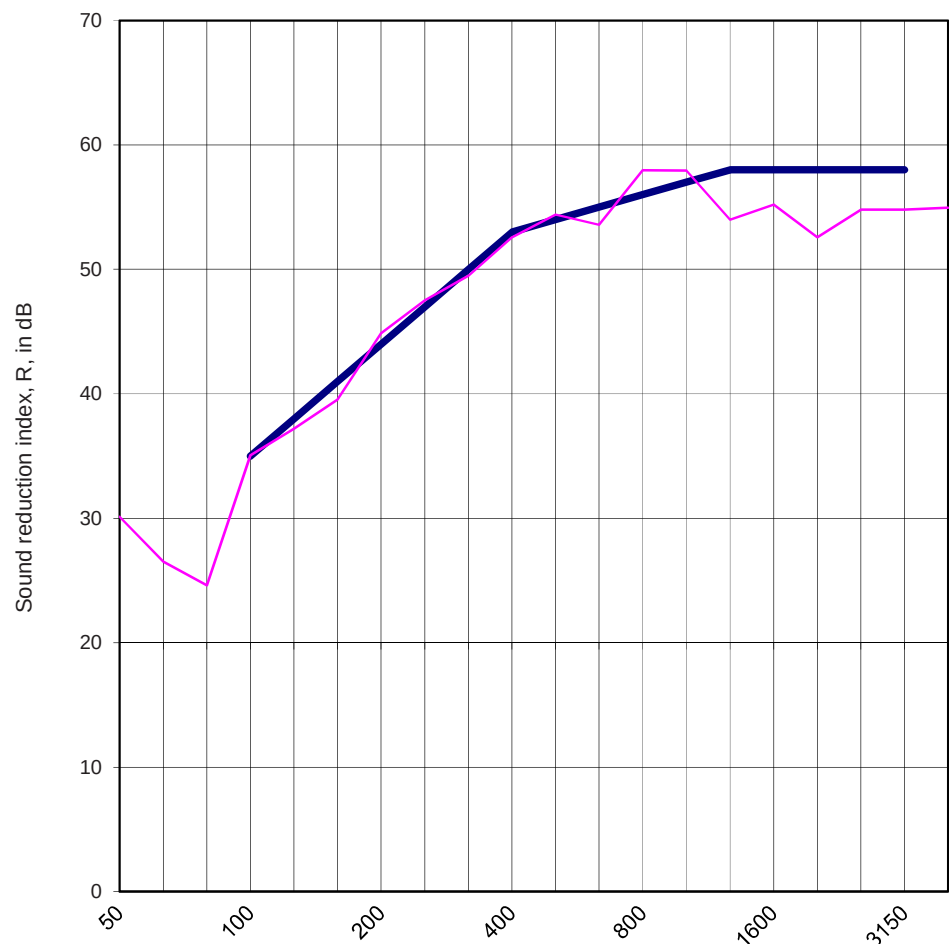
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	30.1
63 ⁺	26.5
80 ⁺	24.6
100	35.1
125	37.2
160	39.5
200	44.9
250	47.5
315	49.5
400	52.6
500	54.4
600	53.6
800	58.0
1000	57.9
1250	54.0
1600	55.2
2000	52.6
2500	54.8
3150	54.8
4000	54.9
5000	50.8
AAD-	23.2

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HHU - Heritage Hinged Unit
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	50dB

Test Report Ref. No: MTZ/F12029/03/P019

Date of Test: 29th November 2012

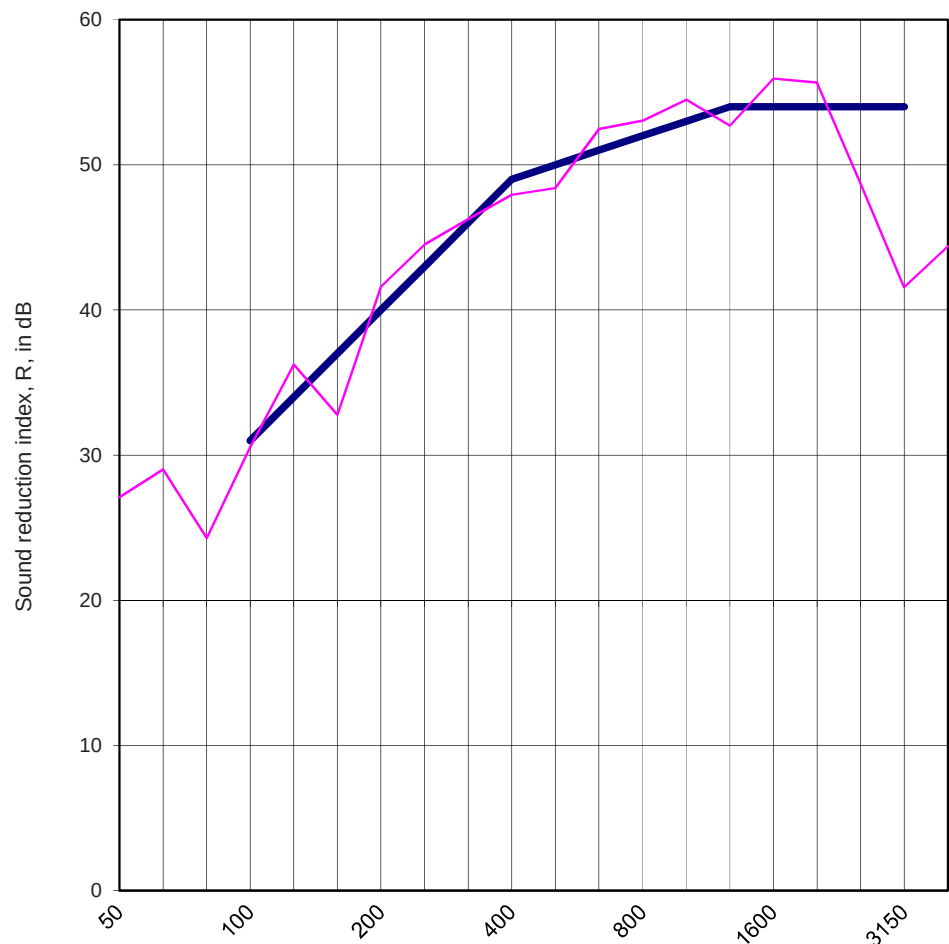
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	27.1
63 ⁺	29.0
80 ⁺	24.3
100	30.6
125	36.2
160	32.8
200	41.6
250	44.5
315	46.3
400	47.9
500	48.4
600	52.5
800	53.0
1000	54.5
1250	52.7
1600	55.9
2000	55.7
2500	48.7
3150	41.6
4000	44.4
5000	48.0
AAD-	26.3

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HHU - Heritage Hinged Unit
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	52dB

Test Report Ref. No: MTZ/F12029/03/P021

Date of Test: 29th November 2012

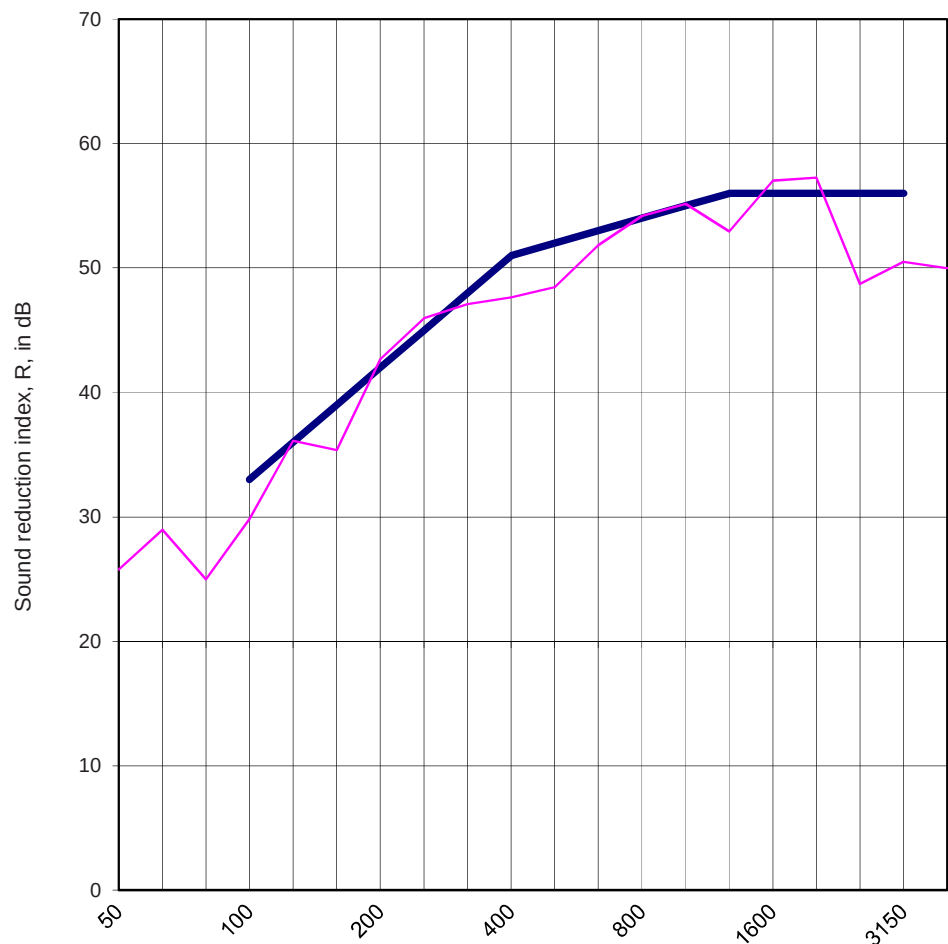
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	25.8
63 ⁺	29.0
80 ⁺	25.0
100	29.8
125	36.1
160	35.4
200	42.7
250	46.0
315	47.1
400	47.7
500	48.5
600	51.8
800	54.2
1000	55.2
1250	52.9
1600	57.0
2000	57.3
2500	48.7
3150	50.5
4000	50.0
5000	49.5
AAD-	31.6

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HHU - Heritage Hinged Unit
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	52dB

Test Report Ref. No: MTZ/F12029/03/P013

Date of Test: 29th November 2012

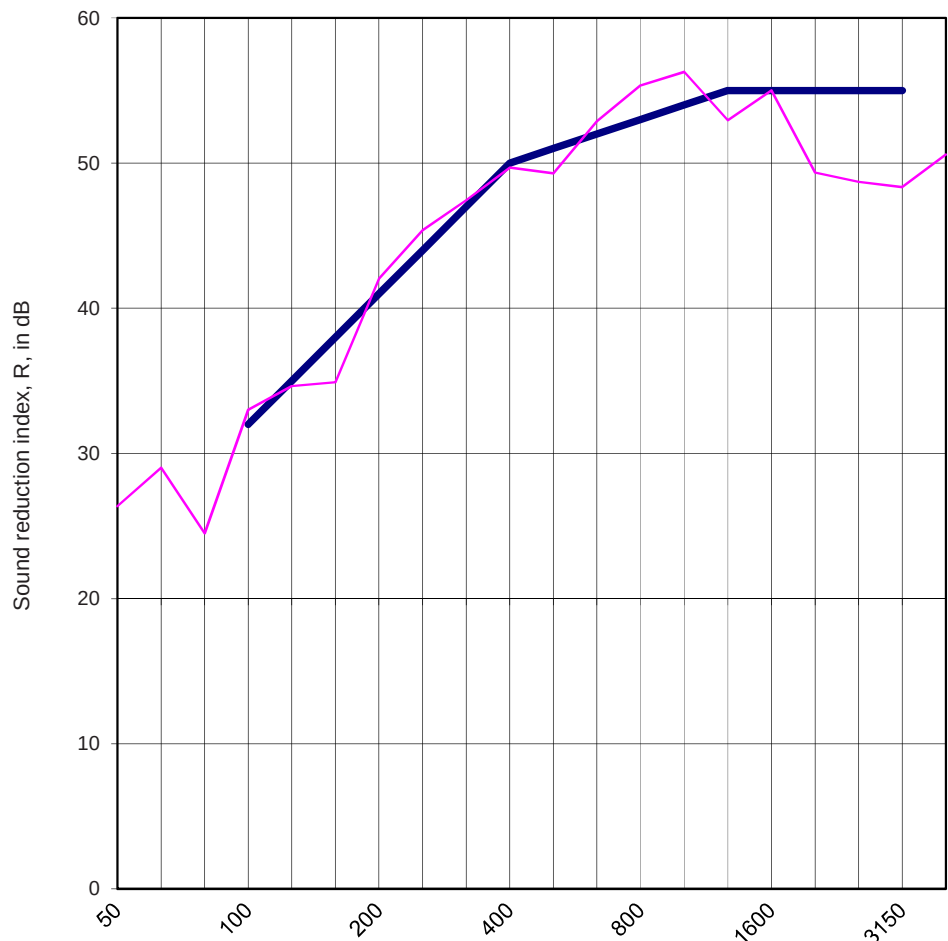
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	26.4
63 ⁺	29.0
80 ⁺	24.5
100	33.0
125	34.6
160	34.9
200	42.0
250	45.4
315	47.4
400	49.7
500	49.3
600	52.9
800	55.3
1000	56.3
1250	53.0
1600	55.0
2000	49.3
2500	48.7
3150	48.3
4000	50.6
5000	49.9
AAD-	26.1

