

PVC-U System

# Reversible Windows



**WORLD  
GROUP**

# The ideal window solution for medium and high-rise buildings

The Reversible Window is heavily specified for use in medium-high-rise applications and inaccessible locations.

The window easily rotates 180° allowing for safe and easy cleaning of the outside pane without the window entering the room space itself. Its high security locking and child resistant safety catches, and weather performance ensures its maximum safety and security.



## Reversible Window System

Especially designed for medium-high-rise, exposed and inaccessible locations, the Reversible Window System from World Group delivers everything architects, specifiers, contractors and end users need.



## A strikingly modern window

The Reversible Window System was designed to combine exceptional performance with outstanding good looks. It has a deep bevelled edge that gives it a striking, modern look and enhances the building aesthetic.



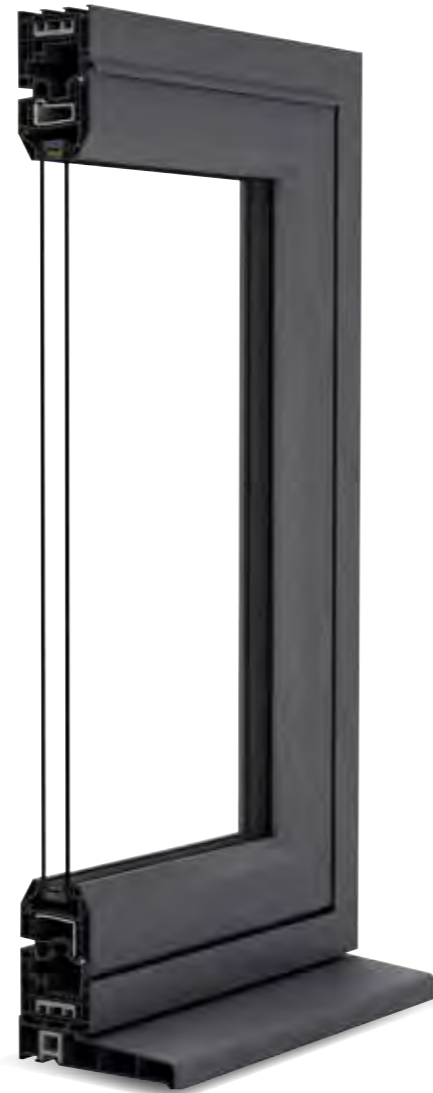
## Intelligently designed

The Reversible Window System is a 5-chamber system that uses innovative Aeroframe™ technology to deliver greater thermal performance. As such it can achieve a WER 'A+' rating with argon-filled triple glazing. This makes it a highly cost-effective alternative to krypton gas filled units or systems that use expensive special reinforcing or insulation in the profiles.



## Low carbon technology

The Reversible Window System is a sustainable product that doesn't consume additional harmful materials or generate associated waste. Our entire manufacturing process, from design and production to installation is confined to the UK and Ireland, minimising transportation and fuel consumption.



## A truly British heritage

The Reversible Window System is produced by World Group, the UK's largest systems house with a track record stretching back nearly 50 years.

We offer the widest portfolio of integrated window and door systems, a choice of leading brands, with unrivalled expertise and support to grow your business.

We firmly believe in continuous investment in our production facilities and operations. Our approach means we are able to provide the levels of quality and reliability you have a right to expect.

Our products are designed and manufactured in Britain for the British market. We are active in trade and industry bodies and we take a leading stance in environmental initiatives. Our commitments mean you are able to rely on us to be a proactive partner that adds value to your business.

Because when you work with World Group you get more options and more possibilities.



# A practical solution

The Reversible Window System offers the exceptional thermal efficiency and weather performance credentials that medium-high-rise and exposed locations need.



It's also been designed with the day-to-day needs of end users in mind. The window easily rotates 180° so the outside pane can be cleaned safely without it entering the room space, stopping curtains and blinds from snagging. High security locking and child resistant safety catches provide reassuring safety and security.



