

# evolve



PVC-U vertical sliding sash windows, bi-fold and patio doors,  
fully manufactured by Synseal to the highest quality standards

**Evolve fully manufactured products**

 **synseal**<sup>®</sup>

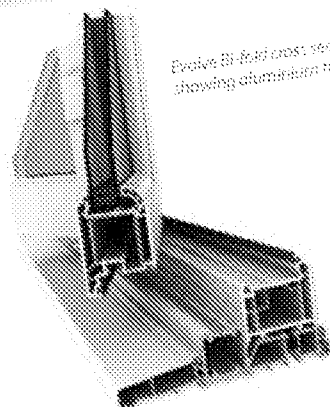
# evolverange

Fully-manufactured products, made to order, proven quality, delivered fast



## evolvebi-fold

- Stylish PVC-U bi-fold doors fully manufactured to order using quality Siegenia hardware
- 7 day turnaround on orders
- Free delivery up to 4m wide
- Available in 5 colour options

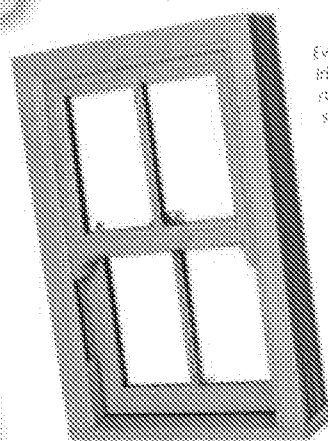


Evolve bi-fold cross section showing aluminium track detail



## evolveVS

- Traditional sliding sash looks with modern PVC-U benefits, A-rated as standard
- 7 day turnaround on orders
- Run through sash horn option
- Available in 16 colour options

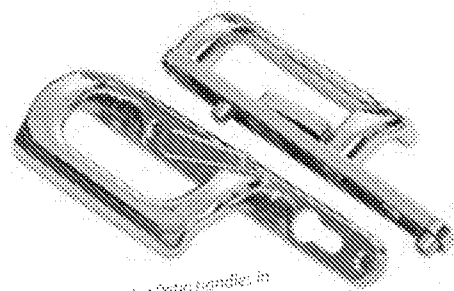


Evolve VS in Irish Oak with run through sash horn



## evolvepatio

- Versatile PVC-U patio doors available in 2, 3 and 4 pane options in widths up to 5.9m
- 7 day turnaround on orders
- Available in 19 colour options



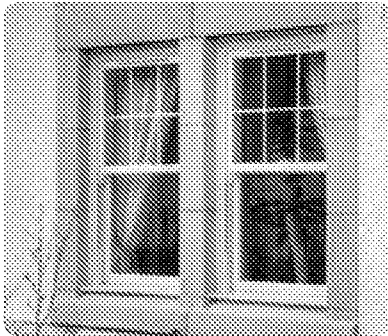
Evolve Patio handle, in Polished Gold finish

 **synseal®**

The Evolve range - available exclusively to fabricators for supply to the trade

Specialist home improvement products,  
perfectly designed for UK market applications

Evolve range PVC-U windows and doors are fully-manufactured and CE Marked by Synseal to ensure reliable supply of high quality value-added 'niche market' products, specially designed to satisfy UK home improvement requirements.



## evolvevs

Vertical sliding sash windows with authentic aesthetic appeal, providing all the low maintenance and high performance advantages of 21st century PVC-U window design.



## evolvebi-fold

Contemporary bi-fold doors that combine elegance with flexibility, allowing design of panoramic view wide-span door openings to create versatile living spaces.



## evolvepatio

Classic space-saving patio doors that slide on high quality stainless steel tracks, delivering security, style and ease of use with convenient access to adjacent garden areas.



### Delivery

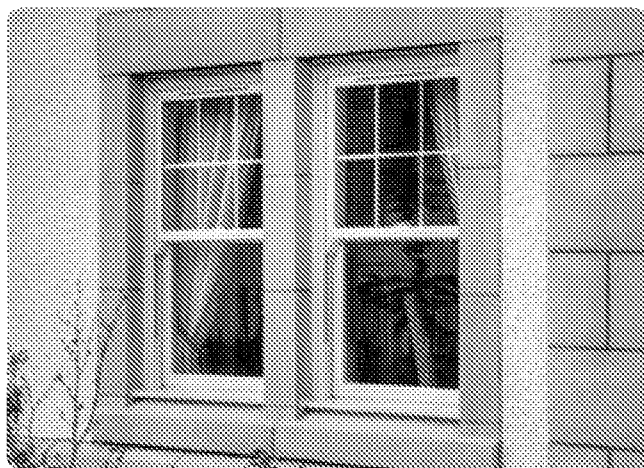
Evolve range products are manufactured at the Synseal production facility in Nottinghamshire with all operations carried out under ISO9001 quality management systems. Delivery is undertaken by Synseal's own transport fleet, with order-to-despatch service lead times as follows:

- Evolve VS windows - Guaranteed free delivery nationwide with 5-7 day turnaround.
- Evolve bi-fold and patio doors - We offer a 7 day turnaround on your order with FREE nationwide delivery on orders to fabricator premises for doors up to 4 metres in length. An additional cost applies if doors are over 4 metres in length or delivered direct to the installation site.

*Please note that your earliest delivery date is dependent on your scheduled delivery day. Please also note delivery is to mainland United Kingdom only. For orders from outside of these areas customers must arrange collection.*



## PVC-U material benefits



Polyvinyl Chloride (PVC-U) is a major thermoplastic material, which finds widespread use in building, transport, packaging, electrical/electronic and healthcare applications. PVC-U has been in commercial production since 1933. It now accounts for about 20% of all plastic manufactured worldwide, second only to polyethylene. The UK produces approximately 500,000 tonnes of PVC-U per annum.

The recycling of PVC-U is relatively straightforward, as both production waste and post consumer windows can easily be recycled back into new energy efficient PVC-U products. Unlike some of our competitors we recycle our waste in the UK, meaning no transcontinental movement of product, which has a huge carbon footprint, defeating the whole point of recycling.

### PVC-U is...

- Low maintenance
- Durable
- Economical and energy efficient
- Safe and secure
- Versatile
- Environmentally sound
- Recyclable

**PVC-U windows  
can be recycled  
up to 10 times,  
with a life span  
of 400 years.**

## Quality & accreditations

### Quality

Evolve range PVC-U vertical sliding windows, bi-fold and patio doors carry a 10 year guarantee. Manufacture and supply is carried out under certificated BS EN ISO9001:2000 quality management systems. Evolve VS windows are BSI Kitemarked for added quality assurance.



Guarantee

Evolve range PVC-U products carry a guarantee of up to 10 years. Full details available on request.

Every aspect of Synseal's manufacturing processes, from blending to extrusion, injection moulding to foil finishing, from product design and development to full-manufacture of Evolve vertical sliding sash windows, bi-fold doors and patio doors, is undertaken on-site in Huthwaite, Nottinghamshire.

Production techniques are largely automated and testing is computerised to ensure a consistently high quality product. Boasting the latest technologies and modern machinery, Synseal is able to deliver extruded PVC-U profiles which are consistent in colour, shape and finish.

Synseal is focused on finding new ways to design, produce and deliver products to its customers. Operational processes are continually evaluated to find improvements, reduce waste, identify problems and then define solutions quickly and systematically. All products undergo a wide range of QC inspections during and after the production process. All equipment is checked following every extrusion run and maintenance schedules are strictly adhered to.

### Accreditations

Synseal is ISO14001 accredited which ensures that all company environmental management systems comply with and even exceed government mandates. All quality management systems are ISO9001 accredited which ensures that all processes are constantly checked and improved upon, to reduce waste and increase efficiency.

Synseal Extrusions Ltd. holds a number of accreditations from recognised authorities such as the British Standards Institute (BSI) and the British Board of Agrément (BBA). To maintain registration, licenses and certificates, periodic on-site audits are carried out by the regulatory authority to inspect systems and where necessary take product samples for independent third party testing.



BSI - Registered to BS EN ISO9001:2008, Certificate No. FM 31451

Quality Management System Scope:

- Manufacture and supply of a range of white and brown windows PVC-U profiles and beads for the fabrication of doors and windows.
- Manufacture of conservatory roofing systems to customer specified requirements.