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HHU - Heritage Hinged Unit
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	53dB

Test Report Ref. No: MTZ/F12029/03/P014

Date of Test: 29th November 2012

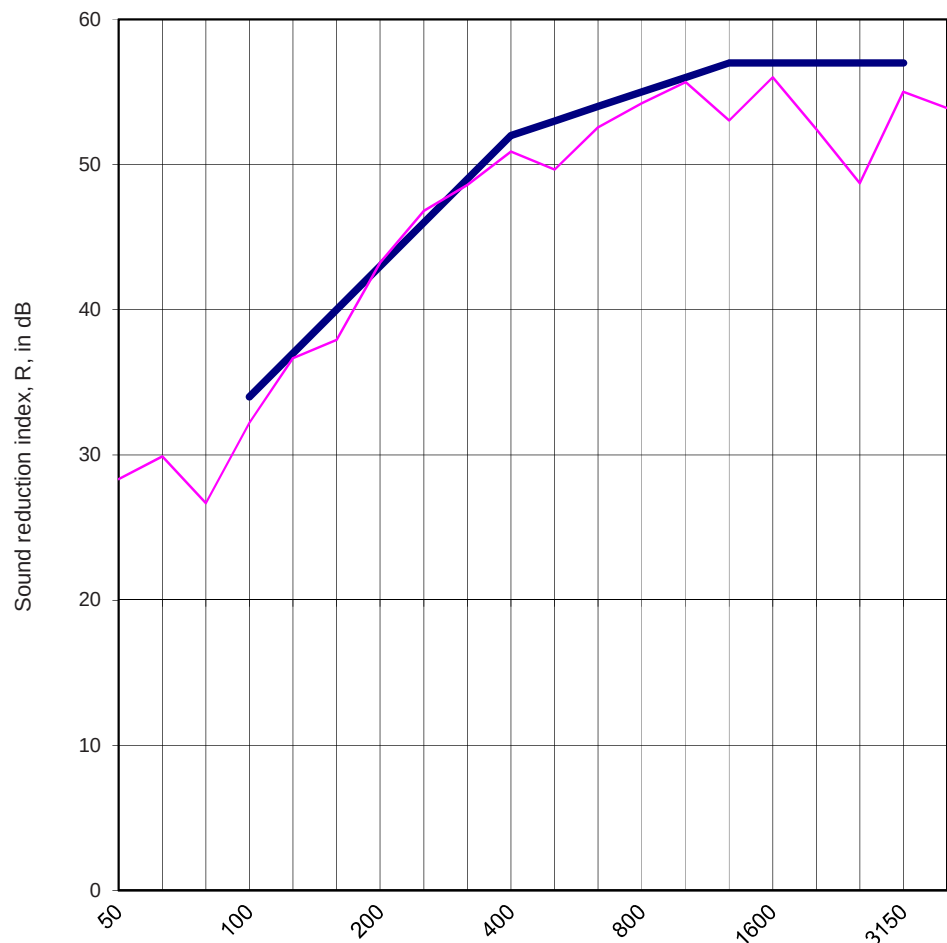
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	28.3
63 ⁺	29.9
80 ⁺	26.7
100	32.2
125	36.7
160	37.9
200	43.2
250	46.8
315	48.6
400	50.9
500	49.7
600	52.6
800	54.2
1000	55.7
1250	53.0
1600	56.0
2000	52.4
2500	48.7
3150	55.0
4000	53.9
5000	50.0
AAD-	31.4

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HTBVS - Heritage Tilt In Balanced Verticle Slider
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	47dB

Test Report Ref. No: MTZ/F12029/04/P023

Date of Test: 30th November 2012

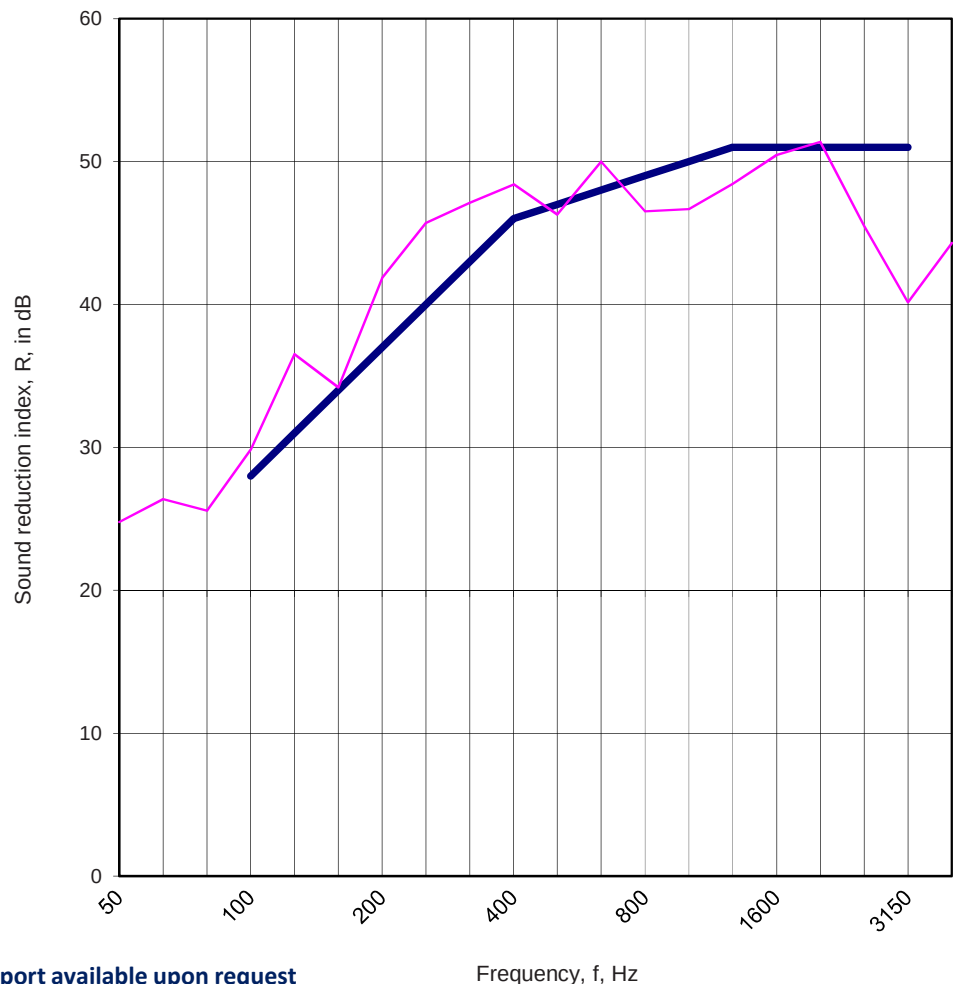
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	24.8
63 ⁺	26.4
80 ⁺	25.6
100	29.8
125	36.5
160	34.2
200	41.9
250	45.7
315	47.1
400	48.4
500	46.3
600	50.0
800	46.5
1000	46.7
1250	48.4
1600	50.5
2000	51.4
2500	45.5
3150	40.2
4000	44.3
5000	47.7
AAD-	25.9

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HTBVS - Heritage Tilt In Balanced Verticle Slider
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	48dB

Test Report Ref. No: MTZ/F12029/04/P025

Date of Test: 30th November 2012

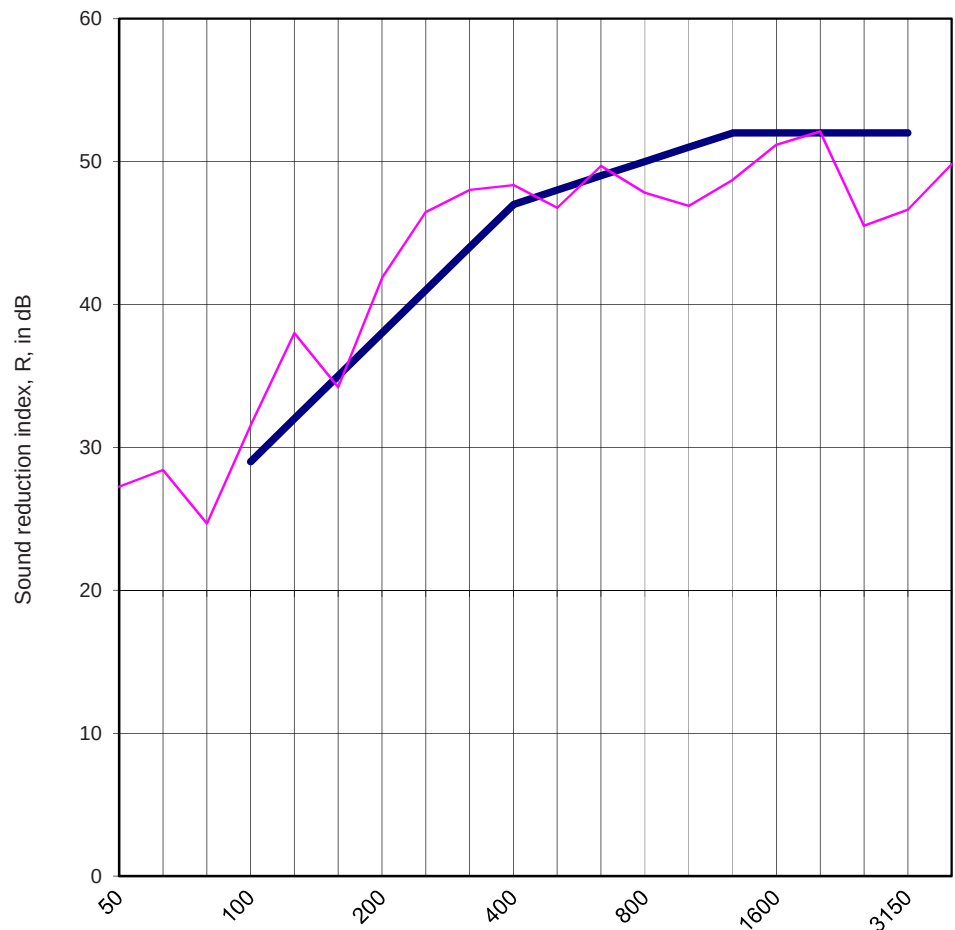
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	27.3
63 ⁺	28.4
80 ⁺	24.7
100	31.5
125	38.0
160	34.2
200	41.9
250	46.5
315	48.0
400	48.4
500	46.8
600	49.7
800	47.8
1000	46.9
1250	48.7
1600	51.2
2000	52.1
2500	45.5
3150	46.6
4000	49.8
5000	49.4
AAD-	24.3

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HTBVS - Heritage Tilt In Balanced Verticle Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	48dB

Report Ref. No: MTZ/F12029/04/P029

Date of Test: 30th November 2012

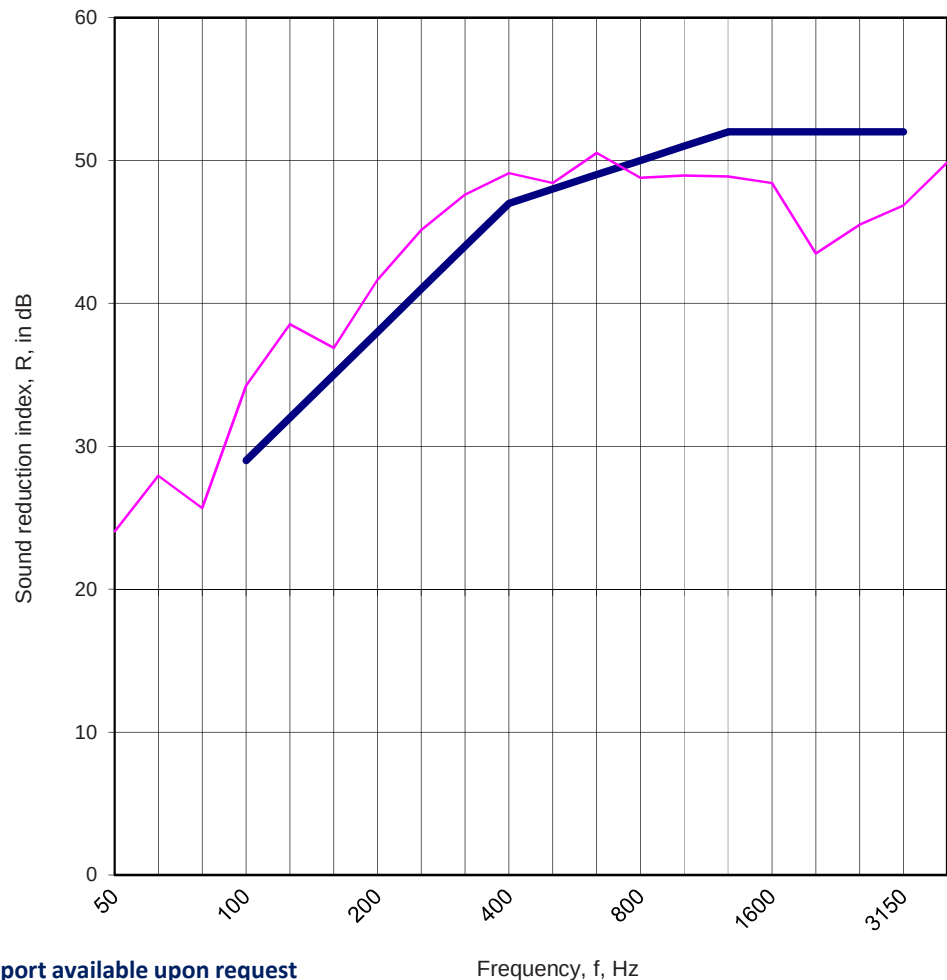
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	24.0
63 ⁺	28.0
80 ⁺	25.7
100	34.3
125	38.5
160	36.9
200	41.7
250	45.1
315	47.6
400	49.1
500	48.4
600	50.5
800	48.8
1000	49.0
1250	48.9
1600	48.4
2000	43.5
2500	45.5
3150	46.9
4000	49.8
5000	49.0
AAD-	30.1