The window can rest in a narrow night ventilation position or open to approximately 100mm.

The innovative hinge assembly brings the outside pane to the inside of the room.

The window can also rest in a more open position approximately 300mm wide.

The window rotates without entering the room space.

Once the safety catch is released the window can be completely rotated. The reversed window engages on a catch allowing safe and easy cleaning of the outside pane.

## bimstore

### BIM

Building Information Modelling (BIM) provides information modelling and information management in one digital asset. It reduces the risk of mistakes and discrepancies and ensures everyone is working to the same standards across a project. The Reversible Window System is available free on Bimstore, the world's best collection of BIM components.

[www.bimstore.co](http://www.bimstore.co)



### NBS Source

NBS is a global leading technology platform that combines the best content and connectivity for anyone involved in the design, supply and construction of the built environment. Its database includes the Reversible Window System.

[source.thenbs.com](http://source.thenbs.com)



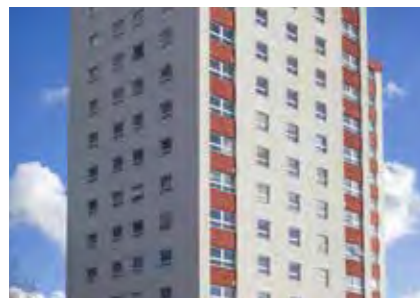
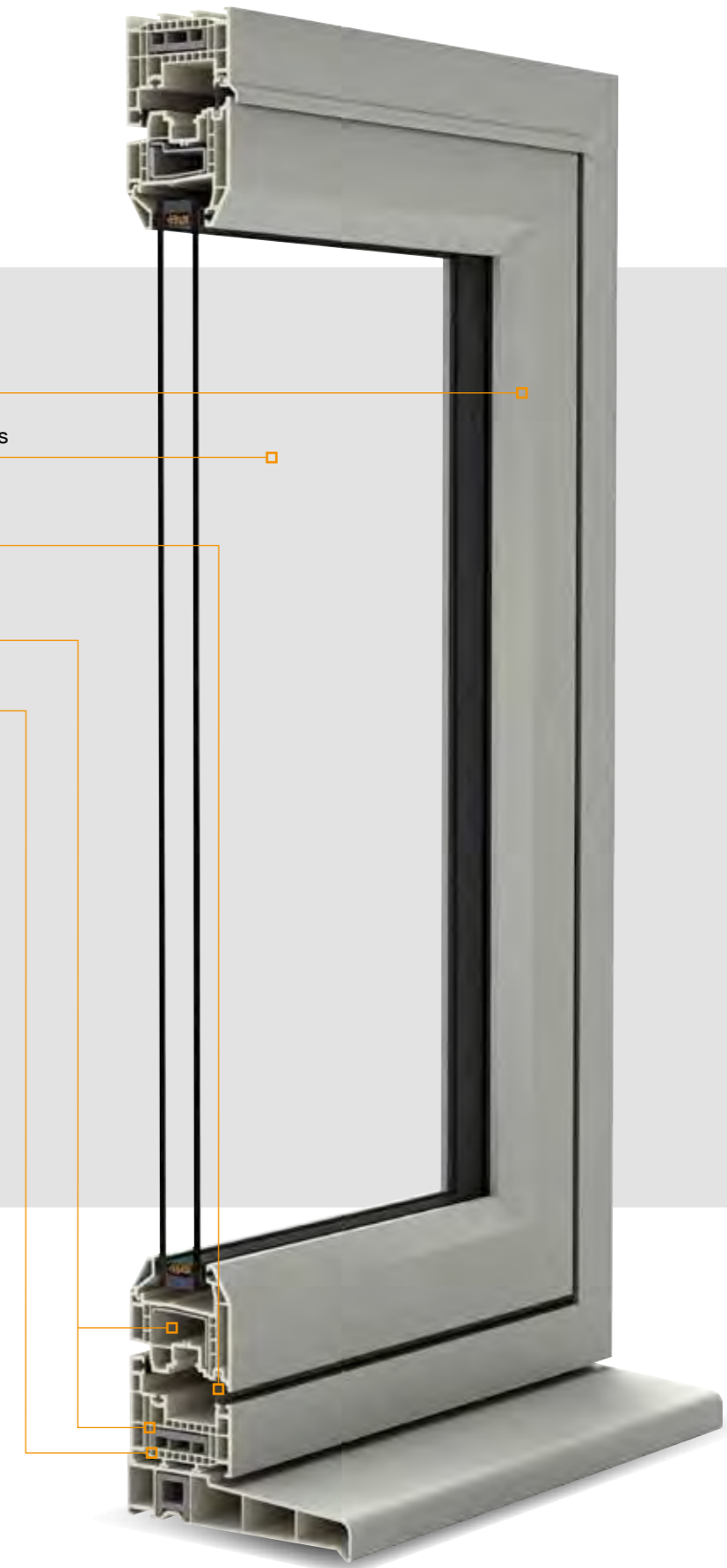
# Reversible Window System

