ERA

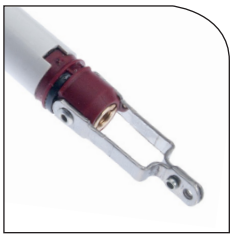


















Vertical Sliding Windows Installation Manual

For PVCu and Aluminium VS Windows

Index

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All dimensions throughout this manual are in mm and are nominal.

ERA Home Security reserves the right to change specification without notice

It is the responsibility of the window manufacturer to ensure that the finished product meets any required safety and performance specification.

QMF 89 Issue 4: 20/02/26

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Key Features and Benefits



Balances

- UK manufactured in the West Midlands
- Simple fixings
- Stainless Steel Spiral Rods
- Dual Tension Springs with a semi-flexible outer tube
- F and K balances are delivered pre-tensioned for ease of fabrication
- All balances can be adjusted with a screwdriver for easy on site adjustment
- Combination of spiral rod torsion and tension springs produce a smooth operating easy to use balance, capable of maintaining the equilibrium of the window at any point
- Variety of tube colours

Gearing

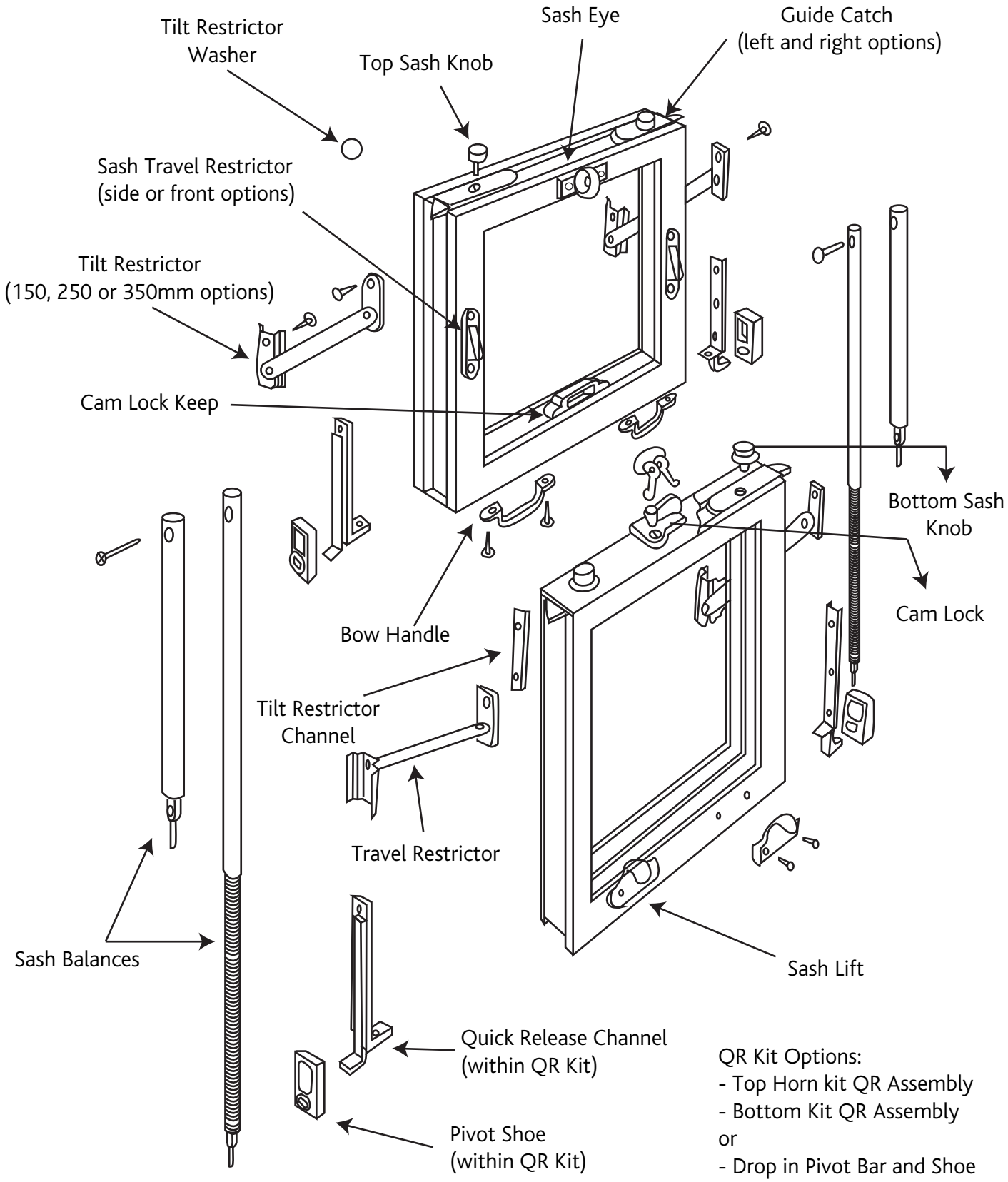
- Pivot bar kits are all slide in and out for quick release and ease of maintenance
- Tilt Restrictors are available as quick release or direct fit for most PVCu profiles and provide enhanced safety of the window for cleaning