BSI Kitemark License No KM 30983

- Conforms with BS EN 12608

Evolve suite vertically sliding (tilt sash) windows



BSI Kitemark Licence No KM 582382

- Windows Energy Rating

Evolve VS system simulation reports



CE Mark

All Evolve products are fully CE Marked

### Building Regulations Compliance

The sub-sections of Building Regulations Part L refer to different building types and itemise U-value thermal performance. Standards for refurbishment of existing buildings are more exacting and provide options for using WER 'whole unit' calculations in place of the established U-values.

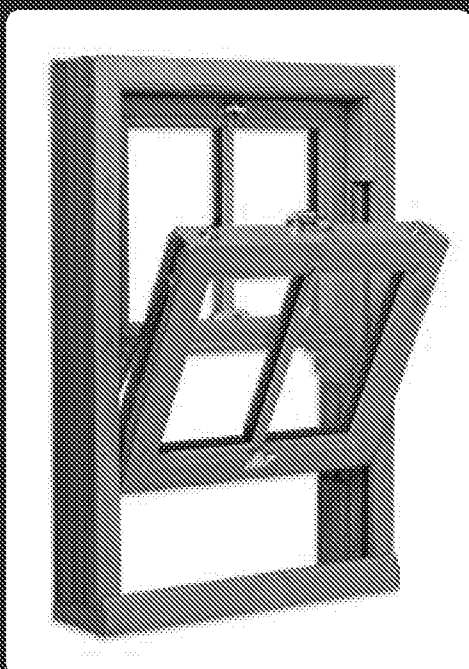
| Installed product                                                       | Part L | Building application                    | U-value                            |
|-------------------------------------------------------------------------|--------|-----------------------------------------|------------------------------------|
| Windows, roof windows, rooflights, curtain walling and pedestrian doors | L1A    | New dwellings                           | 2.0W/m <sup>2</sup> K              |
|                                                                         | L1B    | Existing dwellings                      | 1.8W/m <sup>2</sup> K <sup>1</sup> |
|                                                                         | L2A    | New buildings other than dwellings      | 2.2W/m <sup>2</sup> K              |
|                                                                         | L2B    | Existing buildings other than dwellings | 1.8W/m <sup>2</sup> K <sup>2</sup> |

<sup>1</sup> Option of WER Band C or better

<sup>2</sup> In Part L1B, a U-value of 1.8W/m<sup>2</sup>K is required for doors

<sup>3</sup> Option of WER Band C for buildings essentially domestic in character (e.g student accommodation)

## Evolve VS - vertical sliding sash windows with the benefits of modern-day technology



### Modern solution

Evolve VS sash windows maintain the elegant proportions of traditional sash windows, whilst incorporating the very best in modern-day technology to deliver the low maintenance and high security of PVC-U without the problems associated with timber sash windows.

Quality-assured Evolve VS sash windows feature tilting upper and lower sashes for ease of cleaning, low-line beads and glazing gaskets for improved sight lines and energy efficient glass for enhanced thermal performance.

From terraced housing to stately homes, Evolve VS sash windows enable old-style properties to retain their heritage, character and charm. A wide range of styles, colours and hardware options can be specified, whilst providing the benefits of modern-day technology.

Many buildings have been disfigured by inappropriate window replacements that have not maintained the original design aesthetics of the property. Once installed, new Evolve VS sash windows blend into their surroundings. Sculptured astragal glazing bars, decorative sash horns, two smoothly sliding sashes and a choice of quality operating hardware options all add to the traditional appeal of Evolve VS sash windows.

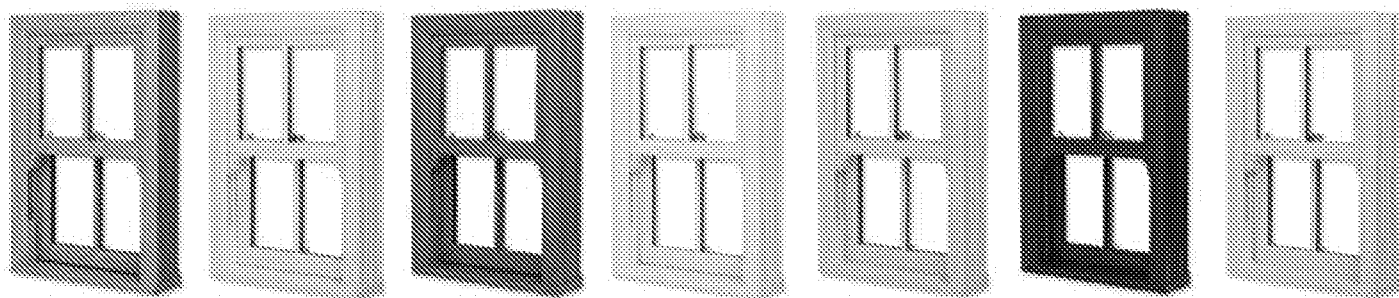
Evolve VS sash windows from Synseal are guaranteed for 10 years and manufactured using the highest quality materials under ISO9001 accredited quality management systems.

### Safe and secure

Evolve VS PVC-U window frames are fully reinforced with aluminium and sliding sashes are reinforced with galvanised steel to resist deflection under extreme wind-loading conditions and carry the weight of the glass. In addition to strengthening the sashes, the galvanised steel reinforcement provides a strong, secure fixing for lifting handles, latches and other components.

High quality balances maintain the equilibrium of the sash window at any point of travel and robust locking devices ensure properties are secure. Evolve VS operating hardware is designed to give improved levels of strength and durability, safety and comfort to ensure that once installed the windows are built to last.





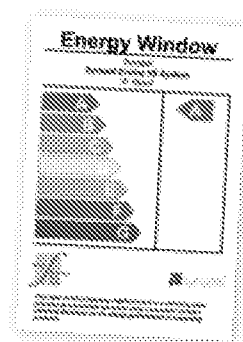
## Evolve VS windows – key features:

- Low maintenance PVC-U frames with traditional styling
- A-rated as standard, with B or C also available (*optional*)
- BSI Kitemarked
- Fully featured sculptured profiles
- Equal sight lines for top and bottom sashes
- Choice of Georgian glazing bar designs
- Easy-clean tilt facility, with tilt restrictors for safety
- Double glazed with 24mm glass
- Choice of sill sizes available: 154mm (*standard*), 150mm, 180mm and 225mm
- Sill jointers for professional detailing
- Decorative and run through sash horns (*optional*)
- Trickle vents (*optional*)
- Anti-jimmy security bar (*optional*)
- Sash child/travel restrictors (*optional*)
- Deep bottom rail for period styling (*optional*)
- CE Marked
- Guaranteed for 10 years

## Energy efficiency

Incorporating brush seals around the openings for effective weatherproofing and draught exclusion, Evolve VS sash windows have an A window energy rating (WER) as standard and optional A+, B or C WER ratings can be specified.

Evolve VS windows are lead free and choosing PVC-U over timber is an environmentally friendly selection as the majority of end-of-life PVC-U windows can be recycled over and over again to produce new windows.