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	HTBVS - Heritage Tilt In Balanced Verticle Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	50dB

Report Ref. No: MTZ/F12029/04/P028

Date of Test: 30th November 2012

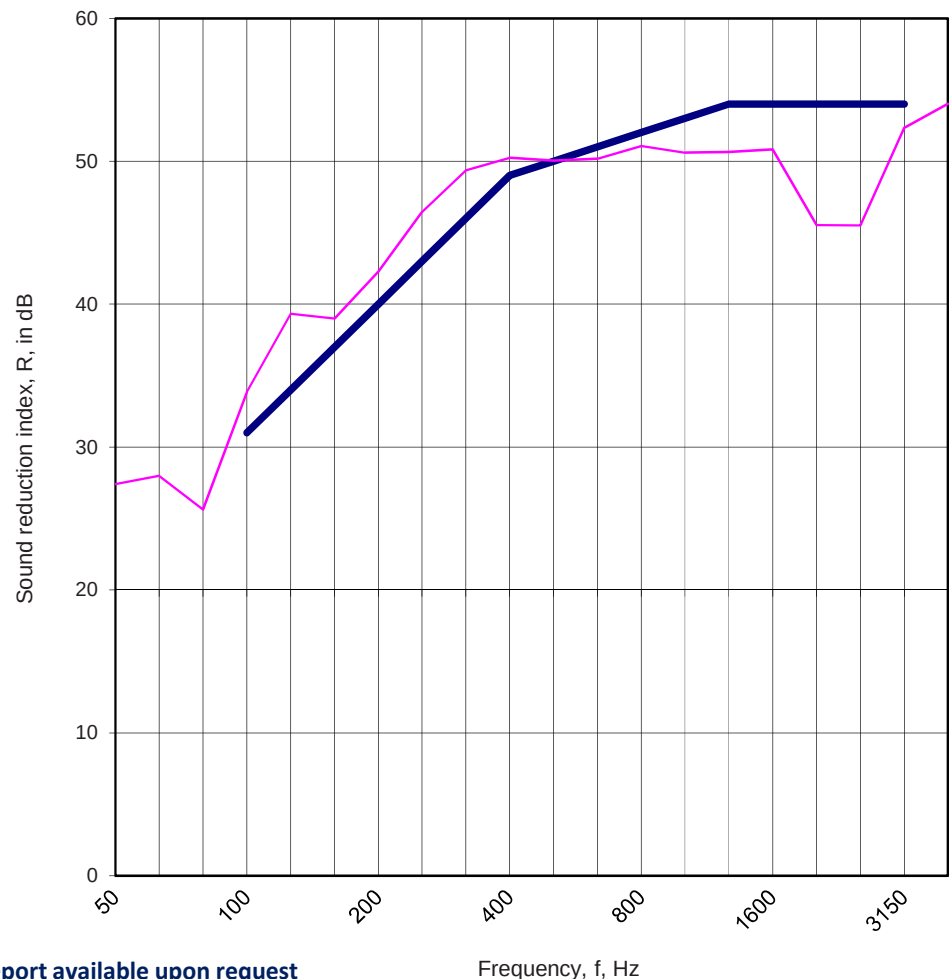
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	27.4
63 ⁺	28.0
80 ⁺	25.6
100	33.9
125	39.3
160	39.0
200	42.3
250	46.4
315	49.4
400	50.2
500	50.0
600	50.2
800	51.1
1000	50.6
1250	50.6
1600	50.8
2000	45.5
2500	45.5
3150	52.3
4000	54.0
5000	49.8
AAD-	29.3

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	SS2 - 2 Panel Horizontal Slider
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	49dB

Test Report Ref. No: MTZ/F12029/01/P008

Date of Test: 29th November 2012

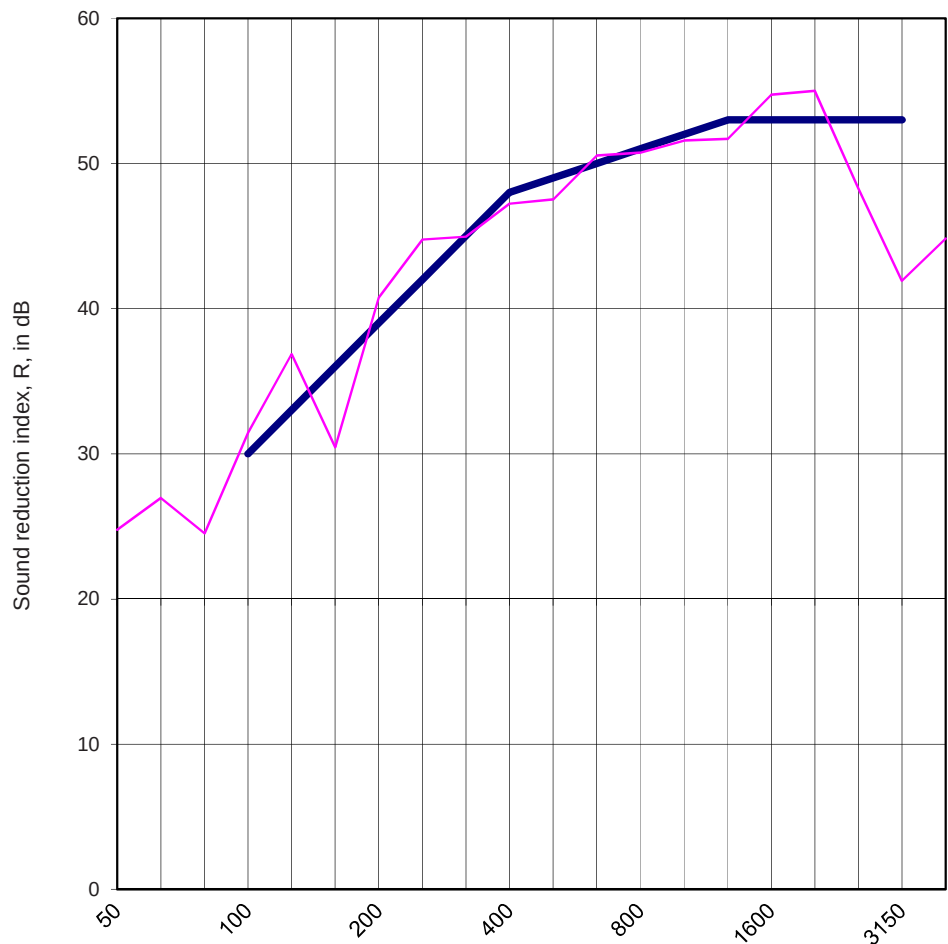
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	24.8
63 ⁺	27.0
80 ⁺	24.5
100	31.5
125	36.9
160	30.4
200	40.8
250	44.8
315	45.0
400	47.2
500	47.5
600	50.6
800	50.7
1000	51.6
1250	51.7
1600	54.7
2000	55.0
2500	48.3
3150	41.9
4000	44.8
5000	48.1
AAD-	25.6

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	SS2 - 2 Panel Horizontal Slider
Primary Window Glass	4mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	51dB

Test Report Ref. No: MTZ/F12029/01/P007

Date of Test: 29th November 2012

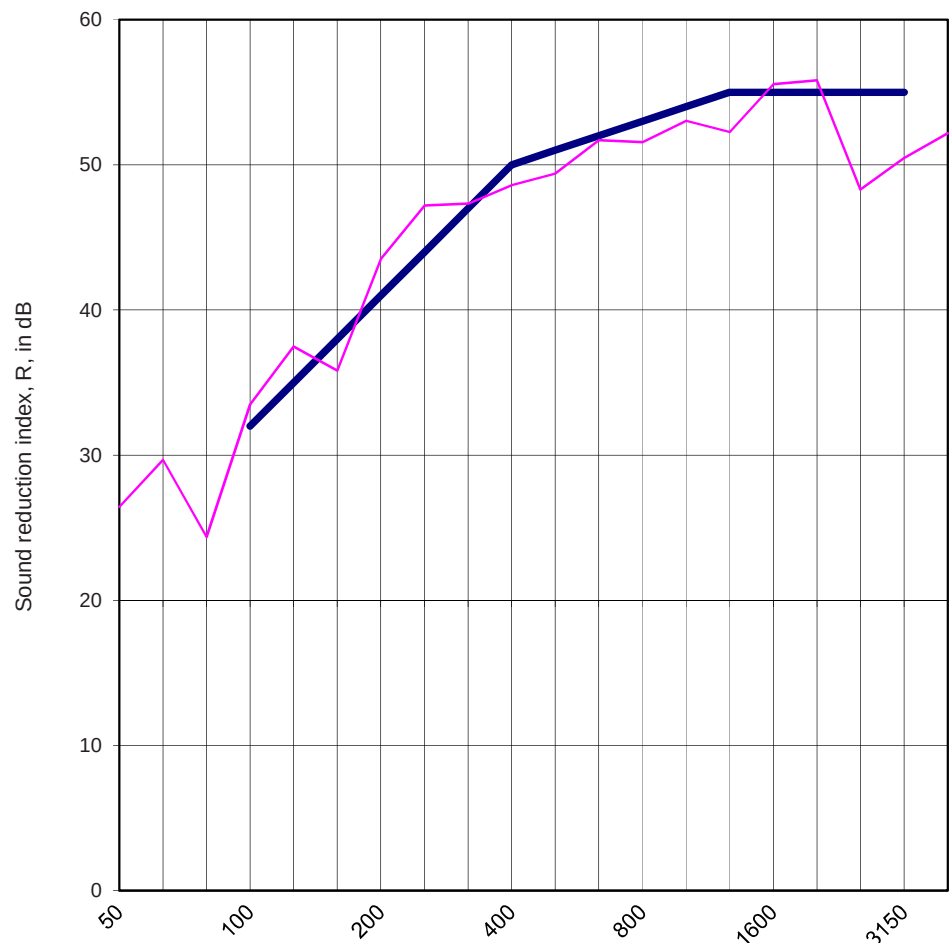
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	26.4
63 ⁺	29.7
80 ⁺	24.4
100	33.5
125	37.5
160	35.8
200	43.5
250	47.2
315	47.3
400	48.6
500	49.4
600	51.7
800	51.6
1000	53.0
1250	52.3
1600	55.6
2000	55.8
2500	48.3
3150	50.4
4000	52.2
5000	49.9
AAD-	21.9

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

⁺ indicates that the frequency was tested outside of UKAS accreditation and is for information only

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Sound Performance Test Results

Window Type	SS2 - 2 Panel Horizontal Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	150mm
Sound Reduction Rw	51 dB