## A strikingly unique window.

The Reversible Window System has a deep bevelled edge that gives it distinctive, modern aesthetics. At the same time, it's a window that has safety, security, practicality and thermal efficiency at its heart.

## Product features

- 1 Deep bevelled edge design
- 2 24, 28, 36, 40 & 44mm glazing options
- 3 Optional 2nd & 3rd weather seals for even better thermal performance
- 4 5-chamber outer frame & sash (with optional RCM inserts available)
- 5 Patented Aeroframe™ technology



# The Colour Collection

Colour is an essential component of a modern window system and the Reversible Window System doesn't disappoint.

The Reversible Window System is available in a choice of colours.

The range includes modern classics such as Anthracite Grey and classics of the future such as Claystone. Dual colour options are also available, bringing the option of different interior and exterior colours.

We use complementary base colours of white, grey, brown, tan and cream to deliver next-level aesthetics. And for all our colour options, rigorous manufacturing processes and state-of-the-art facilities mean outstanding quality and durability are guaranteed.

It's a colour offering that reflects the requirements of commercial projects.



## Stock Colours

### Premium



Anthracite Grey / White (PVC-U) (White Base)

## Fast Track Colours

### Premium



Anthracite Grey Smooth / White (PVC-U) (White Base)



Anthracite Grey Smooth / Anthracite Grey Smooth (Grey Base)

## Made to Order Colours

Made to Order Colours are available with white PVC-U internal faces, or foiled on both sides on a complementary base colour for better looking installations.

Cream Base	Tan Base	Brown Base	White Base	Grey Base	
Cream	Irish Oak	AnTeak	White	Black Ulti-Matt	Slate Grey
Claystone	Honey Oak Super-Matt*	Swamp Oak	Dark Red	Silver D Smooth*	Anthracite Grey
Pebble Grey	Light Oak	Rosewood	Steel Blue	Hazy Grey	Anthracite Grey Smooth
Windsor	Pyrite	Black Brown	Dark Green	Kensington Grey	
Sage Smooth		Flemish Gold Smooth		Buckingham Grey	
Agate Grey				Basalt Grey Smooth	
Chartwell Green				Slate Grey Finesse	

# Range of reliable hardware

Market leading hardware.

World group uses UK's leading suppliers of hardware to the industry fully compatible with the Reversible Window.