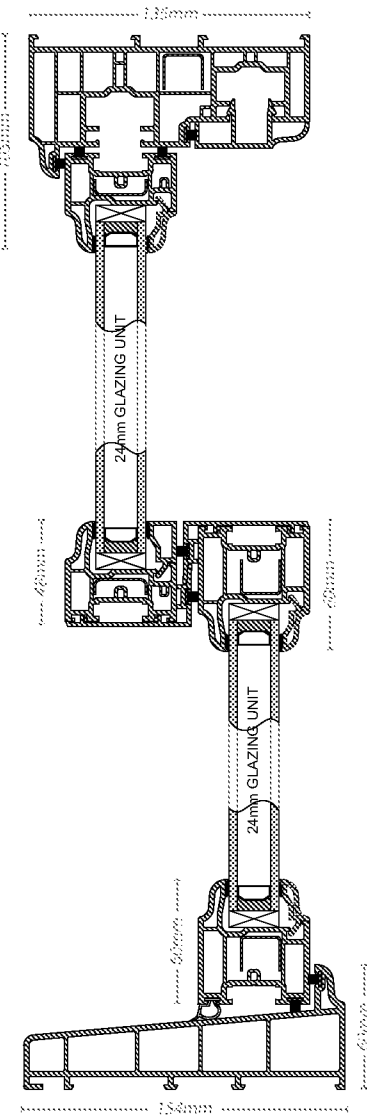


## Double glazing units

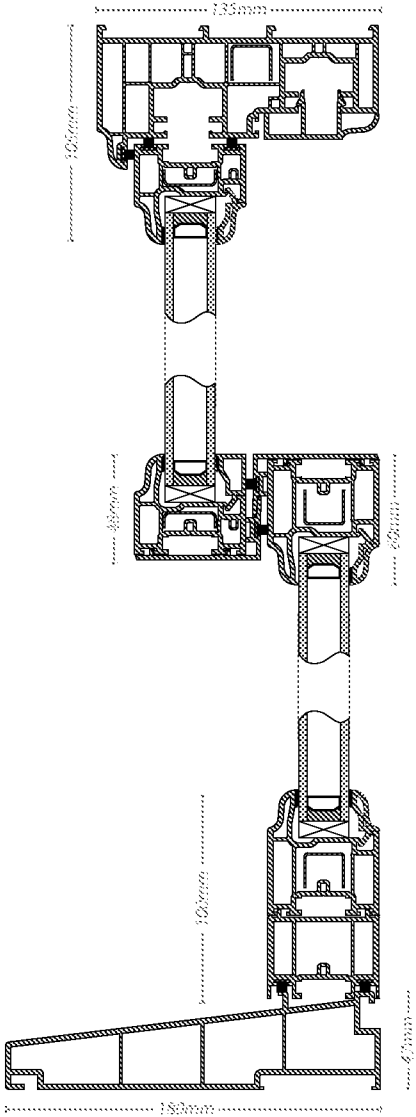
Evolve VS sash windows are glazed with 24mm DG units as standard (4:16:4 pane and airgap configuration with Argon gas filling and Warm Edge spacer bar). Specification options include toughened or laminated Low-E glass for enhanced thermal performance. Diamond, square leaded, Georgian and Astragal bar options and obscured patterned glasses for added privacy are available.



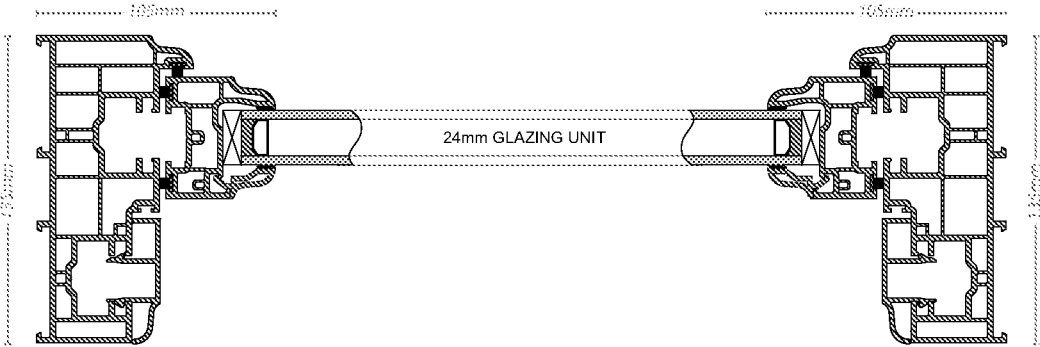
Cross section: Evolve VS windows



Vertical section through sash with standard sill



Vertical section through sash with DBR and non standard sill option



Horizontal section through top sash

## Colour options & hardware

### Solid colours

Evolve VS windows are available in the following PVC-U profile colour:



White

### Woodgrain colours

Foiled finishes are also available to enhance Evolve VS windows with glossy, freshly-painted colour woodgrain or authentic woodgrain effects:



Golden Oak



Golden Oak on White



Cherrywood



Cherrywood on White

### Artisan woodgrain collection

Evolve VS windows are available in the following Artisan colours and can be specified with White PVC-U on inside faces and woodgrain foiled finish on outside faces, see below:



Woodgrain White



Cream



Cream on White



Irish Oak



Irish Oak on White



Chartwell Green



Chartwell Green on White



Grey



Grey on White



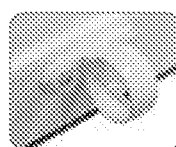
Black/Brown



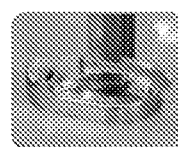
Black/Brown on White

### Hardware

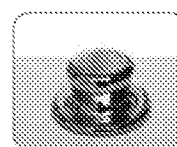
Evolve VS hardware is available in White, Gold, Chrome and Satin Chrome finishes. High quality balance weights and hardware are securely fixed to integral window frame reinforcement for reliable and smooth sliding sash operation, time after time.



Pole eye - White



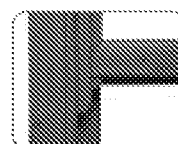
Lock - Satin Chrome



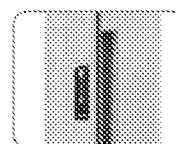
Sash lift - Gold



Sash lift - Chrome



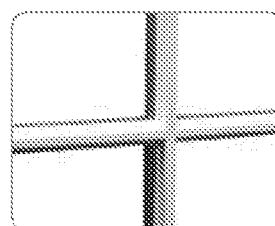
Run through sash horns



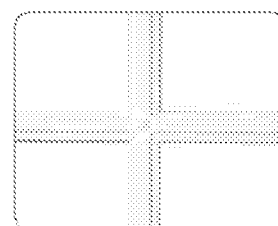
Tilt restrictor

### Glazing Bars

To achieve a traditional appearance, Evolve VS sash windows can be manufactured with a choice of internal or external Georgian glazing bars. Run through sash horns provide another decorative option for a truly authentic look.



Astragal bars - applied to the internal and external surface



Georgian bars - 10mm or 25mm (fitted between panes of glass)

### Trickle Vents

Slimline trickle ventilators can be fitted into the head of the top sash in the Evolve VS window to provide air flow and reduce condensation. 2000 or 4000mm<sup>2</sup> trickle vent options can be specified in White, Brown or Caramel colours to provide ventilation and meet Building Regulations Part F1 for new dwellings. Alternatively, modular design trickle vents that clip neatly together can be incorporated to cater for wider window frames and provide 6000mm<sup>2</sup> of ventilation, if required.

## Window style options

Evolve VS windows are available in a variety of glazing bar configurations and shaped frame designs to suit the style of every property, including sizeable units for commercial buildings.

Equal sized top and bottom sashes (50/50 split) are standard, however windows can be manufactured with other split ratios to specification (minimum transom drop: 350mm).

### Evolve VS window sizes:

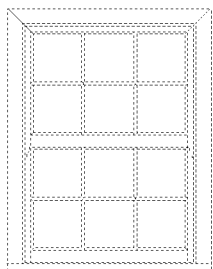
Minimum width/height: 350mm x 800mm

Maximum width/height: 1500mm x 2500mm

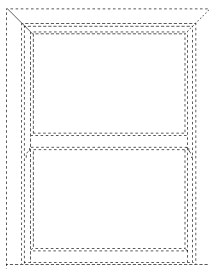
### Fire escape minimum sizes:

Minimum width/height: 750mm x 1350mm

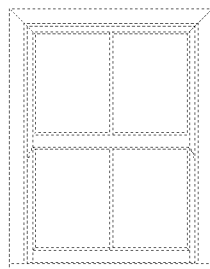
*\*Using constant force springs.*



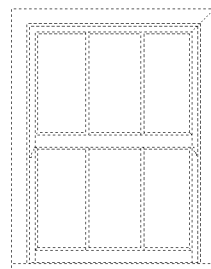
1/2



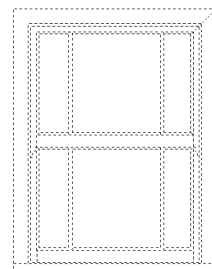
One-bar



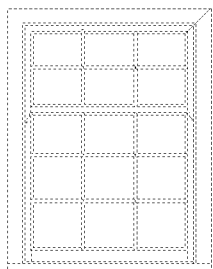
Centre bar



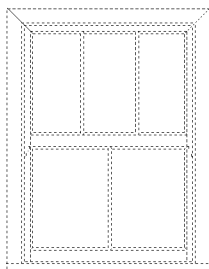
Three Light



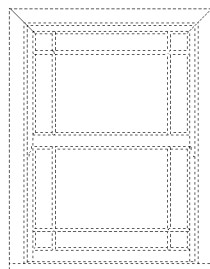
Offset Three Light



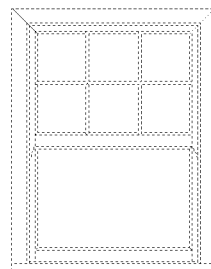
2/5 x 3/5



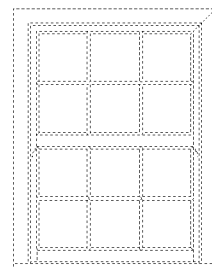
Asymmetric



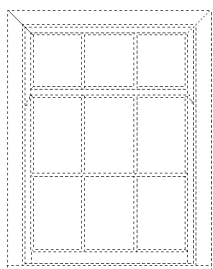
Margin



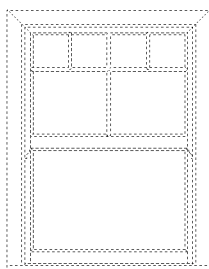
Half Georgian



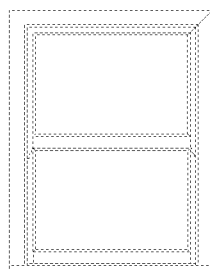
Georgian



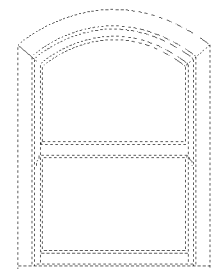
1/3 x 2/3



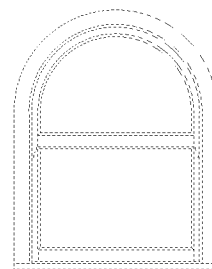
Georgian Variant



Fire Egress A

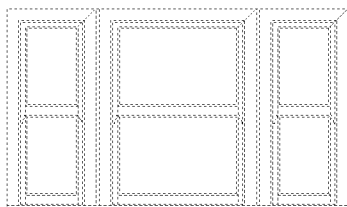


Crown Head

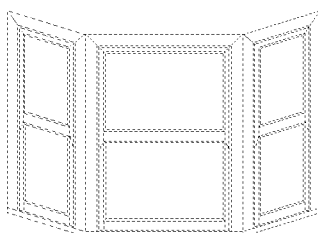


True Arch

Bays and coupled windows also available - please ask for details

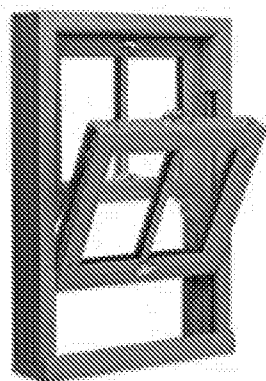


Style 2

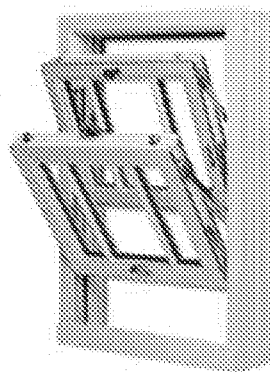


Tripartite - Style 3

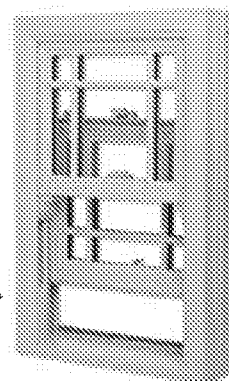
90° and variable angle bay posts are also available for bay window applications.



Both sashes tilt  
open independently,  
for easy access to  
clean inside and out



Both sashes slide  
up and down,  
for cleaning access  
and ventilation

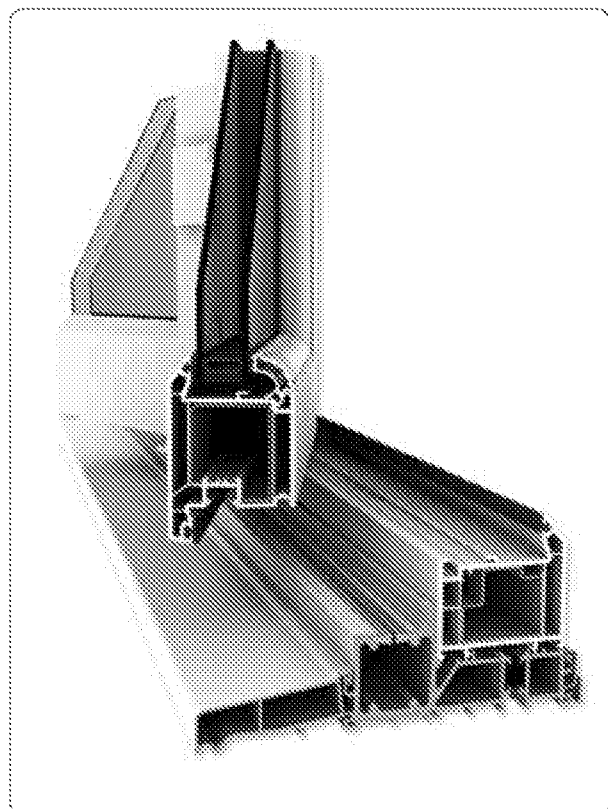


## Evolve bi-fold doors - elegant doors creating flexible and modern spaces for both living and working environments

Contemporary bi-fold doors combine elegance with flexibility, allowing design of panoramic view wide-span door openings to create versatile spaces.

Evolve bi-fold doors are precision engineered to the highest standards and available in a variety of finishes and folding leaf combinations. PVC-U door sashes slide along a thermally-broken aluminium top and bottom track system, designed to ensure years of trouble-free service. Rigid aluminium tracks increase the structural strength and enable easy transportation, preventing excessive flex to ensure that the doors run smoothly, even on long spans with multiple leaf configurations.

Fully-manufactured by Synseal using a choice of either Shield or Legend ovolo PVC-U profiles, Evolve bi-fold doors are energy-efficient and easy to maintain once installed.



*Cross section showing bi-fold aluminium bottom track*

### Evolve bi-fold doors - key features:

- Bi-fold door is supplied fully assembled for easy installation
- Thermally-broken top and bottom aluminium tracks
- High quality Siegenia gearing
- PVC-U door frames available in a choice of single or dual-colour finishes
- Aluminium tracks and hinge covers available in White or Brown finish
- Hardware and flag hinges available in White, Polished Gold or Polished Chrome finishes
- Choice of PVC-U frame profiles: Shield or Legend ovolo
- Choice of door designs: open-in or open-out
- Sealing weatherstrips conceal unsightly gasket lines for a professional finish
- Double-glazed as standard with 28mm toughened clear glass
- U-value: 1.7 W/m<sup>2</sup>K
- Choice of glazing bead styles: chamfered or sculptured ovolo
- Doors can also be supplied unglazed (optional)
- Choice of sill sizes: 85mm and 150mm
- Sill track trims for improved aesthetics (optional)
- Trickle vents fitted to first and last door sashes (optional)
- CE Marked
- Guaranteed for 10 years

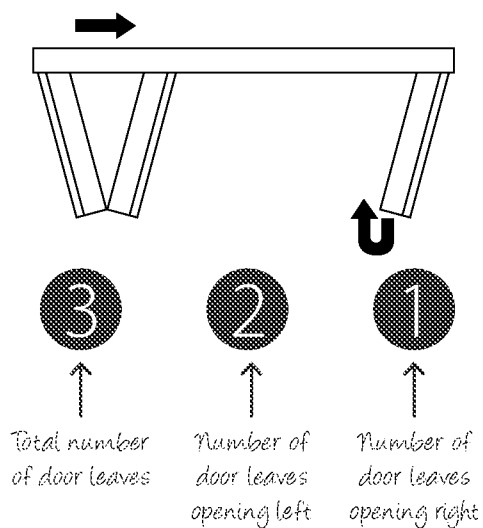
### Solid and woodgrain colours



*The colours shown are designed as a guide only. Before making a final selection, please ensure you have seen a full swatch.*