Hardware

- Full range of hardware including standard and high security Cam Locks, Sash Lifts, Sash eyes, Guide Catches and Bow Handles
- Extensive colour range available in Hardex Chrome, Hardex Gold, Hardex Bronze, Hardex Graphite, Antique Black, White and Black
- Suited decorative high security Cam Locks and Decorative Bottom Sash Knobs

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PVCu VS Windows Exploded View



QR Kit Options:
- Top Horn kit QR Assembly
- Bottom Kit QR Assembly

or

- Drop in Pivot Bar and Shoe

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Typical Standard VS Kit for PVCu Windows

Ordering products for a PVCu window is profile specific, please refer to your specific order form for correct components or contact us with the profile details for further assistance.

A typical full kit for 1 window includes:

Description	Quantity (each unless otherwise stated)
Pre-tensioned Balances (F/K Type)	2 pairs
Quick Release Pivot Bar Kits	2 pairs**
Tilt Restrictors	2 Pairs
Sash Eye	1
Cam Locks (key locking)	2*
Keep	2*
Bottom Sash Knob	2
Top Sash Knob	2
Guide Catches (left / right)	4
Travel Restrictor (optional)	2
Sash Lift	2

* For windows over 800mm wide

** Profile dependant (see page 17 for more details) options are Top Horn Kit, Bottom Horn Kit or Drop in Pivot Bar and Shoe

Please Note

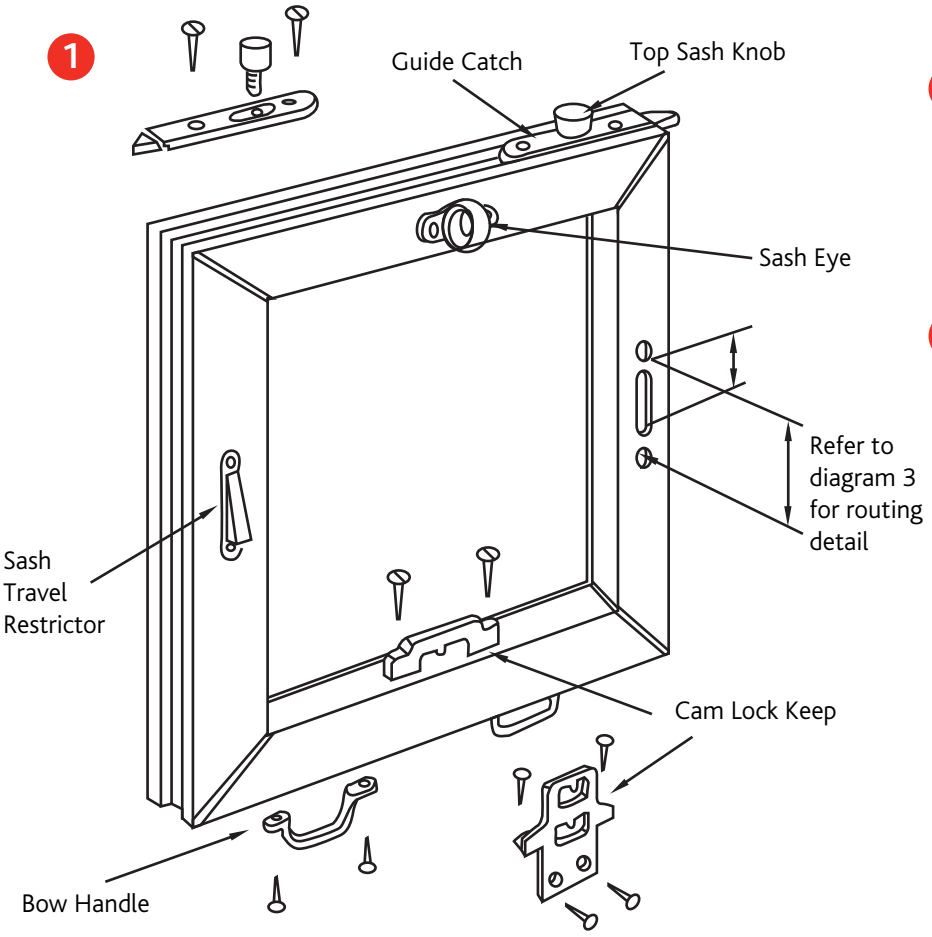
Finish options for hardware include: Hardex Chrome, Hardex Gold, Hardex Bronze, Hardex Graphite, Antique Black, White and Black.