Test Report Ref. No: MTZ/F12029/01/P030

Date of Test: 30th November 2012

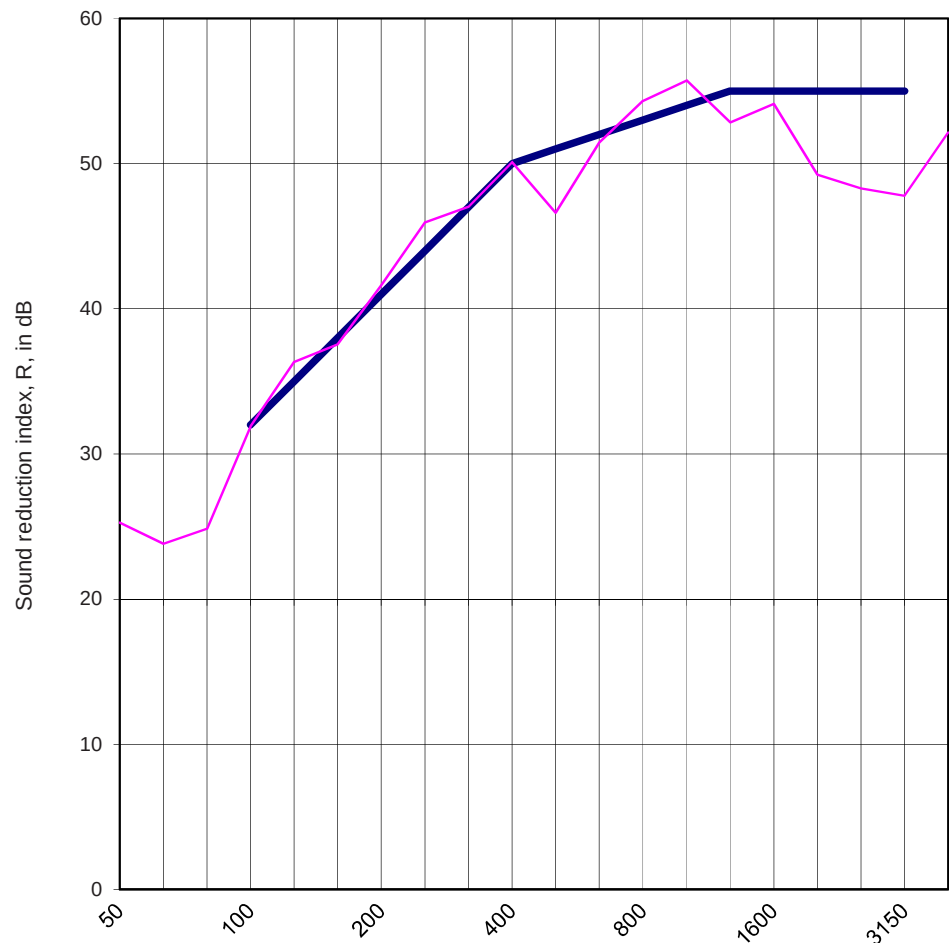
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	25.3
63 ⁺	23.8
80 ⁺	24.8
100	31.9
125	36.3
160	37.5
200	41.6
250	45.9
315	47.0
400	50.1
500	46.6
600	51.5
800	54.3
1000	55.7
1250	52.8
1600	54.1
2000	49.2
2500	48.3
3150	47.8
4000	52.1
5000	49.8
AAD-	28.2

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

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Sound Performance Test Results

Window Type	SS2 - 2 Panel Horizontal Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	4mm Float Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	51dB

Test Report Ref. No: MTZ/F12029/01/P001

Date of Test: 29th November 2012

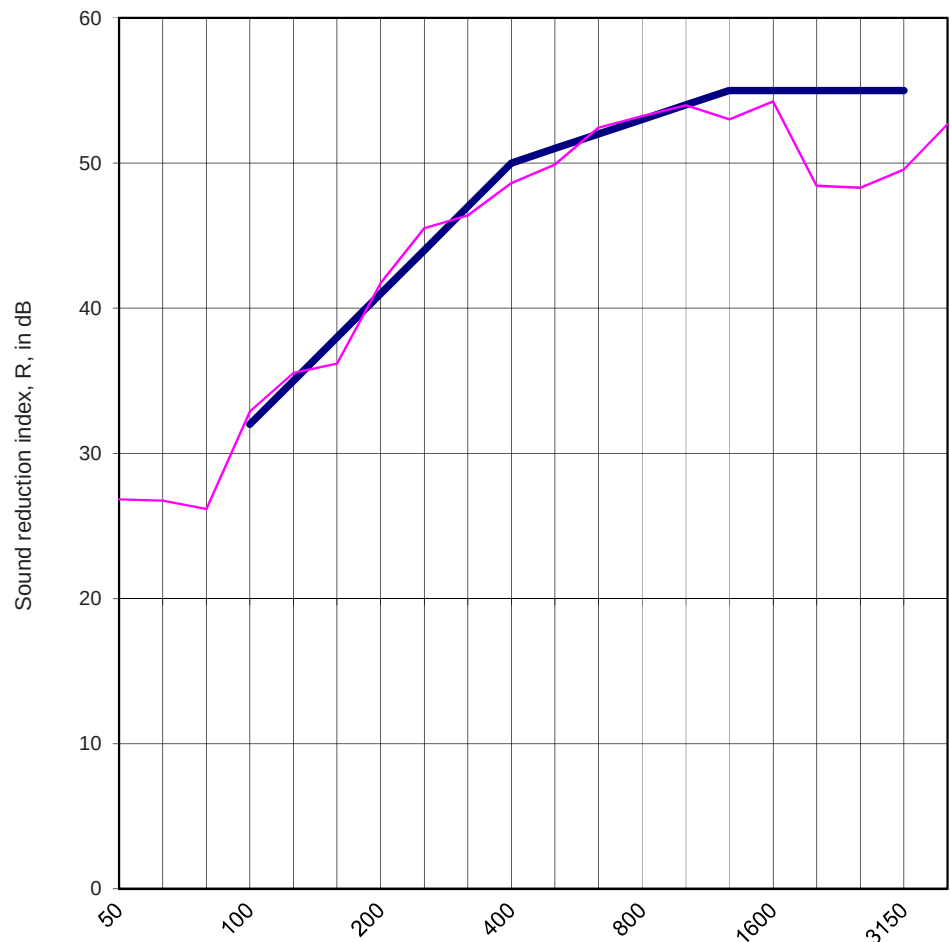
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	26.8
63 ⁺	26.7
80 ⁺	26.2
100	32.9
125	35.5
160	36.2
200	41.7
250	45.5
315	46.4
400	48.6
500	49.9
600	52.4
800	53.2
1000	54.0
1250	53.0
1600	54.2
2000	48.4
2500	48.3
3150	49.6
4000	52.7
5000	50.6
AAD-	26.4

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

⁺ indicates that the frequency was tested outside of UKAS accreditation and is for information only

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Sound Performance Test Results

Window Type	SS2 - 2 Panel Horizontal Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	150mm
Sound Reduction Rw	52dB

Test Report Ref. No: MTZ/F12029/01/P031

Date of Test: 30th November 2012

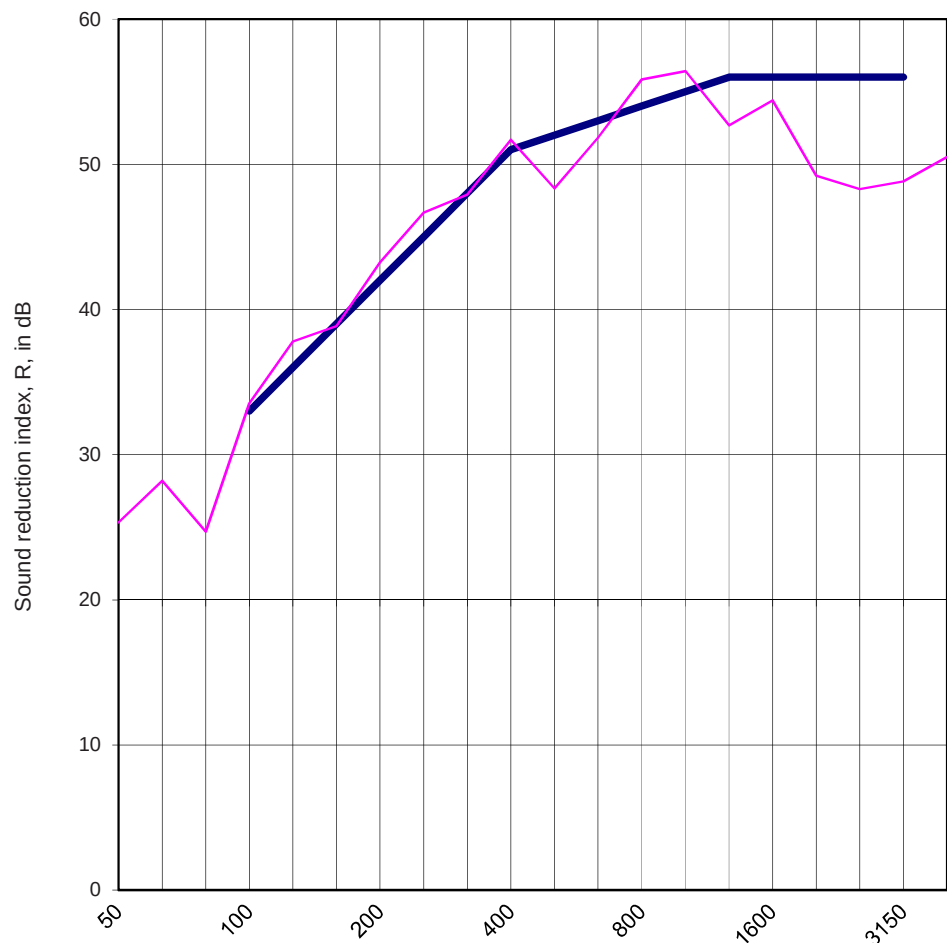
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	25.3
63 ⁺	28.2
80 ⁺	24.7
100	33.5
125	37.8
160	38.9
200	43.2
250	46.7
315	47.9
400	51.7
500	48.3
600	51.9
800	55.8
1000	56.4
1250	52.7
1600	54.4
2000	49.2
2500	48.3
3150	48.8
4000	50.5
5000	49.3
AAD-	31.6

Frequency range for rating in accordance with ISO 717-1



Complete UKAS accredited test report available upon request

Frequency, f, Hz

— Rating Curve (ISO 717-1)

— Sound Reduction Index, R, in dB

* indicates that the frequency was tested outside of UKAS accreditation and is for information only

Granada Glazing Limited, Campbell Way, Dinnington, Sheffield, S25 3QD

Tel: 01909 499850 Fax: 01909 499903 Email: enquiries@granadaglazing.com Web: www.grnadaglazing.com

Registered in England and Wales Reg. No. 8720307 VAT Reg. No. 171 7461 05

Sound Performance Test Results

Window Type	SS2 - 2 Panel Horizontal Slider
Primary Window Glass	6mm Float Glass
Secondary Glazing Glass	6.4mm Stadip Silence Glass
Glass to Glass Cavity	200mm
Sound Reduction Rw	52dB

Test Report Ref. No: MTZ/F12029/01/P002

Date of Test: 29th November 2012

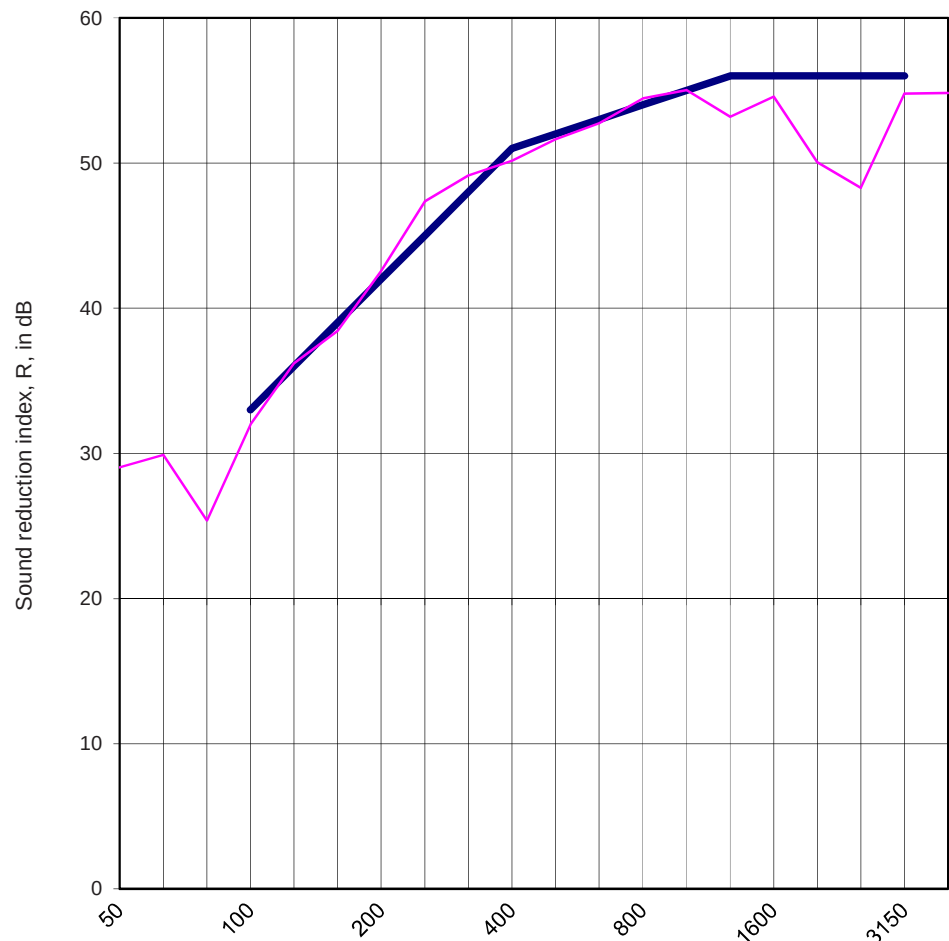
Tested by



Laboratory measurement to
BS ISO EN 10140-2:2010
Airborne Sound Insulation of
Building Elements

f, Hz	R, dB
50 ⁺	29.0
63 ⁺	29.9
80 ⁺	25.4
100	32.0
125	36.2
160	38.4
200	42.6
250	47.4
315	49.1
400	50.2
500	51.6
600	52.8
800	54.4
1000	55.0
1250	53.2
1600	54.6
2000	50.1
2500	48.3
3150	54.8
4000	54.8
5000	50.9
AAD-	22.1

Frequency range for rating in accordance with ISO 717-1



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Frequency, f, Hz

— Rating Curve (ISO 717-1)

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Acoustics

Recommended noise levels in a residential property

- Bedroom: 30db
- Living Room: 35db

Single Glazed windows typically perform between 28-30db Solid stone walls typically perform around 40db. Brick and Block 2 inch cavity walls (new build) typically perform around 50db. On the rare occasion a customer is dis-satisfied with the performance of the Secondary Glazing it may be that the noise reduction is affected by the walls as the noise performance is only as good as the weakest point in the room.