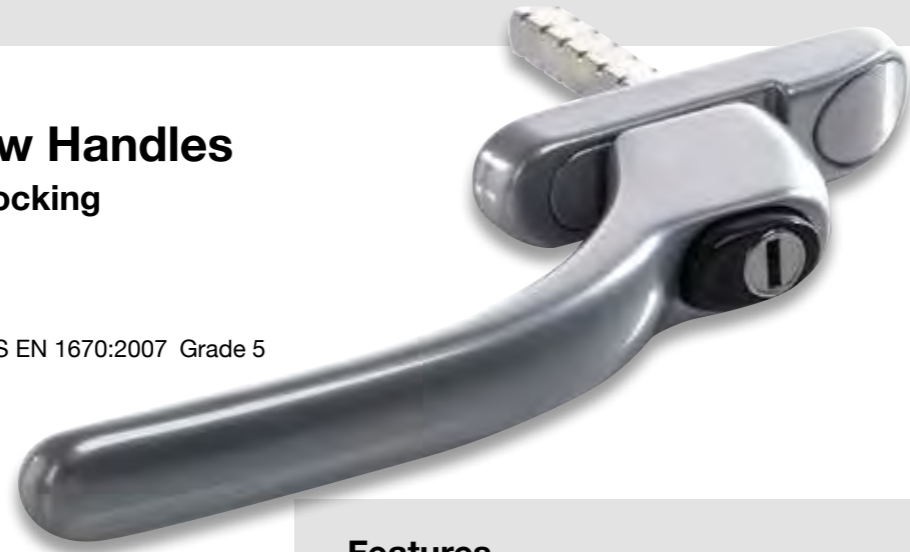
Its range includes household name brands and trusted specialists, all renowned for long-term performance and reliability.



## Fab&Fix Window Handles Connoisseur Inline Locking

### Technical information

- **Corrosion resistance**  
Meets the requirements of BS EN 1670:2007 Grade 5 (480 hours)
- **Operation**  
Endurance tested in excess of 25,000 cycles
- **Performance**  
Tested to meet the requirements of PAS 24 as part of a compliant window



### Features

- **Solid die cast construction**  
Heavyweight handle with sturdy feel
- **Heavy duty sprung latching wedge**  
Positive click on closing
- **Long handle**  
Greater leverage and easy to operate without catching a hand on the window
- **Classic design with a contemporary twist**  
Create an elegant and stylish window
- **Patented cover caps with colour coordinated finish**  
Perfectly matching components, even down to the smallest details
- **Secured By Design**  
Additional peace of mind
- **Key clicks into place when inserted**  
Won't fall out of the lock, even when pivoting the lever
- **Slotted spindle (40mm version only)**  
Allows cropping to 5mm increments
- **Supplied with screw and spindle pack**  
Everything needed for installation included

### Colour options



## Maco R.A.I.L Espagnolette

The MACO R.A.I.L Reverse Action Espagnolette offers PAS 24 compliant levels of security without the requirement to fit shootbolts.

The reverse action operation pulls the locking cams together, clamping them into both sides of the striker plate for strength and security. With no cropping or extensions required fabrication is fast and simple.

All MACO products are supplied with the Tricoat Plus coating as standard providing 1,000 hours salt spray testing to BS EN 1670.

### Technical information

- **Backset: 20mm and 22mm**
- **Cam height: 7.7mm, 9.0mm and 10.5mm**
- **Cam adjustment: +/- 1mm**
- **Faceplate width: 16mm**
- **Eurogroove depth: standard 12mm and shallower Eurogrooves**
- **Sash rebate size range: 200mm – 1400mm**
- **Salt spray tested to 1000 hrs**

### Features

- **R.A.I.L – Reverse Action In Line**
- **Fast and simple to fit with no cropping required**
- **Compression adjustable mushroom cams**
- **Fits standard or shallow eurogroove**
- **Sizes from 200mm – 1200mm**