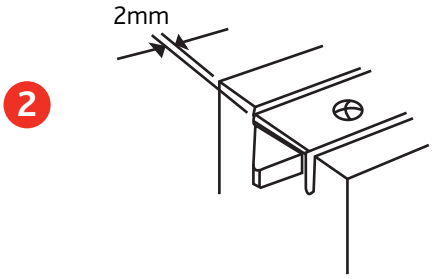
Available hardware in finishes specified above include Sash Eye, Bottom Sash Knob, Bow Handle, Cam Locks, Cam Lock Keeps and Sash Lifts. Keeps are available in either 8mm or 11mm.

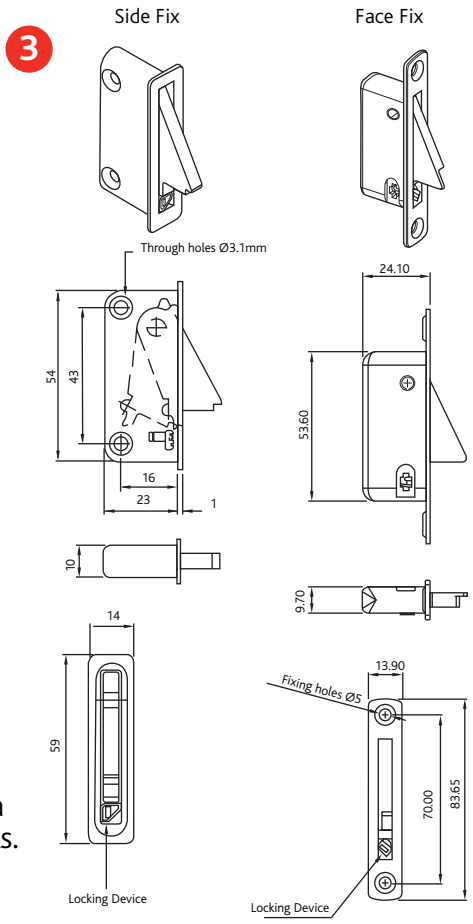
Tube colours for balances include: White, Brown, Grey, Cream, Black and Tan.

Please contact us for details of the correct Quick Release Kits and Tilt Restrictors for your chosen profile system. Tilt Restrictors are available in different sizes, for guidance we suggest using a 250mm for sashes up to 600mm in height, any sash over 600mm high will require the 350mm Tilt Restrictor. A 150mm version is available for certain profiles.

Fitting Top Sash Hardware







A range of hardware is available to suit the majority of profiles.