## Configurations: Evolve bi-fold door

### How the configurations work



### Double glazing units

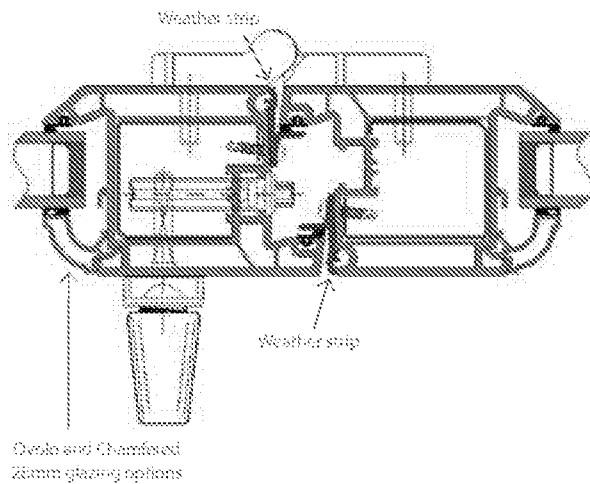
Evolve bi-fold doors are glazed with 28mm DG units as standard (A20-A pane and airgap configuration with Argon gas filling and aluminium spacer bar). Evolve bi-fold doors can be supplied unglazed, if required. Upgrade available.

| Diagram | Code | Maximum width |
|---------|------|---------------|
|         | 220  | 1.8m          |
|         | 321  | 2.7m          |
|         | 330  | 2.7m          |
|         | 431  | 3.6m          |
|         | 440  | 3.6m          |
|         | 541  | 4.5m          |
|         | 550  | 4.5m          |
|         | 532  | 4.5m          |
|         | 633  | 5.4m          |
|         | 651  | 5.4m          |
|         | 660  | 5.4m          |

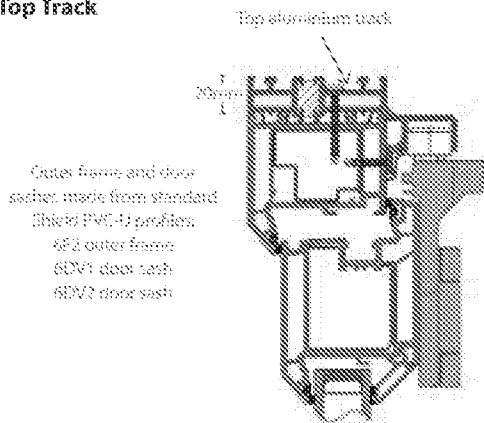
Maximum height: 2300mm  
Maximum width: Woodgrain 4500mm | White 5400mm