Description	Length (mm)	20mm Backset			22mm Backset			Sets of Mushrooms	Box Qty
		7.7mm Mushroom	9.0mm Mushroom	10.5mm Mushroom	7.7mm Mushroom	9.0mm Mushroom	10.5mm Mushroom		
<b>MACO R.A.I.L Espagnolette</b>									
GR1	200	202693	202705	202691	202699	202711	202685	1	10
GR2	400	202694	202706	202690	202700	202712	202684	2	10
GR3	600	202695	202707	202689	202701	202713	202683	2	10
GR4	800	202696	202708	202688	202702	202714	202682	3	10
GR4a	900	208805	208809	208813	208807	208811	208815	3	10
GR5	1000	202697	202709	202687	202703	202715	202681	3	10
GR5a	1100	208806	208810	208814	208808	208812	208816	3	10
GR6	1200	202698	202710	202686	202704	202716	202679	3	10



## Accreditations & testing

### PN UNI Top Swing by Roto Reversible Gearing

#### Technical information

- Recommended sash window height: 308mm – 1700mm (height should always exceed width)
- Glazed sash weight: 60kg max
- Heavy duty gearing to suit 80kg sash weights available
- Module 4 max glazed sash weight: 15kg



#### Features

- Easy and secure operation
- Fully reverses for easy cleaning
- Sash reversal takes place outside of the building avoiding interior curtains/blinds
- Emergency egress escape opening can be achieved (providing building regulations are met)
- PAS 24 compliant when additional support hardware is used
- BS 6375 Part 2 2009 compliant

Ref No	Module Size	Min Sash Height When No Cutting	Max Sash Height When No Cutting	F Dim (mm) No Cutting	Max Escape Opening Height (cm)	Length of Fitting (mm)	Special PN no (Hotel Hinge)	Box Qty
<b>PN UNI Top Swing</b>								
0374	4	305	360	136	–	324	–	10
0475	5	405	504	186	23	424	0475	10
3776	6	505	560	238	30	524	0476	10
3790	6.5	561	604	264	34	580	0490	10
3777	7	605	660	288	36	624	0477	10
3791	7.5	661	704	312	41	680	0491	10
3778	8	705	760	338	43	724	0478	10
3792	8.5	761	804	364	46	780	0492	10
3779	9	805	860	388	50	824	0479	10
3793	9.5	861	904	412	53	880	0493	10
3780	10	905	960	438	56	924	0480	10
3794	10.5	961	1004	458	60	980	0494	10
3781	11	1005	1060	488	63	1024	0481	10
3795	11.5	1061	1104	512	66	1080	0495	10
3782	12	1105	1160	538	69	1124	0482	10
3796	12.5	1161	1204	564	73	1180	0496	10
3783	13	1205	1260	588	78	1224	0483	10
3797	13.5	1261	1304	612	80	1280	0497	10
3784	14	1305	1360	638	83	1324	0484	10
3798	14.5	1361	1404	664	86	1380	0498	10
3785	15	1405	1460	688	89	1424	0485	10
3799	15.5	1461	1504	712	92	1480	0499	10
3786	16	1505	1560	738	96	1524	0486	10
3787	17	1605	1704	778	102	1624	0487	10
3788	18	1705	1705	828	108	1724	0488	10

As the UK's leading manufacturer, World Group holds all the accreditations you need to meet your requirements.