1 Cam Locks and Keeps:

The number of cam locks used depends on the width of the sash. As a guideline, a sash of greater than 800mm width requires two cam locks. Fix the Cam Lock Keeps to the bottom rail of the sash with the two screws. Align with the keep on the bottom sash.

2 Guide Catches / Tilt Latches / Top Sash Knob:

Guide catches are installed on each side of both sashes, handed (left and right). Note that the protrusion of the tapered face is set at 2mm to ensure good penetration of each catch into the frame. For more information see page 6. Screw the top sash knob into the guide catch to operate the latch.

3 Sash Travel Restrictors:

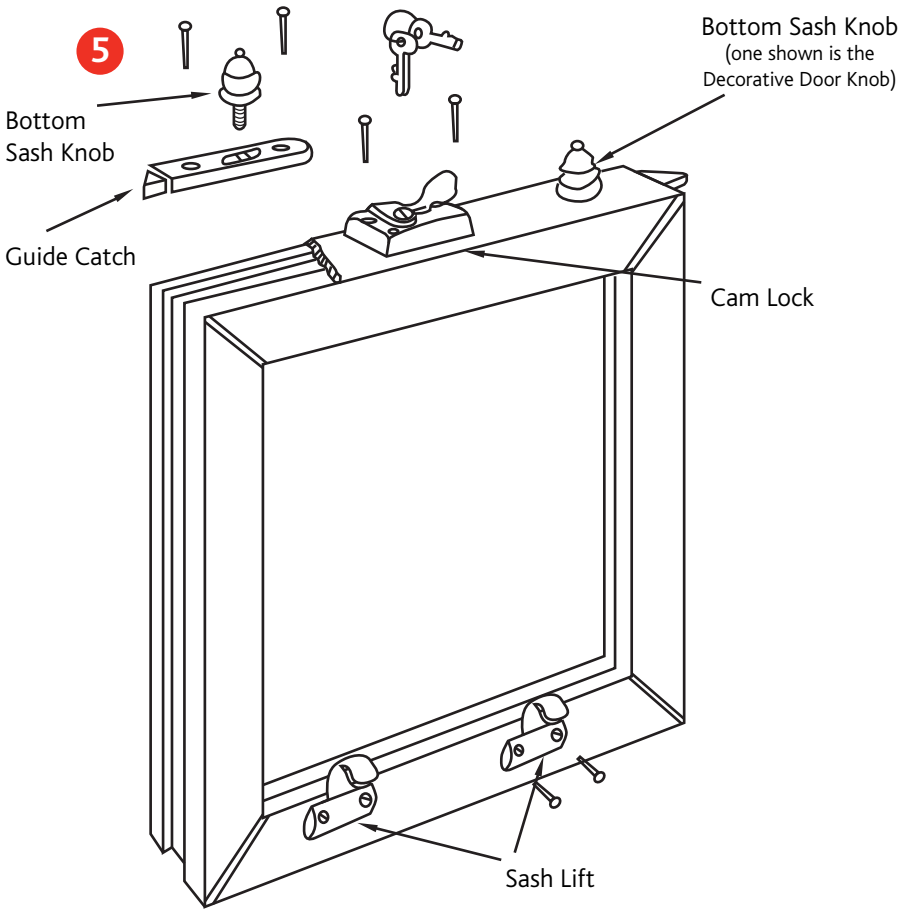
There are two options for Sash Travel Restrictors, one that affixes to the front of the sash and the other to the side of the sash; both use two screws to secure firmly. See Fig 3 for sash preparation detail. It is recommended that the restrictor is fitted to both sides of the sash.