Prior to the installation of the secondary glazing the primary window may have performed at 28db and the walls may have performed at 40db. The householder will distinguish the window as being the problem area as this is the weakest point. After installation the walls will still perform at the same level but dependant on which glass and style of secondary it will be at a higher Db level than the walls but the householder will still hear the noise the wall let through but there perception will be the window is not performing.

Soft furnishing will aid noise reduction by absorbing the noise energy inside the room.

Rw dB values for Granada Secondary Glazing								
200mm Glass to Glass								
Secondary Glazing	Primary Window with 4mm Float Glass				Primary Window with 6mm Float Glass			
	SS2	HHU	BVS	HTBVS	SS2	HHU	BVS	HTBVS
4mm Float	49	50	49	47	51	51	51	48
6mm Float	50*	51*	51*	47*	51*	52*	52*	48*
6.4mm Stadip Silence	51	52	53	48	52	53	54	50
8.8mm Stadip Silence	N/A	52*	52*	48	N/A	53*	53*	49
10.8mm Stadip Silence	N/A	53	N/A	N/A	N/A	54	N/A	N/A
4/12/6.4mm Sealed Unit	N/A	53	N/A	N/A	N/A	53	N/A	N/A
150mm Glass to Glass								
4mm Float	48*	48*	47*	46*	51	50*	50*	47*
6mm Float	49*	49*	48*	46*	51*	50*	50*	47*
6.4mm Stadip Silence	50*	50*	49*	47*	52	51*	52*	48*
8.8mm Stadip Silence	N/A	50*	N/A	47*	N/A	51*	N/A	48*
10.8mm Stadip Silence	N/A	51*	N/A	N/A	N/A	52*	N/A	N/A
4/12/6.4mm Sealed Unit	N/A	51*	N/A	N/A	N/A	52*	N/A	N/A

* Sound reduction figures predicted by Chiltern Dynamics using the basis of actual laboratory test results. Sound Reduction (Rw) measured in dB.

KEY: SS2 - 2 Pane Horizontal Slider, HHU - Side Hung Unit,
BVS - Balanced Verticle Slider, HTBVS - Heritage Tilt-In Balanced Verticle Slider

Acoustics

How do we measure sound?

Sound energy travels in waves and is measured in frequency and amplitude. Amplitude measures how forceful the wave is. It is measured in decibels or dBA of sound pressure. 3 dBA is the softest level that a person can hear. Normal speaking voices are around 65 dBA. A rock concert can be about 120 dBA.

Frequency is measured in the number of sound vibrations in one second. A healthy ear can hear sounds of very low frequency, 20 Hertz (or 20 cycles per second), to a very high frequency of 20,000 Hertz. The lowest A key on the piano is 27 Hertz. The middle C key on a piano creates a 262 Hertz tone. The highest key on the piano is 4186 Hertz.

Decibel reduction is measured over four stages where all four stages are important to ensure the window performs well.

Cavity - The larger the cavity the better as noise passes through solid objects quite easily but when a cavity is introduced the noise passing through changes from noise energy to heat energy as it goes from solid object to air.

Stiffness - The stiffness of the product the noise is passing through is also important as the more flexible it is the more energy it will absorb thus reducing the noise.

Mass - The higher the mass of the product the noise is passing through is beneficial, the thicker the glass the better. Please bear in mind this offsets the stiffness factor as more mass in the glass is likely to be stiffer so this could be detrimental to energy absorption.

Air Leakage - If the seal/woolpile etc. are not effective this will have a negative effect on the overall results.

Glass Thickness

Conflicting thickness of glass is very important because if you have two pieces of glass the same thickness this will cause a coincidence drop as the levels of noise will pass through exactly the same therefore you always require a conflicting thickness of glass in the secondary to the primary window to ensure the coincidence drop does not occur. If the above rules are adhered to the customer can expect a high noise reduction dependant of type of glass used.

How noise is perceived by the human ear

The human ear does not register low frequency noise but responds very well at high frequency i.e. baby crying or phone ringing 3db is the lowest frequency the human ear can distinguish. An additional 5db is perceived as a clearly noticeable difference. An additional 10db difference is the human ear perception of doubling the noise.

Examples of external noise levels

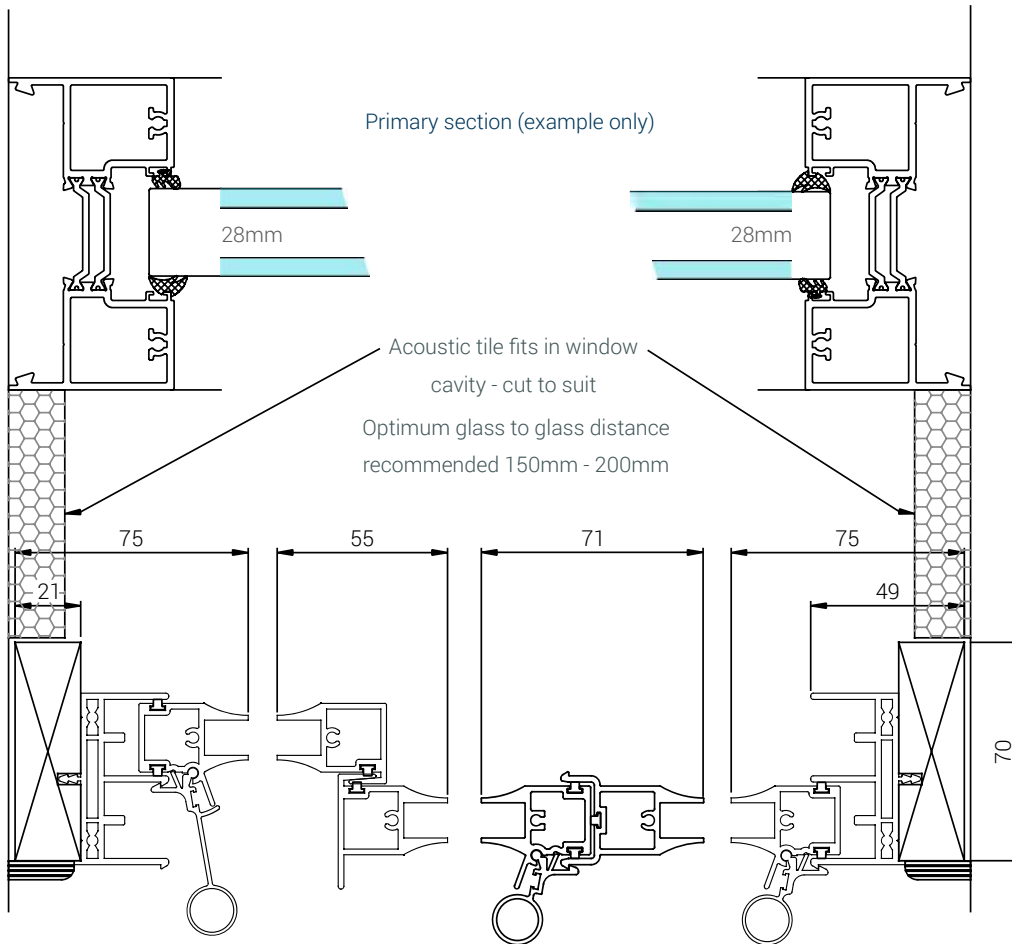
- Nightclub noise levels approx. 120db
- Road Traffic noise levels during the day (B Road) 80-85db
- Road Traffic noise levels during the night (B Road) 70-75db
- Road Traffic noise levels city centre 90db

Acoustic Tiles

Acoustic tiles are used to further enhance the secondary glazing by lining the window reveals and head.

The acoustic tile is sold in sizes of 600mm x 1,200mm and can be cut to size by the customer to fit the reveals it is not usually applied to the cill of the window. The acoustic tile is similar to a ceiling tile you frequently see in offices.

The sound reduction the tile offers is 33db and the sound absorption is 0.85. Sound reduction is the level of noise blocked or contained by a product. Sound absorption is the level of noise/echo absorbed by a product. The sound reduction figure is what is important to our customers.



Condensation

Air contains varying amounts of water vapour, warm air holds more water as vapour than cold air. If warm air is cooled by a cold surface like a window pane it will not hold the same amount of water vapour, therefore the water turns into droplets of liquid and collects on the cold surface as condensation.

How to reduce condensation using secondary glazing against single glazed primary windows

The seal on the Secondary frame and the sealing of the glass to the frame is as air tight as possible.

The primary window does not require draught proofing or sealing doing so will cause a condensation trap within the cavity.

How to reduce condensation using secondary glazing against double glazed primary windows

When the existing glazing is double glazed or very well sealed it is important to remove excess moisture from the cavity by use of a trickle vent.

Fitting a trickle vent into the secondary glazing avoids the cavity becoming a condensation trap.

Secondary Glazing assists by providing the following to combat condensation:

- Allows balanced, low level ventilation within the window reveal cavities
- Stops the inner glass from becoming too cold
- Prevents condensation forming on both the primary & secondary windows

Trickle Vents

A Trickle Vent allows air to trickle into a room at a reasonable rate to naturally ventilate the room and ensures that the occupant does not feel a cold draught, the window security will not be compromised.

Granada are able to install trickle vents through the subframe at the top, bottom or either side of the units.

When installing the subframe needs to be increased to 42mm deep and is routed out to accept the vent, a trim is also supplied to fit around the vent creating a neat finish. On the Heritage Hinged Unit range the Trickle Vent is installed through the aluminium outerframe so no additional timber is required.

Trickle vents are supplied in two parts which are fitted to the front and back of subframe due to the back part of the vent protruding the customer needs advising they are unable to face fix the window.

Requirement & Regulations

Part F of building regulations dictates the following requirements:

England & Wales

Living room/Bedroom – 5000mm²

Bathroom/Kitchen – 2500mm²

Scotland

Apartment – 12000mm²

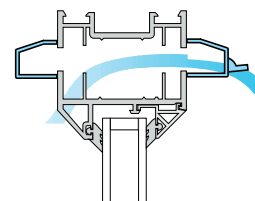
Bathroom – 10000mm²



Although there is no specific legislation in regards to trickle ventilation and secondary glazing it is 'good practice' to install a trickle vent into the secondary if there is one in the primary window and if the secondary glazing is being installed into older properties where a 'leaky' primary window or a badly sealed window would have provided some natural ventilation then installing a very well-sealed secondary would effectively block the air flow into the room and possibly cause condensation so again it would be 'good practice' to install a trickle vent to allow a free flow of air into the room.

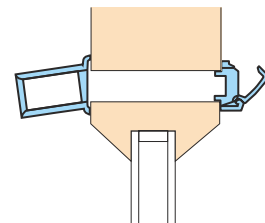
Standard Trickle Vent

- Granada currently supply the Greenwood S Vent 4000s
- Equivalent Area coverage: 3200mm²
- Dimension: 400mm x 22mm x 23mm
- Acoustic Attenuation in open position: 33db



Acoustic Trickle Vent

- Granada currently supply the Greenwood DN Vent
- Free Area coverage: 1600MM²
- Dimension: Internal: 202mm x 22mm x 11mm
- External: 278mm x 22mm x 38mm
- Acoustic Attenuation: 37.7db



Trickle Ventilators can also be used to combat condensation by allowing a free flow of air from the outside through the primary window and out the secondary glazing thus stopping any build-up of warm vapour heavy air in the cavity.

Flyscreen

Flyscreen is available in the following units:

Standard Range

- Insert (all varieties)
- Slimline Lift Out
- Lift Out
- Horizontal Slider
- Vertical Slider

Heritage Range

- Hinged Unit
- Hinged Unit (Tilt & Turn)

Please note: The flyscreen material replaces the glass it isn't in conjunction with the glass.