## Cross section: Evolve bi-fold door

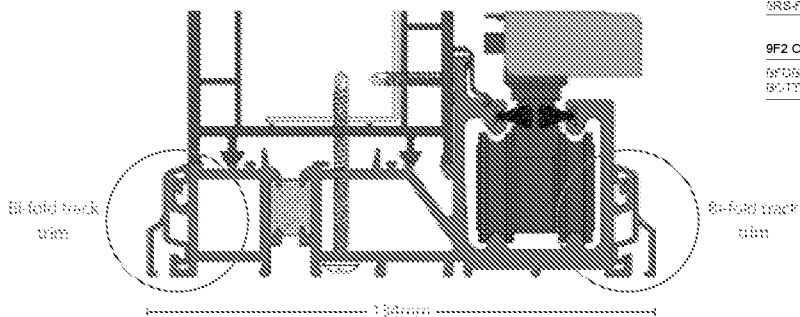
### View from above



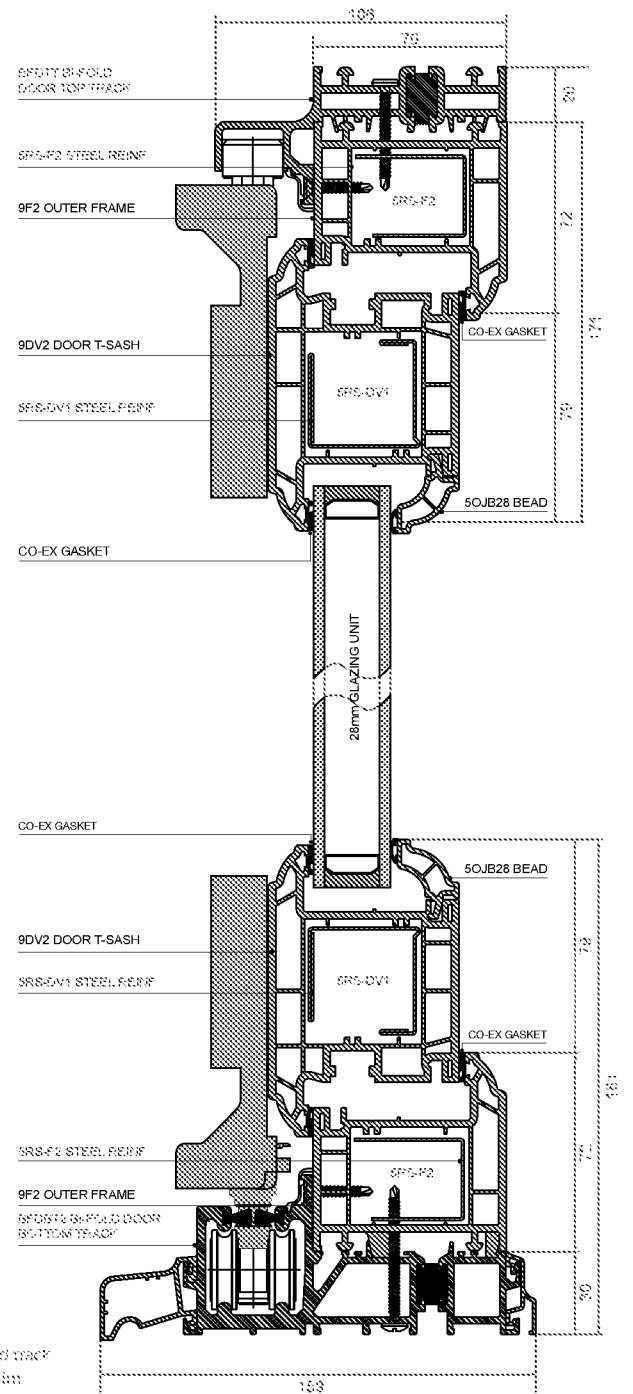
### Top Track



### Bottom track with no sill nose

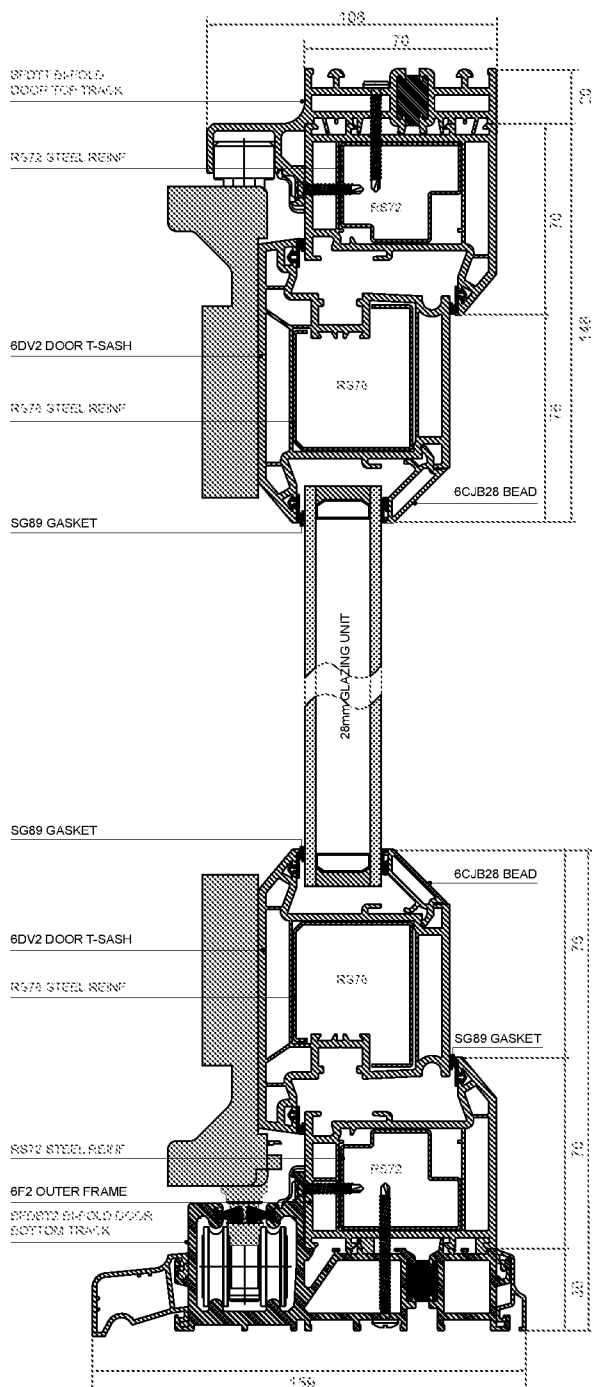


Can be installed between house and conservatory without a sill

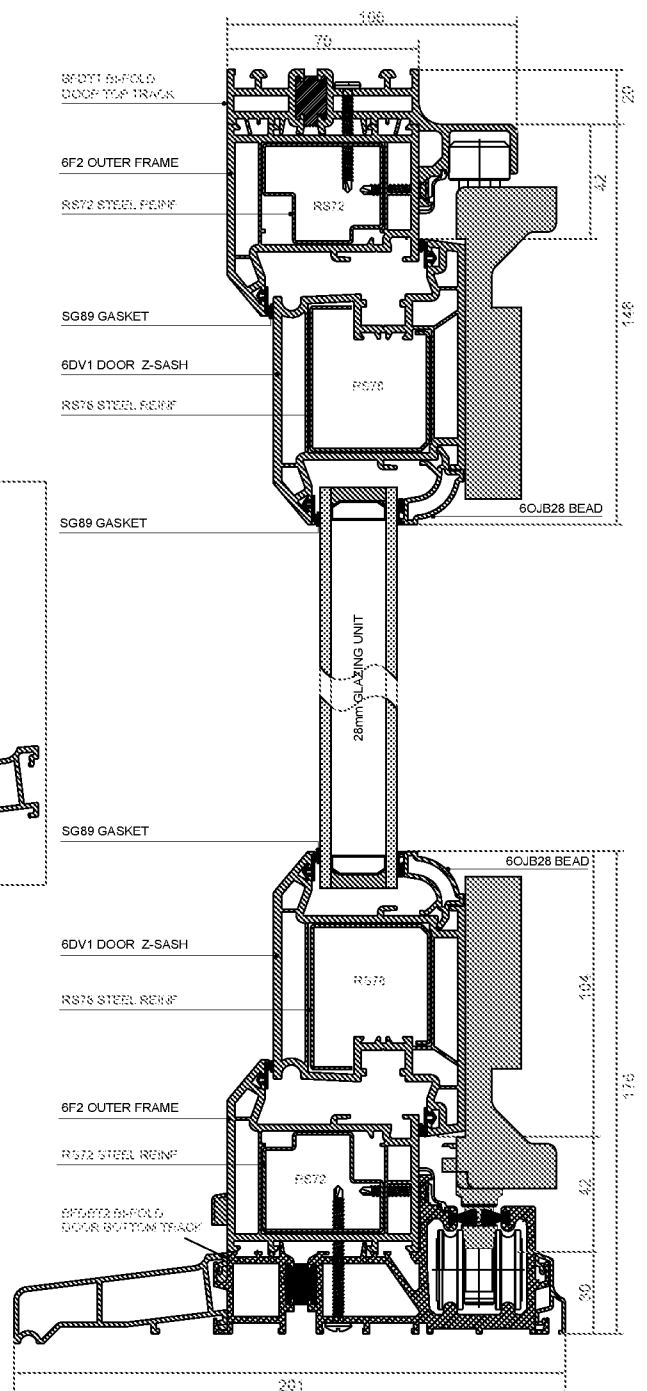


Externally opening Legend ovolo profiles with ovolo bead

Cross section: Evolve bi-fold door



Externally opening Shield profiles with chamfered beads



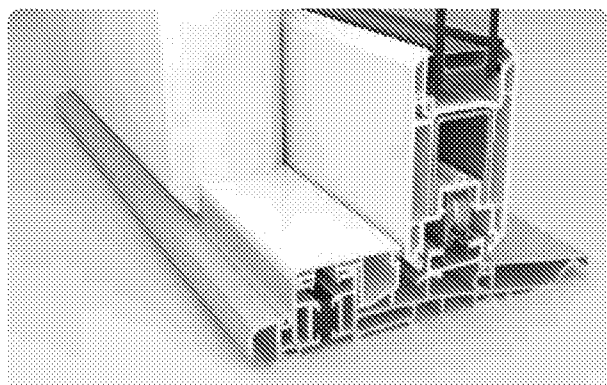
internally opening Shield profiles with oval bead

## Evolve patio doors - space-saving home improvement doors combining ease of use with contemporary style

Designed to maximise daylight and provide unhindered views with easy access to outside spaces, patio doors remain a favourite home improvement product and offer an ideal solution when space is at a premium.

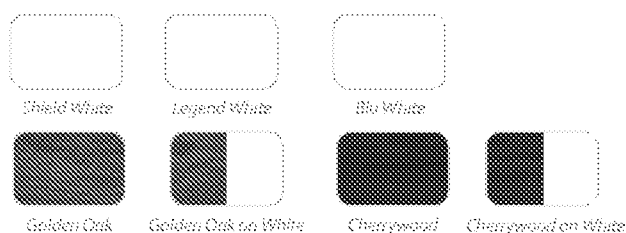
Evolve patio doors are engineered to the highest standards and available in a variety of finishes and choice of sliding and fixed leaf combinations. PVC-U door leaves slide along an excellent stainless steel track system, designed to ensure years of trouble-free service. Evolve patio doors are supplied complete with Yale cylinder locks, handle set, steel frame reinforcements, rollers, thresholds, trims, bump stop and anti-lift blocks.

Fully-manufactured by Synseal using the proven Shield range of PVC-U profiles, Evolve patio doors require little maintenance and will keep homeowner premises warm due to their energy efficient design.

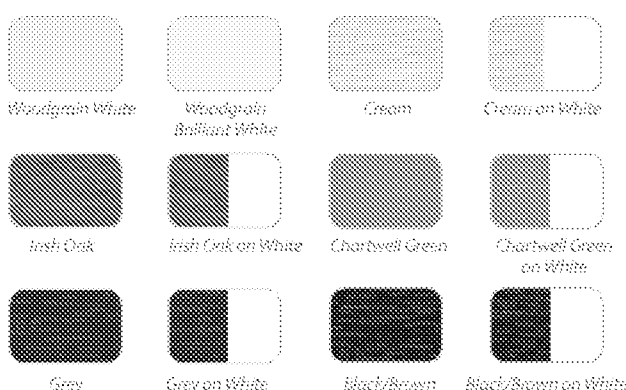


*Trim/ramp option*

### Solid and woodgrain colours



### Artisan woodgrain collection



*The colours shown are designed as a guide only. Before making any purchase, please ensure you have seen a full swatch.*

### Evolve patio doors - key features:

- Patio door is supplied fully assembled for easy installation
- Stainless steel patio tracks
- High quality Yale stainless steel 6 hook bi-directional lock and keep
- Available in a choice of single or dual-colour finishes
- Hardware available in White, Black, Polished Gold or Polished Chrome finishes
- Sliding sashes and interlocks fitted with woolpile for draught exclusion
- Tandem rollers provide up and down adjustment for glazing precision
- Double glazed as standard with 28mm toughened clear glass
- U-value: 1.5 W/m<sup>2</sup>K
- Chamfered glazing beads with lowline black gaskets are internally glazed for security
- Doors can also be supplied unglazed (optional)
- Choice of White PVC-U: Shield White, Legend White or Blu White
- Choice of sill sizes: 85mm, 150mm and 180mm
- Choice of outer frame constructions: fully-welded or mechanically-jointed
- Trickle ventilator fitted at head (optional)
- CE Marked
- Guaranteed for 10 years
- **New** Optional thermally-broken aluminium low threshold is mechanically fixed to patio door jambs, with trim/ramp, ramp/ramp or trim/trim configurations available in Gold or Silver anodised finish
- **New** Triple-chambered sash profile for improved thermal performance, with additional slope to optimise drainage and 2mm thick steel reinforcement for greater rigidity
- **New** I-beam design for ease of glazing
- **New** Optional internal slider configuration