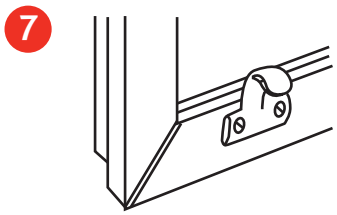
4 Other Hardware:

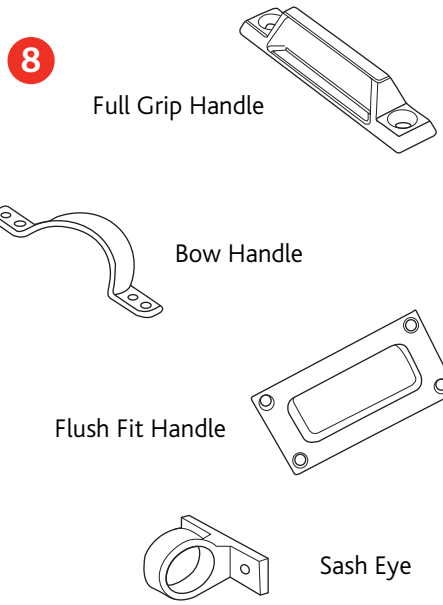
Sash eyes fix to the sash with two screws, position the screws so that they pass through the windows reinforcement. Bow handles are fixed to the sash with the screws provided, see page 2 for alternative hardware options.

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Fitting Bottom Sash Hardware







5 Cam Locks:

Please align the Cam Lock with the Cam Lock Keep to ensure correct and smooth engagement. To do this line up the sashes and mark the centre line prior to fixing to the sash. Please ensure there is no more than 2mm gap between the lock and keep. The Cam Lock is secured with two screws, position the screws so that they pass through the windows reinforcement. Please see advice for the appropriate screw length for your chosen profile to ensure that they locate correctly into the reinforcement. Fix the Cam Lock to the top rail of the sash. Right handed locking and left handed non locking Cam Locks are available in 8mm, 11mm and double staged variants. If fitting a Security Cam Lock, please see page 9.

6 Guide Catches:

Guide catches are installed on each side of both sashes, handed (left and right). Note that protrusion of the tapered face is set at 2mm to ensure good penetration of each catch into the frame. For more information see page 6.

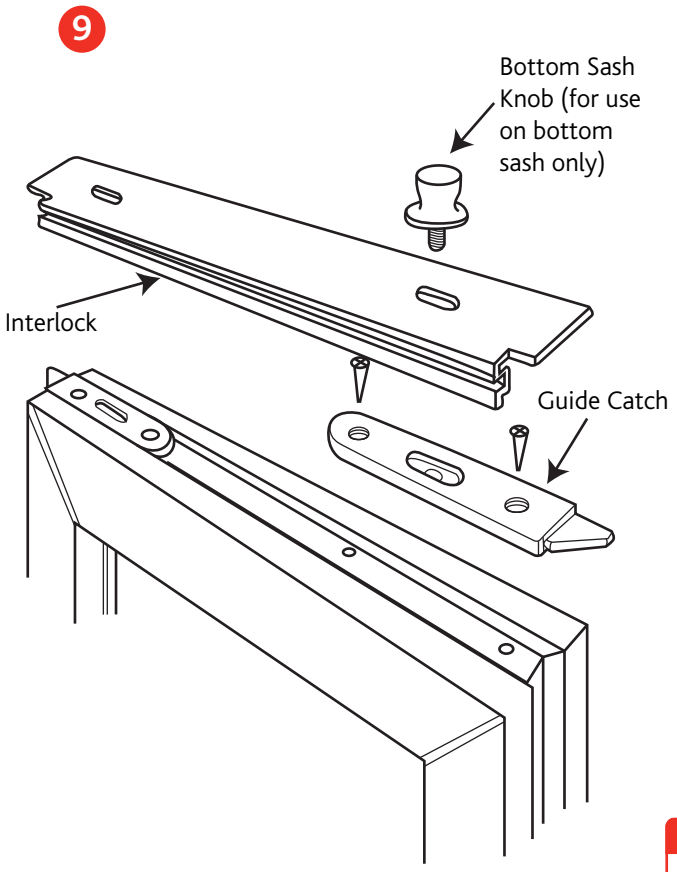
7 Sash Lift:

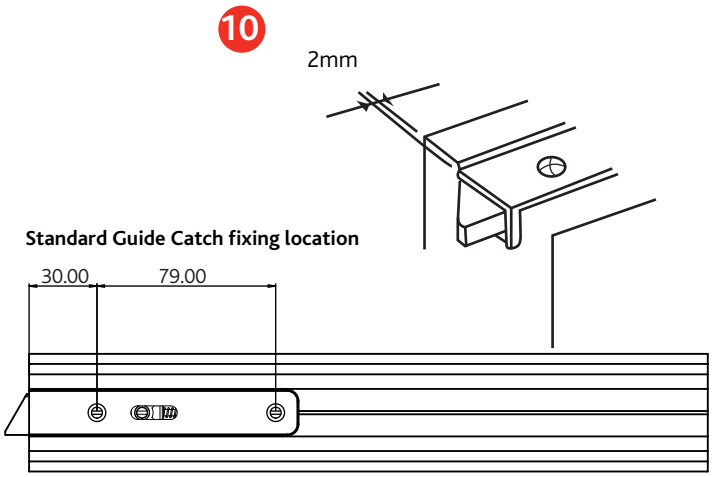
Next fit the Sash Lifts to the bottom rail, using the two screws as shown. It is advisable to have two sash lifts per window to enable the sash to be lifted easily. Please ensure the Sash Lifts are spaced evenly along the sash.

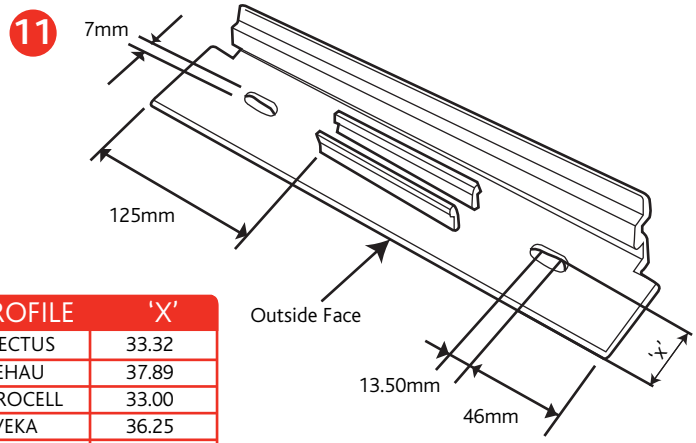
8 Other Hardware:

There are a number of other options you can fit to the window in place of the traditional Sash Lift, please see Fig 8.

Guide Catch Fitting







PROFILE	'X'
SPECTUS	33.32
REHAU	37.89
EUROCELL	33.00
VEKA	36.25
HALO	34.5
DECEUNINCK	18.85

9 Guide Catches:

Guide Catches are handed and self engaged when the window is closed. Markings on the catches will identify them as either left or right handed. Please determine handing from the inside of the window.

Fix the Guide Catch to the sash using two screws. The front face of the catch must line up with the edge of the sash (please see Fig 10) and please note that the protrusion of the tapered face is set at 2mm to ensure good penetration of each catch into the frame.

The Interlock panel is secured into place to conceal the Guide Catch within the sash. The Sash Knob are then screwed through the Interlock to locate into the middle hole on the Guide Catch.

Please note two different types of Sash Knobs are available to suit the top and bottom sash, please ensure you fix the correct type to the sash, two Sash Knobs are used per sash to accompany the Guide Catches.

Interlock may need to be modified to ensure the frame and bottom sash do not clash.

Sash Knobs are used to operate the Guide Catch and move the tapered latch in and out to allow the window to be tilted.

Typical High Security Kit (SBD) for PVCu Windows

A typical full kit for 1 window includes:

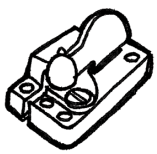
Description	Quantity (each unless otherwise stated)
Pre-tensioned Balances (F/K Type)	2 pairs
Quick Release Pivot Bar Kits	2 pairs
Tilt Restrictors	2 Pairs
Sash Eye	1
High Security Cam Locks (key locking) Standard or Decorative	2
High Security Keep	2
Bottom Sash Knob Standard or Decorative	2
Top Sash Knob	2
High Security Hardened Steel Guide Catches (left / right)	4
Travel Restrictor (optional)	2
Sash Lift	2
Chimney Blocks	2
Side Bearing Strip (profile dependant)	4*