Please note: The flyscreen material is only available in grey please make sure the customer is aware of this prior to quote/order.

Please note: The flyscreen material is NOT a midge mesh if the customer specifies a particular specification please ensure this is cross checked against our material.



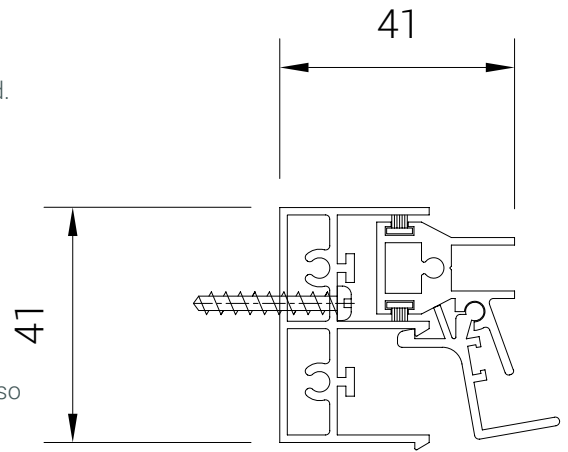
Subframe

As standard all our units apart from the insert are supplied with a factory fitted.

subframe the following sizes are available:

45mm x 21mm 62mm x 21mm 70mm x 21mm
45mm x 30mm 62mm x 30mm 70mm x 30mm
45mm x 42mm 62mm x 42mm 70mm x 42mm

These are both pre-drilled and countersunk for Face or Reveal fixing we can also supply the timber with no pre-drilled fixing holes at all.



No Subframe

Some units are available without any timber subframe at all to reduce the sightlines even further, the following units are available in this option:

Standard Range

- Lift Out (Standard and Slimline)
- Horizontal Slider (All varieties)

Heritage Range

- Lift Out
- Horizontal Slider (All varieties)
- Hinged Unit (If no subframe is required only invis hinges are available which restrict the opening to less than 90 degrees and an additional cost may be applicable)

Please note: If a window is supplied without a subframe the customer can ONLY fix into the reveal.

Trims

All our units apart from the insert are supplied with a 27mm SBN PVC trim which are cut in lengths approx. 100mm larger than length and widths as standard this is supplied separately and the customer applies them to the face of the timber once the unit has been installed.

The Insert does not have a timber subframe therefore does not require a trim. We are able to supply additional trims in varying sizes should the customer require this the following are available from stock:

All the trims are SBN (Single Bull Nose) this means one side has a curved edge.

On occasion a DBN (Double Bull Nose) may be required this has curved edge both sides.

PVC

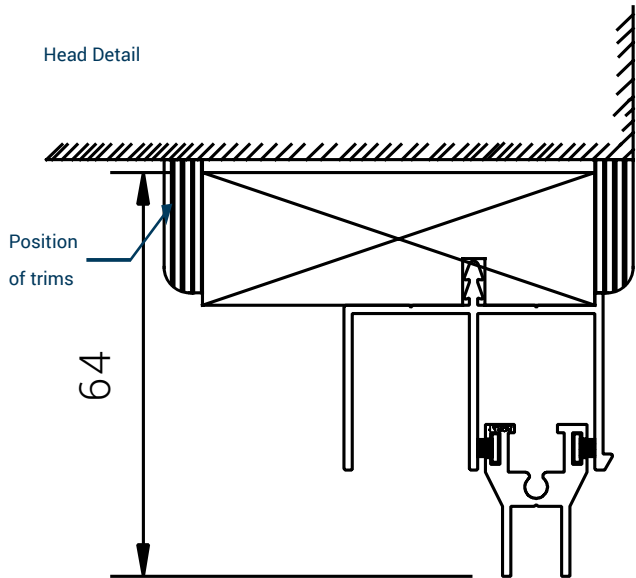
- 6mm x 21mm SBN
- 6mm x 27mm SBN
- 6mm x 45mm SBN
- 6mm x 65mm SBN
- 6mm x 95mm SBN

Painted Timber

- 6mm x 27mm SBN
- 6mm x 40mm SBN
- 6mm x 60mm SBN
- 6mm x 90mm SBN

Larger trims are usually required to finish off windows where the reveals are not square or if the reveals are splayed.

If the back of the secondary unit will be visible the customer may require trims to cover the back of the subframe.



Arches, Circles and Shapes

Arched Windows

Every style of secondary in our range can be arched apart from the horizontal sliders.

Please note: Should a customer require a horizontal slider to be installed into an arched opening an arched lift out would be stacked on top of the horizontal unit.

Please note: Should a customer require a Tilt In Balanced Vertical Slider the top panel will always be fixed for health and safety, customer will need to be made aware of this prior to quote/order.

Please note: The outer frame section on an arched lift out is NOT the same section used for a standard square unit, the panel is held in place by turnbuttons the customer will need to be made aware of this prior to quote/order.

Please note: The handle on a Circular or full semi-circle Heritage Hinged Unit is a finger pull not a espag handle this is because the internal gearing used cannot be bent.

There are three types of arch we can produce:

- True Arch this is a symmetrical arch so the radius is the same all round
- Non True Arch is an arch with varying radius
- Gothic True Arch is a symmetrical gothic shaped arch, the shape of an gothic arch goes into a point at the top

If the arch is not a true arch we require a template or detailed drawing to be able to quote or manufacture accurately.

The timber sub frame is also arched as are the trims to be able to create a neat finish to the installed unit.

The trims for the arch are only available in MDF material, the customer needs to be made aware of this prior to quote or order especially if order is made up of several units as PVC trims will be standard on square units so option of timber needs to be made available to customer so windows look uniform.

Circular Windows

Only Insert, Lift Out and Heritage Hinged Units can be manufactured as circles

Please note: Should a customer require a circular Heritage Hinged Unit this will split into two sections and hinged at the centre line with finger pull to open the frames (see sectional detail).

Please note: The outer frame section on a circular lift out is NOT the same section used for a standard square unit, customer will need to be made aware of this prior to quote/order.

The timber sub frame on the Lift Out and Heritage Hinged Unit is also circular as are the trims to create a neat finish to the installed unit.

The trims for the circular units are only available in MDF material, the customer needs to be made aware of this prior to quote or order especially if order is made up of several units as PVC trims will be standard on square units so option of timber needs to be made available to customer so windows look uniform.



Arches, Circles and Shapes

Shaped Windows

Some styles of secondary in our range can be shaped. Shaped Units usually are diamond, triangle or units with corners notched out and this can be applied to the following style of secondary:

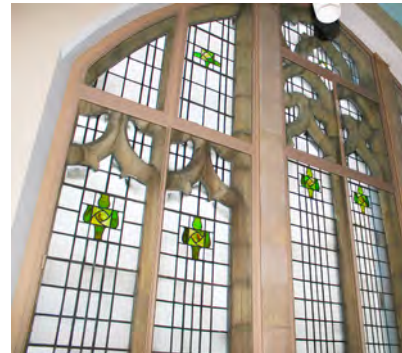
- Inserts; and
- Lift Outs.

Comprehensive drawing or a template would need to be provided prior to quote/order.

Raked Windows

Every style of secondary apart from the horizontal sliders can have a raked head, bottom or both applied. Raked is a term used to describe a window which has one side longer than the other.

Please note: Should a customer require a Tilt In Balanced Vertical Slider the top panel will always be fixed for health and safety, customer will need to be made aware of this prior to quote/order.



Coupling and Stacking Units

When large areas of glazing are required to be treated by secondary glazing due to limitations on size and weight we are able to offer the customer an option to couple and stack units together.

Every unit apart from insert and slim line lift outs can be coupled or stacked either using a heavy duty frame coupling section or timber to timber.

Coupling

When coupling units using an aluminium coupling section this is a finished product and requires no further parts, the timber is removed at the point of the join and the interlock section replaces the timber.

When coupling using the timber sub frames this basically is two units butted together and a 38mm aluminium bar to cover the join.

Slim line Lift Out can only be coupled using the timber and 38mm Flat Aluminium bar to finish this is due to the outer frame only being 20mm single track rather than the 40mm double track.

Inserts cannot be coupled.

Stacking

When stacking horizontal sliding units using an aluminium coupling section you must include for a support bar this prevents any 'sagging' in the units and is located behind the mullions.

Sagging will occur due to the weight of the top unit transferring down through the mullions onto the bottom unit the support bar will brace the overall unit.

When the support is used it requires a 70mm sub frame to accommodate the support bar the support bar is fixed through into the interlock section using a bolt.

Support bar measurements is 25mm x 25mm.

All other units can be stacked using just the aluminium coupling section or timber to timber and the 38mm flat aluminium bar.



Bay & Splay Windows

Bays are made up of 3, 4, 5, 6, and 7 sections.

Square Bays

Every style of secondary in our range can be utilised to make up a square bay apart from the insert as this does not have a sub frame.

Please note: If customer requires slimline lift out this style would have to be used on all three sections of the bay due to being a single track.

A square bay consists of three separate windows joined together at 90 degree angles to create a return. We require the front or back finished sizes and the angle to process the order.

Splayed Bays

Every style of secondary in our range can be utilised to make up a splayed bay apart from the insert as this does not have a subframe.

Please Note: If customer requires slimline lift out this style would have to be used on all three sections of the bay due to being a single track. The use of this style is limited and depends on the angle please check prior to quote/order.

A splayed bay consists of three separate windows joined together at an angle greater than 90 degree angles to create a return. We require the front or back finished sizes and the angle to process the order.

Bays incorporating standard range product and heritage hinged units

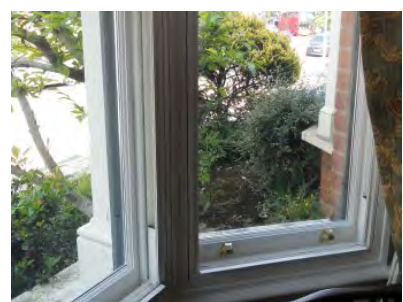
When a bay is made up of standard range product and heritage hinged units the timber subframe on the heritage is wider than the standard product to accommodate the handle.

The customer will need to be made aware of above prior to quote/order.

Splayed Windows

We are able to bevel the timber on the sides, top or bottom to accommodate sloping window openings. It is most common to have the side timbers bevelled and this is usually requested when customers are using secondary in older properties most modern properties are built with square reveals.

We require the front or back finished sizes and the angle to process the order.



Thermal

Thermal Insulation is measured in U Values, the U Value measures how well a building component in this instance a window keeps heat inside the room.

What is a U-Value?

The U-Value is a measurement of heat flow through the window, the lower the U Value the better the performance and this effectively means less heat is escaping out through the window.

U-Value measures only the 'centre pane value' this means it only measures the U Value of the glass not the whole window including all framing U Value.

The Technical Explanation

U-Value describes how much thermal energy in Watts (W) is transferred through the window with the size of 1 metre square (m²) at a temperature difference between the inner and outer face of glass is 1 kelvin (K) (+1 degree Celcius). Therefore the unit for U-Value is W/(m²K).

What is WER?

The WER is Window Energy Rating this is the new system which took effect from 2010 for measuring the performance of new windows (both replacement double glazing and windows in newly built properties).

WER measures the whole thermal performance of a window including the U Value In order to help explain to customers who are asking about A,B,C energy rated windows as a typical thermal performance we have calculated the following...

Secondary Glazing with 6mm energy saving (low E) K glass, fitted over a typical traditional timber window will achieve a WER Rating Scale of:

B or C Rated

Secondary Glazing with double glazed energy saving (low E) K glass, fitted over a typical traditional timber window will achieve a

WER Rating Scale of:

A Rated

All this is approx. and dependant on the cavity and the glazing thickness (usually 4mm) of the primary window.

Important Information

The guidelines set out in Part L of the Building Regulations do not and never have apply to Secondary Glazing. The Secondary Window does not have to comply.

