Frame
Thermally broken aluminium
Vertical Meeting Profile 21mm
Base Frame 38mm (below FFL)
Head Frame 50mm (hidden in building finishes)
Side Frame 38mm (hidden in building finishes)
Frame Depth approx. 60mm per track
Finish PPC any RAL colour

Glass
6/8mm toughened outer / 16mm argon filled cavity
/ 6/8mm toughened inner with low e coating
Available on request Low Iron Glass, Low Maintenance Coatings, Solar Control Coatings, IQ Heated Glass, Privacy Glass, Electro Chromic Glass, Anti Reflective Glass
NOTE no laminated glass possible. Upgrade to minimal windows 4+ if a laminated pane required.
Glass thickness up to 32mm

Maximum Size
8.5m² per sliding pane
Maximum Height 4m
Maximum Weight 500kg for manual opening, panes over 500kg with automation

Locking
There are four locking options for the minimal windows® sliding system:
1. manual internal locking via thrust lever handle
2. manual internal locking via removable key
3. electromagnetic locking
4. external key locking (not suitable for every configuration)

Ironmongery
Sliding Rails stainless steel
Sliding Wheels stainless steel, in paired carriages within each sliding pane, minimum of 2 carriages, additional carriage for every 100kg of weight

Performance
Air Permeability Class 4 to EN12207
Water Resistance 7A to EN12208
Resistance to Wind Load C4/B5 to EN12210
Thermal Performance Uf value 3.2 W/m²K, achieves approx. Uw value of 1.5 W/m²K depending on configuration and glass spec.

Optional
Ventilation via slot aeration system
Integrated Drainage with IQ flush threshold drain
Sliding Configurations Examples

linear sliding panes up to 4 tracks, left/right sliding
Bi parting possible with either 21mm or 95mm meeting stile
Opening Corners 65 to 177° opening
Pocket Doors 1 to 4 tracks
Juliet Balconies with integrated frameless balustrade

More sliding configurations are possible, these are just examples of some of the options:
Typical Details

Horizontal Section of Coupling

Vertical Section of Head Frame, two track

Horizontal Section of Side Frame, two track

Track Depths

<table>
<thead>
<tr>
<th>Track Type</th>
<th>Track Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Track</td>
<td>60mm</td>
</tr>
<tr>
<td>Two Tracks</td>
<td>120mm</td>
</tr>
<tr>
<td>Three Tracks</td>
<td>185mm</td>
</tr>
<tr>
<td>Four Tracks</td>
<td>250mm</td>
</tr>
</tbody>
</table>

We recommend a maximum of 4 tracks. If more tracks are required please speak to a member of the IQ team.
Options for Biparting Sliders

Biparting with 21mm coupling

Biparting with 95mm coupling
Base Details

IQ have designed a bespoke base and drainage solution, highly suitable for the high wet weather environment of the UK. Our base and drainage system is created using a two part Neoprene drainage block. The top layer of Neoprene is not penetrated therefore ensuring the weather seal of the base installation.

EPDM’s

IQ provide and install a double skin EPDM with the base detail. Internal EPDM’s are installed by others.

Base Depth

125mm with IQ Flush Threshold Drain
80mm with Drainage by Others

Base detail with the IQ Flush Threshold Drain

Our integrated drainage channel can take up to 120 litres of water per minute for high levels of water egress.

Drain Top Colour Options

- Champagne
- GT Silver
- Titanium
- Black

NEW Freeway Base

Completely flat finish across base. Visible 37mm frame above FFL.
Handles + Locking

Lock Type 1 - manual thrust lever locking

Lock Type 4 - manual internal key locking

Image examples of the locking

Electromagnetic Locking

Options:
- manual with switch
- manual with remote
- glass break sensor
- closure monitor
- automated

External Key Locking

Locking Style Sightline 45mm
Key Lock accessible from both inside and outside.
Multipoint Cylinder Lock EN 1303 Certified
Opening Corners

Opening Corners 65 to 177° opening

Example Configurations

Fixed Corners (frameless or framed)

Framing Sections

90° opening corner

65 to 177° opening corner
Pocket Sliding Doors

Tracks 1 to 4 tracks

Example Configurations

Framing Sections

single pane pocket door

multi pane pocket door
Maximum Sizes

Sliding Panes Max Area each sliding unit has a maximum area of 8.5m².

Fixed Panes Max Area each fixed unit has a maximum area of 18m².

Height the system has a maximum tested height of 4m. Taller installations may be possible on request.

Width the maximum width per sliding pane will depend on the height, there is no restriction outside the
maximum area, weight and height.

Weight each sliding pane cannot exceed 500kg. Heavier doors will require automation.

Height to Width Ratio the width of a sliding door cannot be less than a third of the height.

For example:
Integrated Glazing Bars

To create a timeless glazing design you can specify minimal windows® with an integrated glazing bar design. These aluminium glazing bars are applied to the surface of the glass with a dummy spacer bar behind to create an authentic glazing bar design.