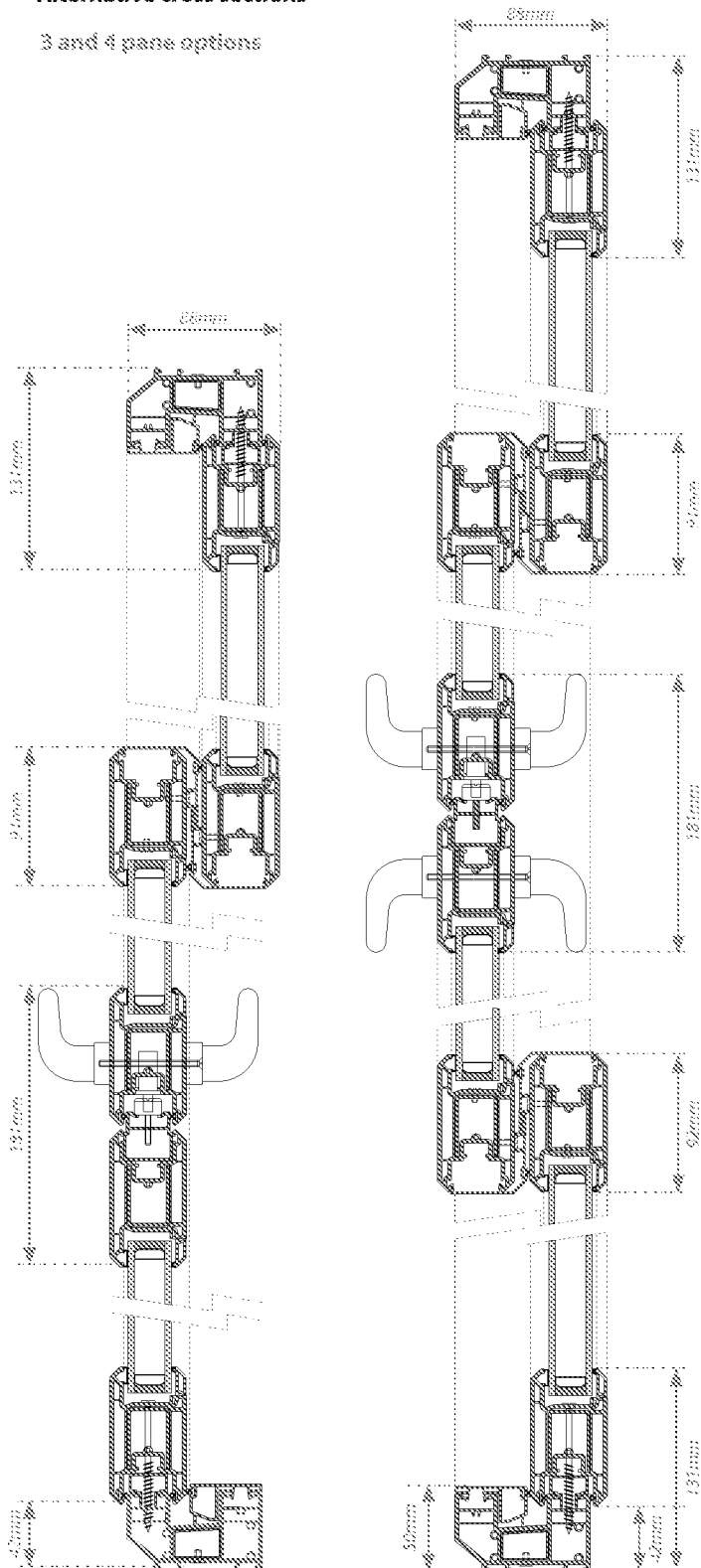
### Double glazing units

Evolve patio doors are glazed with 28mm DG units as standard (4:20:4 pane and airgap configuration, with Argon gas filling and aluminium spacer bar). Evolve patio doors can be supplied unglazed if required.

## Cross section & configurations: Evolve patio doors

### Alternative cross sections

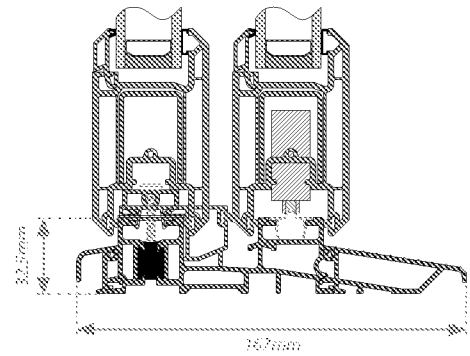
3 and 4 pane options



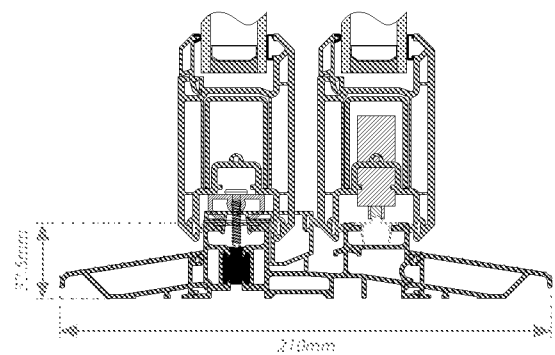
3 pane horizontal cross section

4 pane horizontal cross section

### Low threshold options

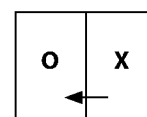


Trim/Ramp option

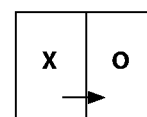


Ramp/Ramp option

### Configurations

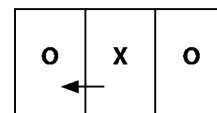


2 pane

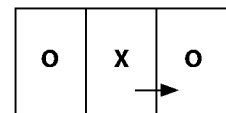


2 pane

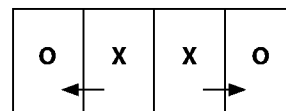
Viewed from the outside,  
external slider is standard  
(internal slider option  
available on request).