Building Regulations

L1B – Existing dwellings, England & Wales

Windows

- Window Energy Rating minimum Band C
- Whole element U-Value 1.6W/m²K or better

Doors

- Whole element U-Value 1.8W/m²K or better

L1A – New dwellings, England & Wales Windows, doors and curtain walling

- Whole element U-Value 2.0Wm²k

Lift Out Units (LO)

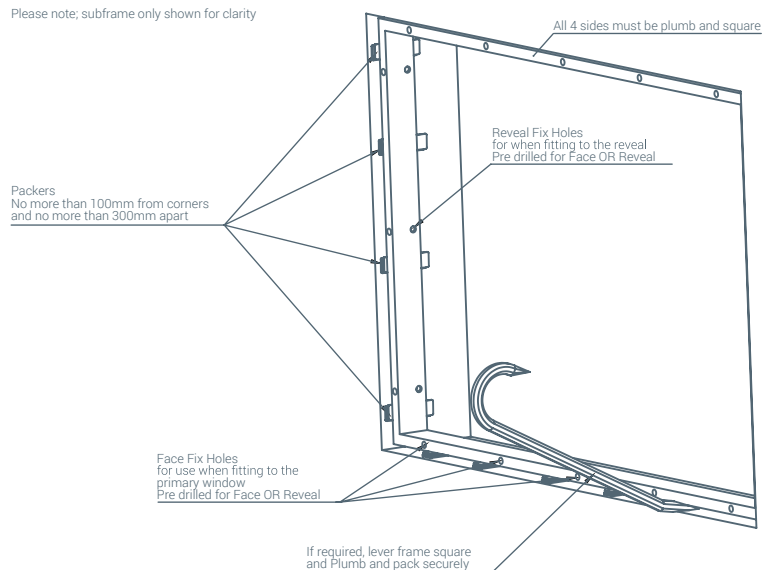
- 1 - Clean the glass in the panels fronts and back thoroughly with glass cleaner
 - 2 - Place the window into the reveal (window opening).
 - 3 - Fix the frame into the reveal (window opening) with one screw through the side to keep it stable.
 - 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window
 - 5 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
 - 6 - Using a pry bar, lever the frame to adjust by either lifting or moving the outer frame from the side to suit, this will make the panel parallel to the outer frame.
- Handy Tip: To get the window square lift the bottom of the panel out of the outer frame track and place on the front part of the outer frame you should be able to check if there is an equal gap between the panel and outer frame, if not then use more packs to equal the gap up.
- 7 - When the panel is in line with the outer frame, use packs under the frame to fill any gap left by manipulating the outer frame.
 - 8 - The frame can now be permanently secured into place.
 - 9 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
 - 10 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
 - 11 - Fill the gap between the outer frame and reveal (window opening) with sealant.
 - 12 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.

- 13 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note; subframe only shown for clarity

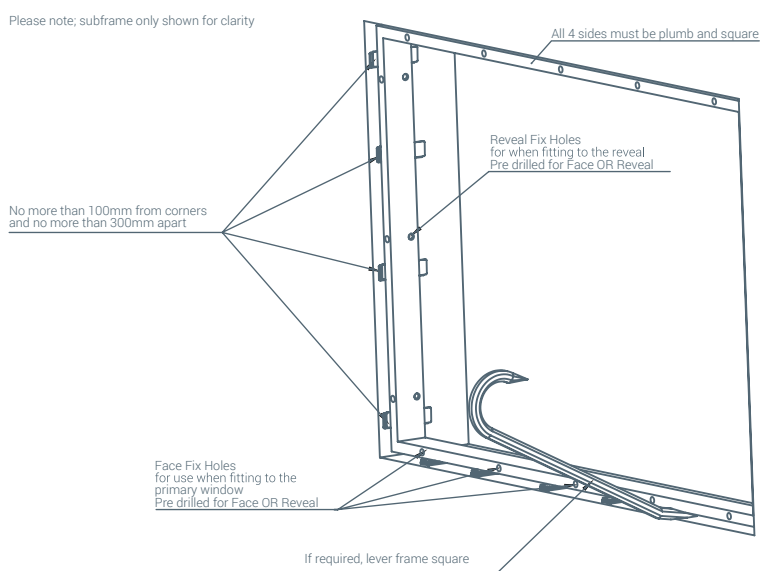


Hinged Unit (HHU)

- 1 - Clean the glass panel front and back thoroughly with glass cleaner
- 2 - Place the window into the reveal (window opening).
- 3 - Fix the frame into the reveal (window opening) with one screw through the side to keep it stable.
- 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
- 5 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
- 6 - Using a pry bar, lever the frame to adjust by either lifting or moving the outer frame from the side to suit, this will make the mitre on the outer frame to the panel mitre line up.
- 7 - When the mitres are in line with each other, use packs under the frame to fill any gap left by manipulating the outer frame to line up the mitre.
- 8 - The frame can now be permanently secured into place.
- 9 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
- 10 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
- 11 - Fill the gap between the outer frame and reveal (window opening) with sealant.
- 12 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.
- 13 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.



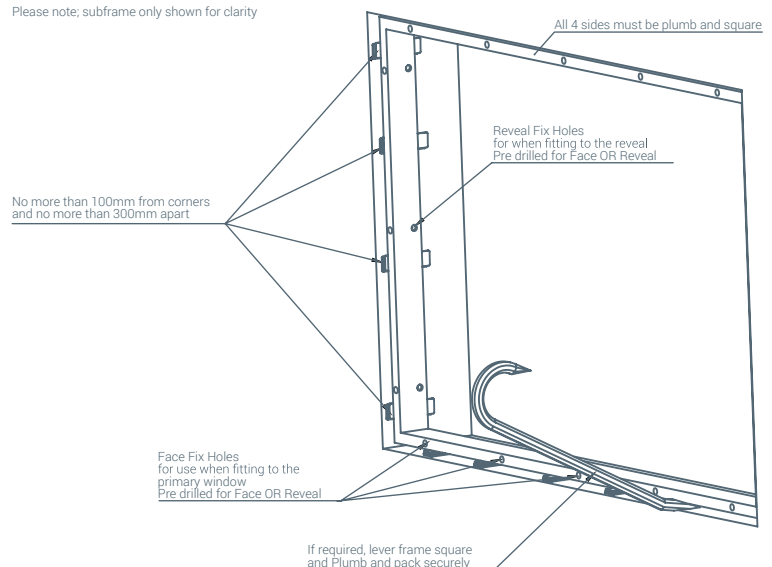
Balanced Vertical Slider (BVS)

- 1 - Clean the glass in the panels fronts and back thoroughly with glass cleaner.
 - 2 - Place the window into the reveal (window opening).
 - 3 - Fix the timber frame into the reveal (window opening) with one screw through the side to keep it stable.
 - 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
 - 5 - Line the transom on the secondary glazing with the transom on the existing window by using the packers again from the bottom always use the centre of the existing window transom as a guide to line the secondary glazing transom. (see diagram)
 - 6 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
 - 7 - Ensure the panels are parallel with the outer frame down the height of the unit.
- Handy Tip: Parallel adjustments are made by increasing or decreasing the packers on the side of the frame.
- 8 - Ensure both panels to both slide easily and interlock fully.
 - 9 - The frame can now be permanently secured into place.
 - 10 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
 - 11 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
 - 12 - Fill the gap between the outer frame and reveal (window opening) with sealant.
 - 13 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish. Then clean the window with solvent and glass cleaner.
 - 14 - Finally seal the perimeter of the finishing trim with either decorator's caulk or siliconesealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note; subframe only shown for clarity



Tilt In Balanced Vertical Slider (TBVS)

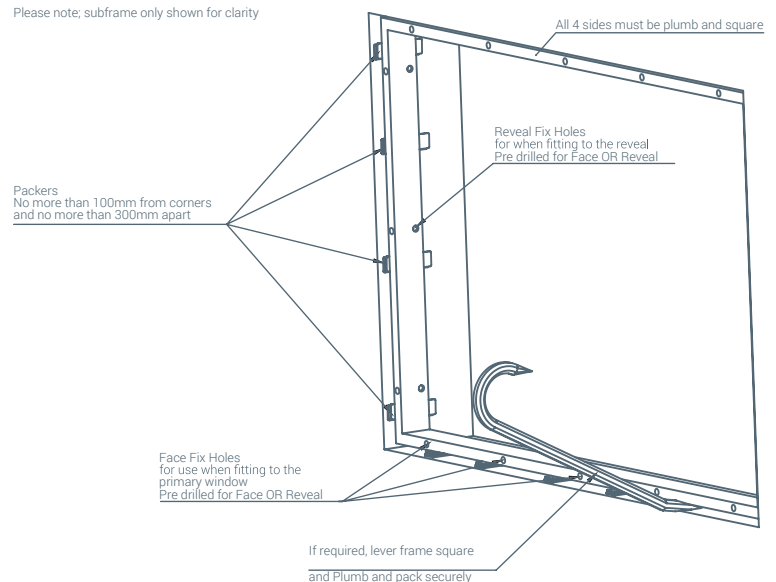
- 1 - Clean the glass in the panels fronts and back thoroughly.
 - 2 - Place the window into the reveal (window opening).
 - 3 - Fix the timber frame into the reveal (window opening) with one screw through the side to keep it stable.
 - 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
 - 5 - Line the transom on the secondary glazing with the transom on the existing window by using the packers again from the bottom always use the centre of the existing window transom as a guide to line the secondary glazing transom.
 - 6 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
 - 7 - Ensure the panels are parallel with the outer frame down the height of the unit.
- Handy Tip: Parallel adjustments are made by increasing or decreasing the packers on the side of the frame.
- 8 - Once the parallel adjustments have been made this should allow the panels to both slide easily and interlock fully.
 - 9 - The frame can now be permanently secured into place.
 - 10 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
 - 11 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
 - 12 - Fill the gap between the outer frame and reveal (window opening) with sealant.
 - 13 - You are supplied with a cover trim this should be bonded into place with sealant to cover all the packs around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.

14 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note, subframe only shown for clarity



Horizontal Sliding Units (SS2/3/4/5 & CO3)

- 1 - Place the outer frame of the secondary glazing into the reveal (window opening) Ensuring it is the correct way round. The outerframe is marked as top and bottom to assist with this.
- 2 - Fix the outer frame into the reveal (window opening) with one screw through the side of the frame to keep it stable.
- 3 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
- 4 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
- 5 - Before placing the panels into the outer frame ensure that both sides of the glass is thoroughly cleaned and the panels are placed the correct way round (rollers to the bottom).
- 6 - Once cleaned place the panels into the outer frame and open slightly to be able to see daylight through the mullion.
- 7 - Using a pry bar, lever the frame up under the mullions and adjust by either lifting or lowering the outer frame to suit, this will make the mullions on the secondary window parallel with each other.
- 8 - When the mullions are parallel with each other, use packs under the mullions to fill any gap left by manipulating the outer frame to line up the mullions.
- 9 - Check that the panels slide correctly and interlock with each other.
- 10 - Check that panels are locked into the outer frame with the spring clip handles.
- 11 - The frame can now be permanently secured into place.
- 12 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
- 13 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.

14 - Fill the gap between the outer frame and reveal

(window opening) with sealant.

15 - You are supplied with a finishing trim this should

be bonded into place with sealant to cover all the

packers around the perimeter of the window to

create a neat finish then clean the window with

solvent and glass cleaner.

16 - Finally seal the perimeter of the finishing trim

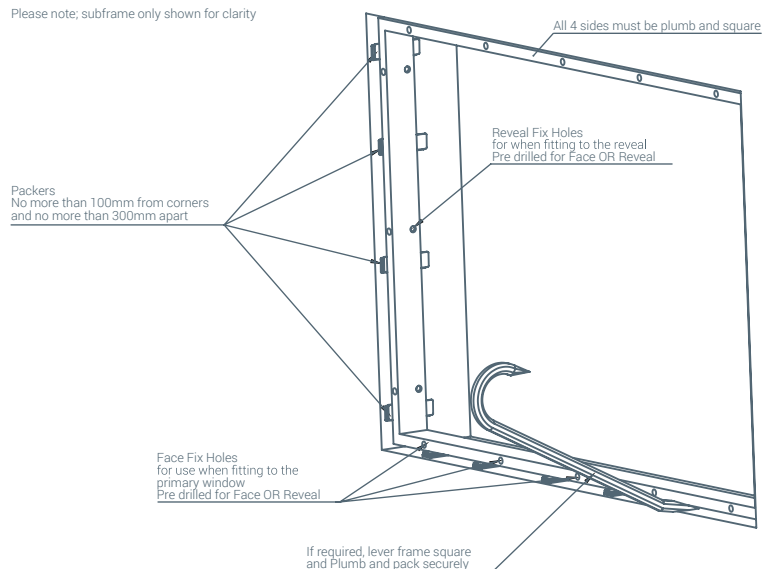
with either decorator's caulk or silicone sealant to

suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note; subframe only shown for clarity



Heritage Lift Out Units (HLO)

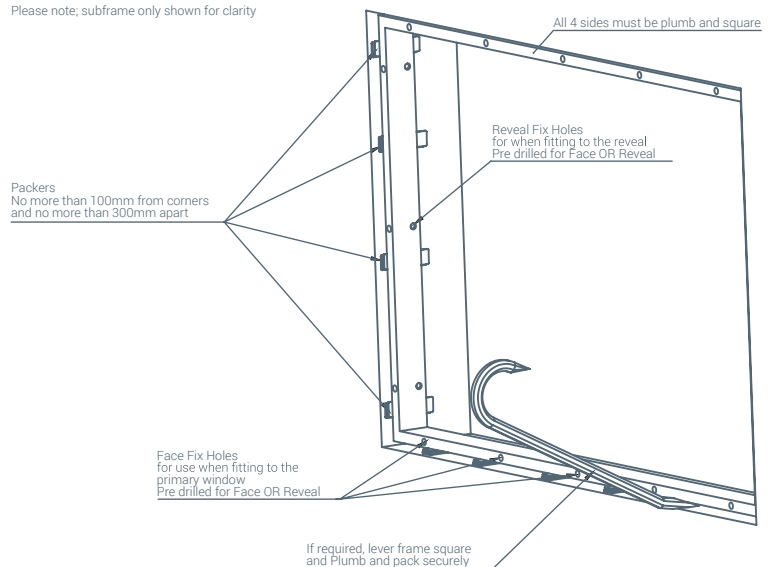
- 1 - Clean the glass in the panels fronts and back thoroughly with glass cleaner
 - 2 - Place the window into the reveal (window opening).
 - 3 - Fix the frame into the reveal (window opening) with one screw through the side to keep it stable.
 - 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window
 - 5 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
 - 6 - Using a pry bar, lever the frame to adjust by either lifting or moving the outer frame from the side to suit, this will make the panel parallel to the outer frame.
- Handy Tip: To get the window square lift the bottom of the panel out of the outer frame track and place on the front part of the outer frame you should be able to check if there is an equal gap between the panel and outer frame, if not then use more packs to equal the gap up.
- 7 - When the panel is in line with the outer frame, use packs under the frame to fill any gap left by manipulating the outer frame.
 - 8 - The frame can now be permanently secured into place.
 - 9 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
 - 10 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
 - 11 - Fill the gap between the outer frame and reveal (window opening) with sealant.
 - 12 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.