Maximum Glass Size 1300mm wide x 2440mm tall per glass unit

Glazing Bar Size 25mm

Glazing Bar Design Bespoke, made to order

Glazing Bar Colour to match surrounding frames, alternative colour available on request
Special Adaptations

Multi Corner Sliders
It is also possible to create corner opening sliders that slide past each other. This can be useful for projects with limited space, courtyards or awkward access spaces.

Installed at an Angle
The minimal windows® can be installed at an angle to suit building structures. Please consult IQ Glass for more details.

Shaped Sliders
The minimal windows® sliding panes can be created with shaped edges or corners. Please consult IQ Glass for more information.

Other Adaptations
minimal windows® is the world's premium sliding door system and is able to be adapted to architects requirements.

IQ Glass UK are Europe's largest installers of slim framed sliding doors and have extensive experience in adapting the system to your project specification. If you have an adaptation requirement for minimal windows that you haven’t seen shown here please do contact IQ Glass who will be able to advise if it is possible.
Automation

Automation is not required for the minimal windows® system, however it is always available as an option. We recommend automation when the sliding panes exceed 500kg each.

MOT 800
For sliding panes weighing a combined weight up to 800kg. For internal use only.

- Mains Connection: 1 x 230 V AC, 50-60 Hz, 10A
- Power Consumption: max. 190W
- Drive Protection Class: IP 22
- Ambient Temperature: -15°C to +50°C
- Approval: CE
- Dimensions: 117mm x 110mm
- Number of Sliding Panes: max 3 (more may be possible on request)
- Leaf Weights: up to 800kg
- Overall Weight: max. 800kg
- Sliding Length: up to 8000mm
- Opening Speed: 8 - 30 cm/s
- Closing Speed: 8 - 30 cm/s
- Max Force on Timing Belt: 175 N

MOT 2000
For sliding panes weighing a combined weight up to 2000kg. Available in an internal (IP22) or external (IP65) version.

- Mains Connection: 1 x 230 V AC or 1 x 115 V AC, 50-60 Hz, 10A
- Power Consumption: max. 310 W max. 350 W
- Drive Protection Class: IP 22 IP 65
- Ambient Temperature: -15°C to +50°C
- Approval: CE
- Dimensions: 160 x 180mm 180 x 195mm
- Number of Sliding Panes: max 3 (more may be possible on request)
- Leaf Weights: up to 1000kg
- Overall Weight: max. 2000kg
- Sliding Length: up to 10,000mm
- Opening Speed: 8 - 30 cm/s
- Closing Speed: 8 - 30 cm/s
- Max Force on Timing Belt: 320 N
Automation

Sensors and Controls

1 = Drive (casing, motor unit, control system and locking with mechanical emergency opening)
2 = Drive Accessories (a = emergency power supply via battery unit, b = radio receiver I/O module)
3 = Door Leaves (a = sliding leaves with main closing edge (3d) and secondary closing edge (3e), b = bottom guide for sliding leaves, c = fixed leaves, d = main closing edge, e = secondary closing edge)
5 = Safety Sensors (a = presence sensor include, securing of the main closing edge, b = presence sensors outside, securing of the main closing edge, c = presence sensors securing the secondary closing edge).

Control Options
4a = Push Button
4b = Radio Remote Control
4c = Code Keypad
4d = Key Switch
Control Equipment

**Control Options for Automation**

4a = Push Button  
4b = Radio Remote Control (smart system)  
4c = Code Keypad  
4d = Key Switch

**minimal windows® smart system**

Can be used to control and operate;  
Automated Sliding Doors  
Electromagnetic Locks  
Glass Breakage Sensors  
Automated Blinds

The smart system can also be designed to control other automated elements of a room such as venting windows, skylights, lighting and more.

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**WLAN**

<table>
<thead>
<tr>
<th>Bluetooth</th>
<th>Remote Control</th>
</tr>
</thead>
</table>

**Handheld Transmitter**  
Decentralised Location

At the touch of a button  
Up to 6 channels

**KELLER-App (smartphone or tablet)**  
Decentralised Location  
With status feedback  
Clear layout  
East-to-use interface

**Domotic-App (smartphone or tablet)**  
Centralised Location  
Integrated user management  
Pre-programmed weather station available  
Calendar function can be extended to control other elements of the building (ie auto venting rooflights etc)
Slot Aeration

PURPOSE
Where ventilation is required to rooms with our minimal windows sliding glass doors, our popular slot aeration system can be used. To increase ventilation in rooms with Minimal windows our Slot Aeration system works by allowing the Minimal window to be locked into 3 separate minimal open positions. In summer this will help to let in fresh, cool air, and in winter it is particularly useful to combat condensation formed by cooking and other general activity.

OPERATION
When you turn the handle into the locked position on a minimal window, two vertical shoot bolts protrude from the 21mm vertical profile and enter into their respective recesses in the top and bottom of the structure. Our Slot Aeration system works by providing two additional recesses for these shoot bolts to enter within the floor and ceiling, allowing for varied locking positions with either a 20mm or 40mm ventilation gap. The Slot Aerator can act as a purge ventilator, allowing high concentrations of stagnant air to be removed from the room. It is necessary for every habitable room to have ventilation, except where sufficient extraction provisions exist.