* For certain profiles Side Bearing Strips are required to be fitted to the Guide Catch

** For windows over 1200mm wide an additional security block mounted across the top sash is required

Please Note

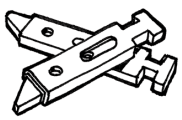
Finish options for standard SBD hardware include: Hardex Chrome, Hardex Gold, Hardex Bronze, Hardex Graphite, Antique Black, White and Black. . Other hardware in finishes specified above include Sash Eye, Bottom Sash Knob, Bow Handle, Cam Locks, Cam Lock Keeps and Sash Lifts. Keeps are available in different sizes, for guidance we suggest using a 250mm for sashes up to 600mm in height, any sash over 600mm high will require the 350mm Tilt Restrictor. A 150mm version is available for certain profiles.



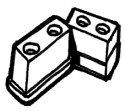
Decorative Security Cam Lock



Decorative Bottom Sash Lock



Security Guide Catches



Chimneys



Side Bearing Strip

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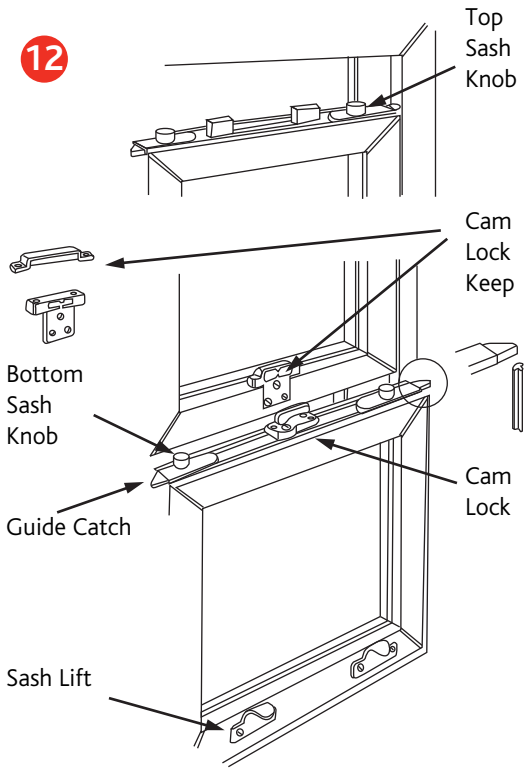
Installation Instructions Security Hardware (SBD)

Note: The window specification to cover SBD requirements is for the window to be fully reinforced and mitred to edge, using specified glass. All screws fixings must securely locate into the reinforcing to conform to the requirements of SBD and our warranty conditions.

12 Preparation:

Hardware is available to suit popular profiles, with Cam Locks in a choice of standard or decorative. Two cam locks and two security blocks are required for installation.

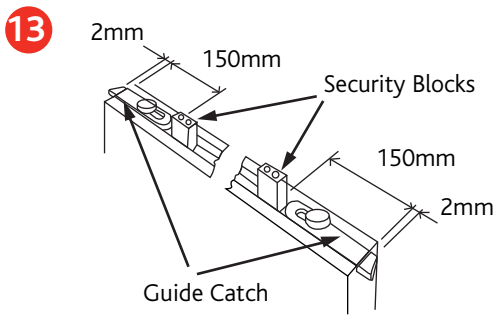
A sash width over 1200mm width requires an additional security block mounted centrally across the top sash.