- 13 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note; subframe only shown for clarity

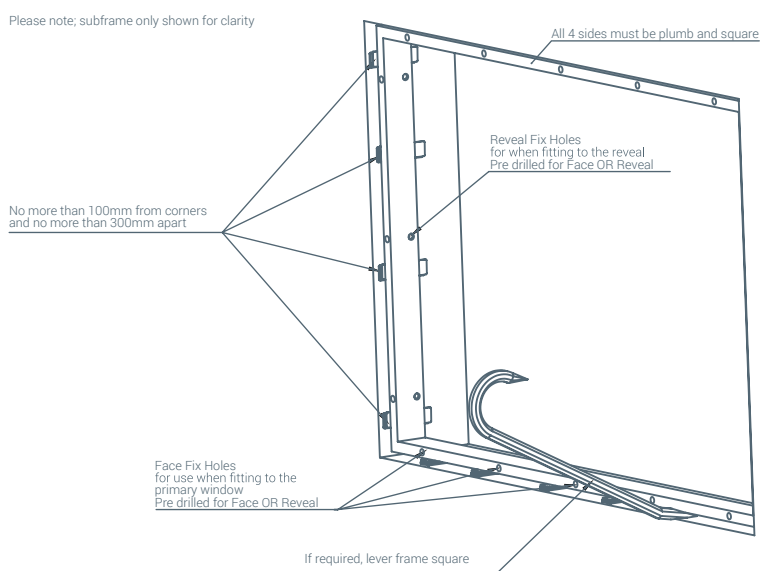


Heritage Hinged Unit (HHU)

- 1 - Clean the glass panel front and back thoroughly with glass cleaner
- 2 - Place the window into the reveal (window opening).
- 3 - Fix the frame into the reveal (window opening) with one screw through the side to keep it stable.
- 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
- 5 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
- 6 - Using a pry bar, lever the frame to adjust by either lifting or moving the outer frame from the side to suit, this will make the mitre on the outer frame to the panel mitre line up.
- 7 - When the mitres are in line with each other, use packs under the frame to fill any gap left by manipulating the outer frame to line up the mitre.
- 8 - The frame can now be permanently secured into place.
- 9 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
- 10 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
- 11 - Fill the gap between the outer frame and reveal (window opening) with sealant.
- 12 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.
- 13 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.



Heritage Horizontal Sliding Units (HSS2/3/4/5 & HC03)

- 1 - Place the outer frame of the secondary glazing into the reveal (window opening) Ensuring it is the correct way round. The outerframe is marked as top and bottom to assist with this.
- 2 - Fix the outer frame into the reveal (window opening) with one screw through the side of the frame to keep it stable.
- 3 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
- 4 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
- 5 - Before placing the panels into the outer frame ensure that both sides of the glass is thoroughly cleaned and the panels are placed the correct way round (rollers to the bottom).
- 6 - Once cleaned place the panels into the outer frame and open slightly to be able to see daylight through the mullion.
- 7 - Using a pry bar, lever the frame up under the mullions and adjust by either lifting or lowering the outer frame to suit, this will make the mullions on the secondary window parallel with each other.
- 8 - When the mullions are parallel with each other, use packs under the mullions to fill any gap left by manipulating the outer frame to line up the mullions.
- 9 - Check that the panels slide correctly and interlock with each other.
- 10 - Check that panels are locked into the outer frame with the spring clip handles.
- 11 - The frame can now be permanently secured into place.
- 12 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
- 13 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.

14 - Fill the gap between the outer frame and reveal

(window opening) with sealant.

15 - You are supplied with a finishing trim this should

be bonded into place with sealant to cover all the

packers around the perimeter of the window to

create a neat finish then clean the window with

solvent and glass cleaner.

16 - Finally seal the perimeter of the finishing trim

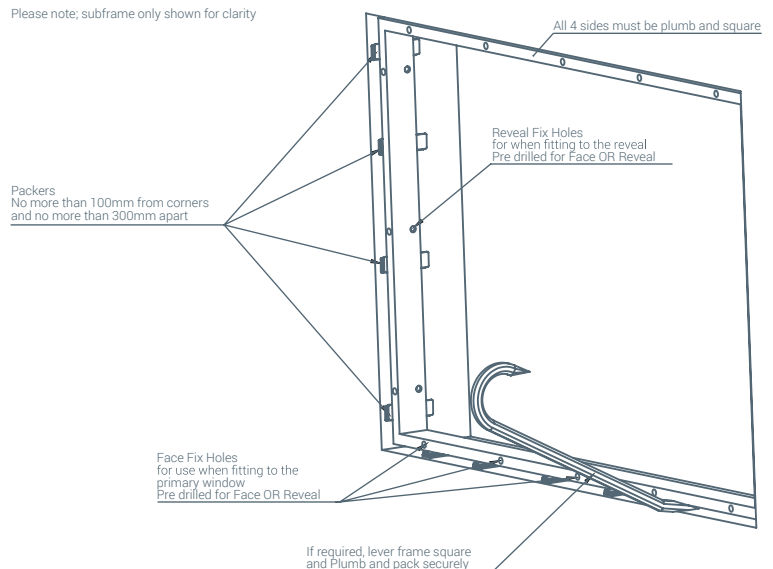
with either decorator's caulk or silicone sealant to

suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note; subframe only shown for clarity



Heritage Balanced Vertical Slider (HBVS)

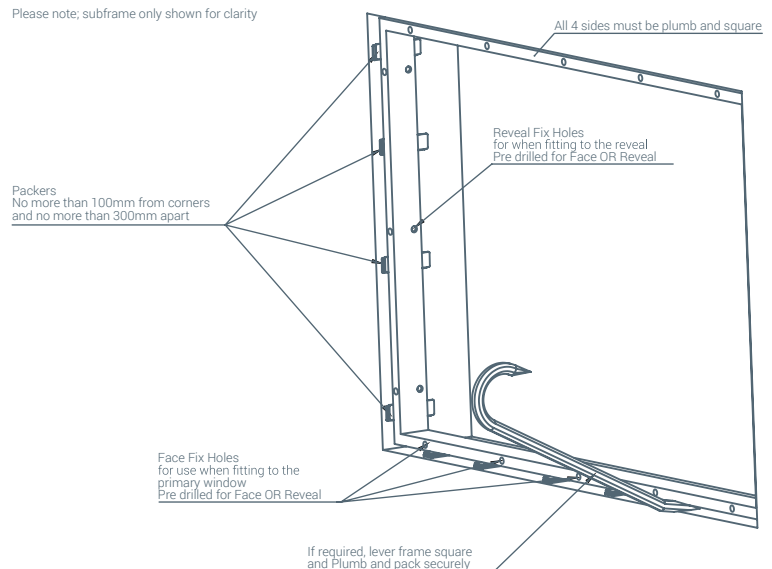
- 1 - Clean the glass in the panels fronts and back thoroughly with glass cleaner
 - 2 - Place the window into the reveal (window opening).
 - 3 - Fix the timber frame into the reveal (window opening) with one screw through the side to keep it stable.
 - 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
 - 5 - Line the transom on the secondary glazing with the transom on the existing window by using the packers again from the bottom always use the centre of the existing window transom as a guide to line the secondary glazing transom. (see diagram)
 - 6 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
 - 7 - Ensure the panels are parallel with the outer frame down the height of the unit.
- Handy Tip: Parallel adjustments are made by increasing or decreasing the packers on the side of the frame.
- 8 - Insure the panels are parallel with the outer frame down the height of the unit Handy note: Parallel adjustments are made by increasing or decreasing the packers on the side of the frame.
 - 9 - Once the parallel adjustments have been made this should allow the panels to both slide easily and interlock fully.
 - 10 - The frame can now be permanently secured into place.
 - 11 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
 - 12 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
 - 13 - Fill the gap between the outer frame and reveal (window opening) with sealant.
 - 14 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.

- 15 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.

Please note; subframe only shown for clarity



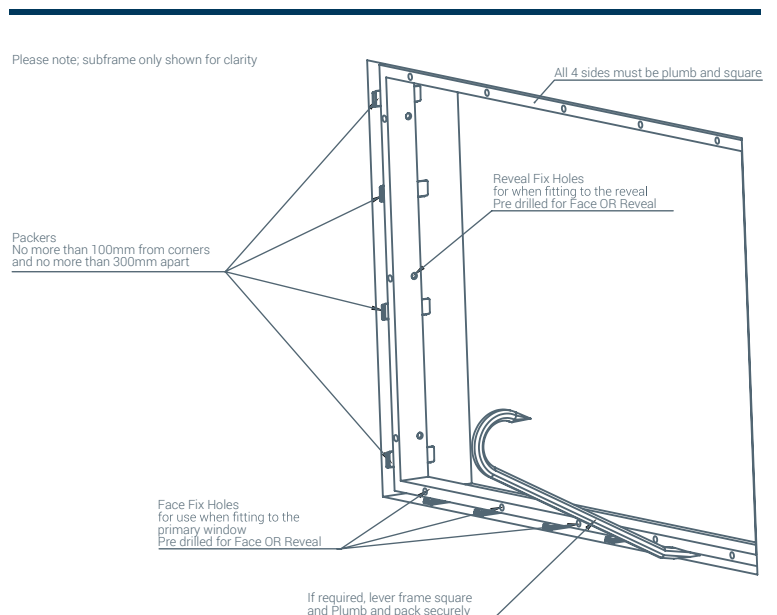
Heritage Tilt Balanced Vertical Slider (HTBVS)

- 1 - Clean the glass in the panels fronts and back thoroughly with glass cleaner
 - 2 - Place the window into the reveal (window opening).
 - 3 - Fix the timber frame into the reveal (window opening) with one screw through the side to keep it stable.
 - 4 - Using 5mm packers lift up the bottom of the frame from the centre outwards, the packers are used to fill the 10mm fitting tolerance all round (see surveying instructions) and to line the bottom of the secondary window up to the existing window.
 - 5 - Line the transom on the secondary glazing with the transom on the existing window by using the packers again from the bottom always use the centre of the existing window transom as a guide to line the secondary glazing transom. (see diagram)
 - 6 - Using 5mm packers to the sides of the frame to fill the 10mm fitting tolerance all round and line the sides of the secondary window up to the existing window.
 - 7 - Ensure the panels are parallel with the outer frame down the height of the unit.
- Handy Tip: Parallel adjustments are made by increasing or decreasing the packers on the side of the frame.
- 8 - Insure the panels are parallel with the outer frame down the height of the unit Handy note: Parallel adjustments are made by increasing or decreasing the packers on the side of the frame.
 - 9 - Once the parallel adjustments have been made this should allow the panels to both slide easily and interlock fully.
 - 10 - The frame can now be permanently secured into place.
 - 11 - If face fixing* secure the outer frame through the pre-drilled holes in the face (front) of the timber sub frame.
 - 12 - If reveal fixing* secure the outer frame through the pre-drilled holes in the side of the timber sub frame.
 - 13 - Fill the gap between the outer frame and reveal (window opening) with sealant.
 - 14 - You are supplied with a finishing trim this should be bonded into place with sealant to cover all the packers around the perimeter of the window to create a neat finish then clean the window with solvent and glass cleaner.

15 - Finally seal the perimeter of the finishing trim with either decorator's caulk or silicone sealant to suit surrounding decor.

* Face Fix = Fixing the Secondary Window through the front of the timber sub frame.

*Reveal Fix = Fixing the Secondary Window through the side of the timber sub frame.





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