3 pane



3 pane



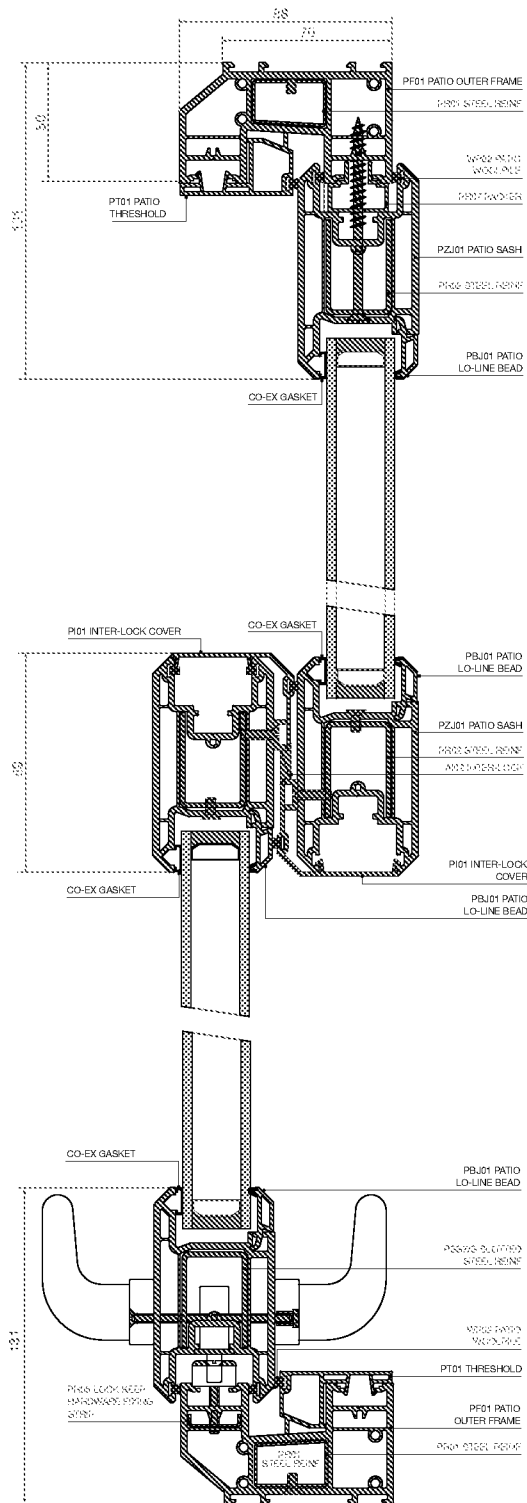
4 pane

**X = Slider**  
**O = Fixed panel**

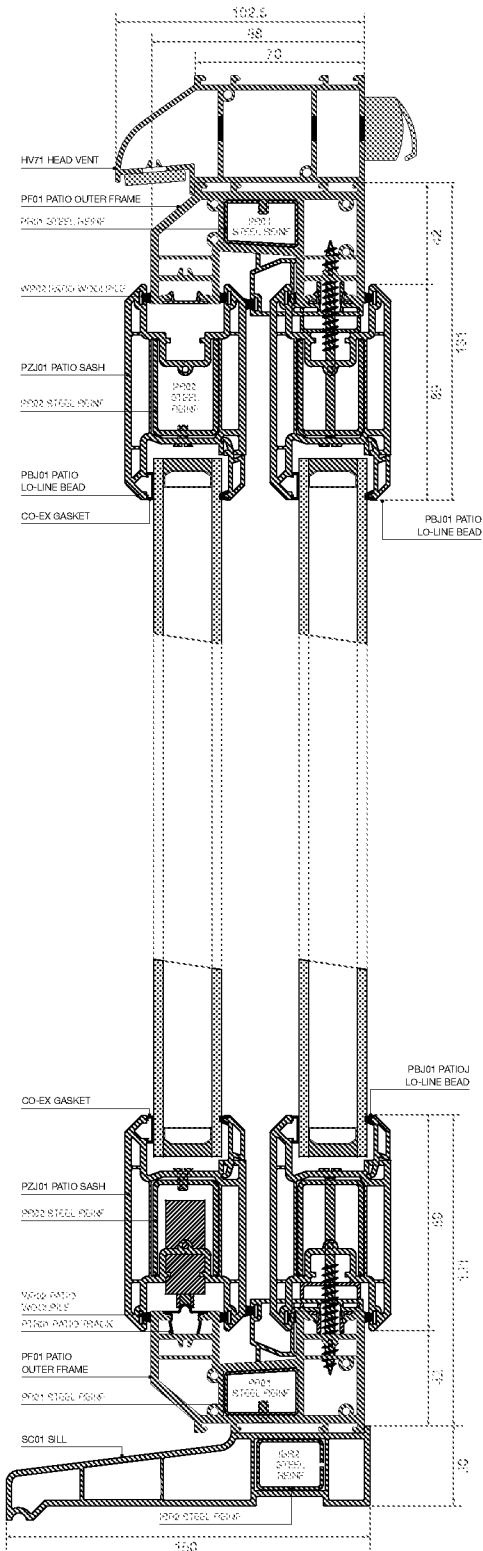
|        | Min. width | Max. width | Max. height |
|--------|------------|------------|-------------|
| 2 PANE | 1500mm     | 3000mm     | 2450mm*     |
| 3 PANE | 2250mm     | 4500mm     | 2450mm*     |
| 4 PANE | 3000mm     | 5900mm     | 2450mm*     |

\* Height up to 2450mm dependant on width.

## Cross section: Evolve patio doors

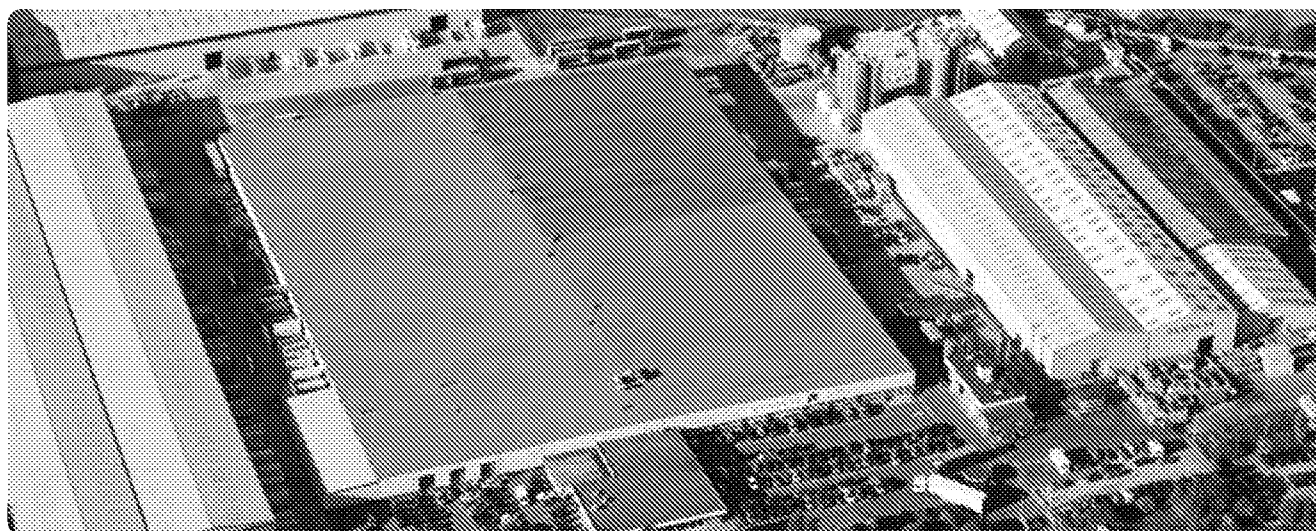


Horizontal cross section



Vertical cross section

## Technical Support

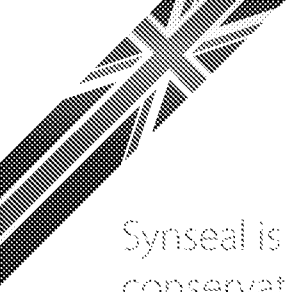


*At Synseal a skilled customer care team is always on hand to provide technical information, answer any window or door related questions and assist with project enquiries. With many years of industry knowledge and experience, the team can offer you specialist advice at all stages:*

- Advice on energy ratings and how to optimise the use of Synseal products
- Tendering assistance
- CAD details
- Design guides
- Dedicated commercial manager support
- Guidance on how to comply with the latest Building Regulations
- Wind load calculations
- Product specifications
- Installation instructions
- Maintenance guidelines
- Guarantee information



*As a business Synseal understands that its responsibility doesn't end when products are installed and a dedicated technical team is available to provide support and ensure customer satisfaction.*



Synseal is a leading UK manufacturer of conservatory roof, window and door systems

Evolve range products are designed and manufactured by Synseal Extrusions Ltd. Established over 30 years ago, Synseal now employs over 900 people and has a turnover in excess of £100 million. Main operations are located at a UK-based 35 acre site with 70,000 square metres of production, warehousing and office facilities.

The corporate objective at Synseal is to deliver thermally efficient products of consistently excellent quality and design to markets worldwide, at competitive prices.

Synseal constantly seeks to develop environmentally friendly new products which will support sustainable development and reduce carbon consumption. New ranges are designed with 100% recyclability, improved performance and cost-effectiveness in mind.

Synseal is **ISO14001 accredited** which ensures that all company environmental management systems comply with and even exceed government mandates.

All quality management systems are **ISO9001 accredited** which ensures that all processes are constantly checked and improved upon, to reduce waste and increase efficiency.

Synseal products are independently tested and accredited by the British Standards Institute (BSI) and the British Board of Agrément (BBA).



ISO14001  
Environmental  
management  
system  
certification



BBA  
Construction  
industry  
certification



ISO9001  
Quality  
systems  
certification

 **synseal**<sup>®</sup>