APPEARANCE
As the aluminium floor and ceiling fittings only span 55mm x 18mm and are installed directly into the floor and ceiling, it is a very unobtrusive addition to the minimal window system and therefore will not interfere with the overall aesthetic of your living areas. This simple yet intelligent design means that no additional handles or ironmongery are required as they would be with traditional windows (latches, etc).
See minimal windows® at the showroom

A large purpose built minimal windows® installation is available to view at the IQ Glass UK showroom in Amersham.

The sliding door installation is installed outside in a purpose built example dwelling so that all details can be realised fully in a built environment.

Our minimal windows® example is installed outside and is subjected to real UK weather conditions throughout its lifetime. This gives architects, specifiers and their clients a true indication of how the system operates over time.

Variations of the minimal windows® system on show are:
- 90° opening corner
- Single track pocket door
- Three Pane Slider
- Two Pane Slider
- Type 1 Lock
- Type 4 Lock
- minimal windows® as a window
- Vitra Pivot

If you would like to make an appointment to view the minimal windows® please get in touch with your sales representative at IQ.

Click here to view videos of our showroom
How to Specify a minimal window® from IQ Glass

The minimal windows® system is exclusive to IQ Glass in the UK. The aluminium window and door system is the first choice for architects and designers all over the UK looking for slim frame design with modern performance values. If you would like to specify a minimal window® on your project just speak to the team at IQ who would be happy to assist.

Speak to the team at IQ
The team at IQ are the experts in our product range. If you are considering using a minimal window® product on your project speak to the team at IQ who will be able to advise you on the best solution for your intended design, ensure that all specification criteria are met and advise the feasibility to areas of the installation you may not have considered.

Get a Quotation
We advise our customers to get a quotation for their intended minimal window® installations from IQ. This allows us all to ensure that the preferred product and design is within budget. If it is not we can help you adjust the specification to reach all performance, design and budgetary requirements.

Add us to your NBS Specification
To assist you in specification we have created individual NBS Specification sheets for the minimal window® product. These, easy to navigate, documents contain all the vital information needed for specification. They are available for you to complete on your own, alternatively ask your sales representative at IQ to complete this on your behalf.

Place the Order
When ready you (or your client or the builder) can then place the order for your minimal window® with us. A full in-house handover will take place and your project will be passed to the contracts and design team. Once your project deposit is placed we will then undertake full design drawings for the installation and any other additional glazing works. Please allow at least 20 working days for the design process.

The project will be appointed a dedicated contracts manager who will oversee the installation process. The estimated lead time for a minimal window® is 10 to 12 weeks depending on system and material chosen. This may be longer for specialist installations. This will be confirmed on order.

Where can I see the minimal windows® product before order?
We have several minimal window® configurations available to view at our showroom in Amersham. These aluminium windows and doors have been installed in a purpose built structure, exposed to the environment and used on a day to day basis. This will enable you to see just how well the minimal window® system withstands the wet British climate and how smoothly they operate over time.

If you or your clients would like to see the minimal windows® products in person just contact us and arrange an appointment at the showroom.
Downloads and Other Useful Information

The minimal windows® product page
Here you can
- Read the product specification information
- Download relevant technical documents (such as NBS Specifications and Standard Details)
- Download the minimal windows® Premium Brochure
- Read associated technical articles
- Click through to see UK case studies that include minimal windows®
- See associated or complementary products to form a full glazing package

minimal windows® Case Studies
Here you can
- See images of completed projects by IQ that include minimal windows®
- Investigate what additional glazing products were used in conjunction with minimal windows®
- See a range of architectural projects that used minimal windows®

The minimal windows® Premium Brochure
Here you can
- See all the technical information shown here in a more graphical format
- See more project examples of minimal windows®
- Useful to showcase the product to the end client

The IQ Sliding Doors eBook
Here you can
- Compare minimal windows® to other sliding door systems
- Investigate alternative sliding doors available from IQ
- Compare the cost of minimal windows® to other sliding doors from IQ
Other Options

**For Larger Sliding Panes / Triple Glazing / Laminated Glass**
The minimal windows® 4+
- Max Sliding Size 12m², 4.5m tall (taller available on request)
- Glass Spec Triple Glazing, glass thickness 50-56mm
- Sightline 26mm

![View the minimal windows® 4+](Image)

**For Vertical Sliders**
The minimal Vertical Sash Window
- Max Pane Size 12m² / 8.5m²
- Glass Spec triple / double glazing
- Sightline 26/21mm
- Operation counterweighted / electric motors

![View the minimal Vertical Sash](Image)

**For Pivot Windows**
The Vitra Pivot Window
- Max Pane Size 3.7m tall, 2.4m wide
- Glass Spec double glazing

![View the Vitra Pivot Window](Image)