**BS EN ISO 9001**  
BSI Registered firm scheme: Quality Management Systems.



**BS EN ISO 14001**  
Manufactured under an ISO 14001 Registered Environmental Management System.



**BS ISO 45001**  
Occupational Health and Safety Management Systems.



**BS EN 12608/PAS 24**  
Enhanced Security Window System Supplier.



**BS EN 12608/PAS 24**  
Enhanced Security Door System Supplier.



**BS EN 12608**  
PVC-U Profiles for the Fabrication of Windows and Doors.



**BS 8529/PAS 24**  
Enhanced Security Composite Door System Supplier.



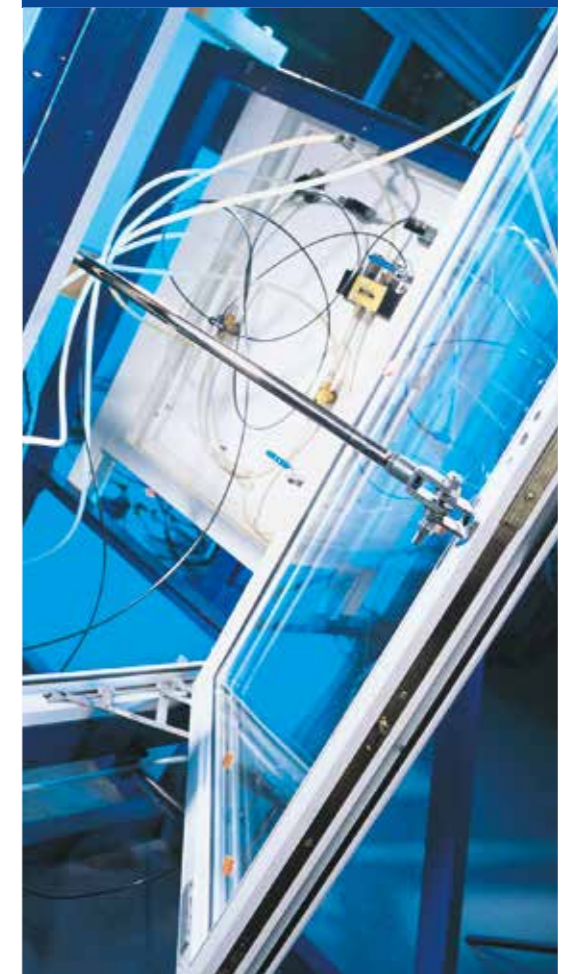
**Secured by Design**  
The UK Police initiative supporting the principles of 'designing out crime' by use of crime prevention and security standards.



**VinylPlus**  
A labelling scheme to identify the most sustainable and high-performance PVC-U products.

### Tested to the highest standards

Every aspect of the World Group product portfolio is continually tested and assessed to ensure it offers excellence in every respect. All Reversible Window System products meet current Building Regulations as standard and many can provide solutions far above these requirements. No matter how demanding your project, the Reversible Window System will deliver.



# Thermal efficiency

Exceptional performance as standard.

The Reversible Window System combines outstanding performance with intelligent design.

It is a 5-chamber system that uses innovative Aeroframe™ technology to deliver greater thermal performance. As a result, it can achieve a WER 'A+' rating with argon-filled triple glazing. This makes it a highly cost-effective alternative to krypton gas filled units or systems that use expensive special reinforcing or insulation in the profiles.

It has been designed to withstand the elevated conditions and exposure of high-rise developments. There's an optional second and third weather seal to provide an extra level of protection in particularly exposed environments.



## Fully Reversible System Product Data



**Reversible Window**

### PERFORMANCE & ACCREDITATION

U-value (double glazing)	1.2 W/m²K
U-value (triple glazing)	0.8 W/m²K
Energy Rating (WER)	A++
Green Guide Rating #	A
Acoustic Performance-various options depending on specification-RW (C;Ctr)	40
Air Tightness (Pa)	Class 4 (600pa)
Water Tightness (Pa)	Class E1500 (1500pa)
Wind Loading (Pa)	Class BE2400 (2400pa)
Security	PAS 24
PAS 24 Size Limits (mm)	1235 x1356
Secured by Design (SBD)	✓

### CONFIGURATIONS

Top Hung Outward	✓
Fixed Light	✓
Multilight	✓

### SASH WEIGHT & SIZE LIMITS

Maximum Sash Weight*	60 kg
Maximum Sash Size (mm)	1500 x 1500

### SYSTEM FEATURES

System Depth (mm)	70
Dual Colour Option	✓
Multipoint Locking	✓
Glazing Options	Internally Beaded
Glazing Thickness (mm)	24/28/36/40/44

\*Hardware dependent







**WORLD  
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For more information about World Group products.

**Tel 01228 599777**

[www.world-group.co.uk](http://www.world-group.co.uk)