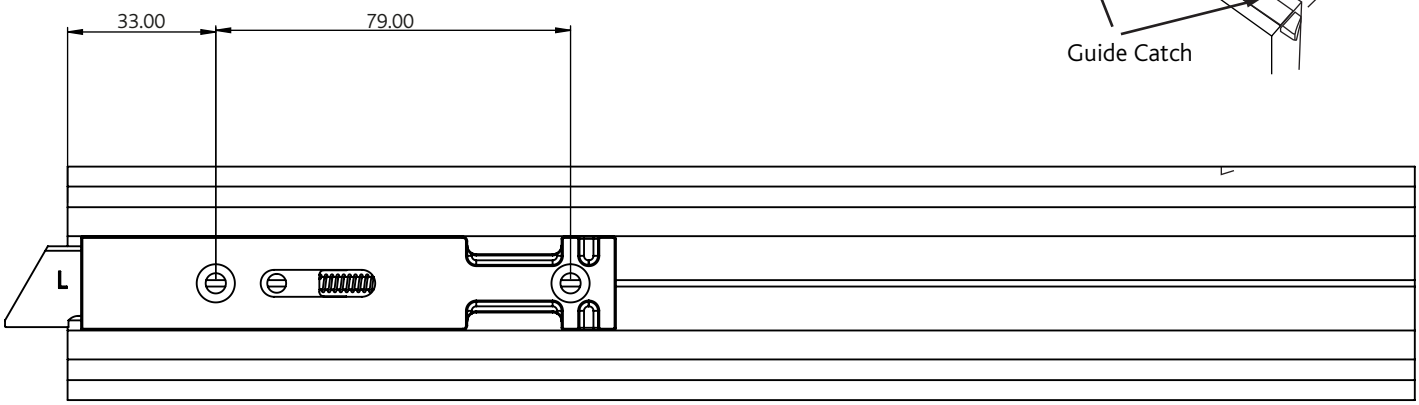
13 SBD Guide Catch Installation:

Guide catches are installed on each side of both sashes.

Note that the protrusion of the tapered face is set at 2mm to ensure good penetration of each catch into the frame. The parts are marked left and right hand. Two of each are required.



SBD Guide Catch fixing location

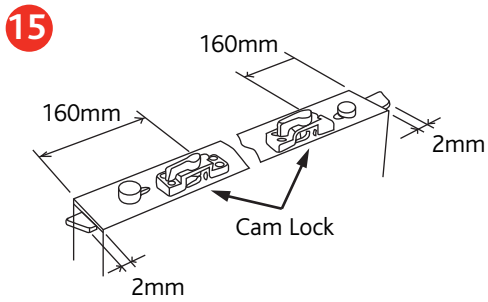


Note: Refer to Guide Catch meeting rail hole preparation

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14 SBD Security Chimney Blocks

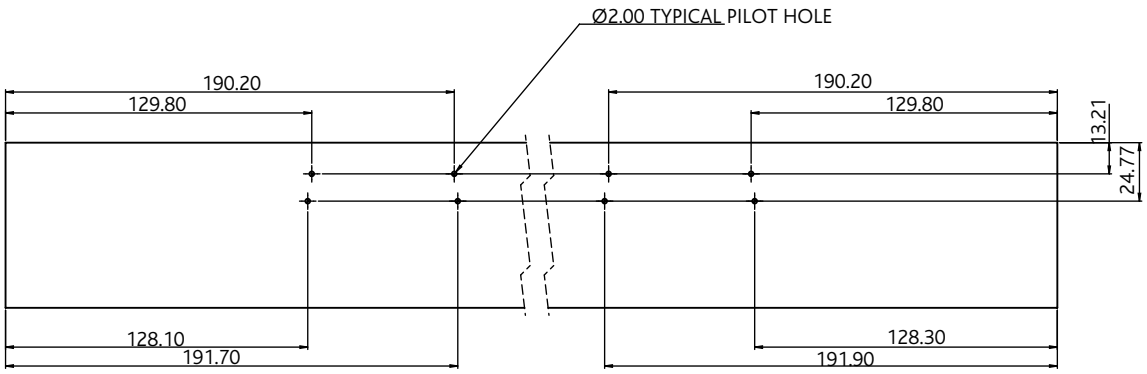
They are simply screwed into the top sash only using long installation screws, again to the spacing shown. On wide sash windows a third block placed centrally is required for security integrity.



15 SBD Cam Locks:

Place the Cam Locks as illustrated and use the longest screws possible without breaking into the glass channel etc. The cam locks are not handed.

SBD Camlock Fixing Hole location



16 SBD Keepers:

Each security cam lock needs a keeper. The keepers have to be aligned true to the cam lock such that when closed the two parts match up by eye giving a neat sight line. Some keeps are made with 3 face screws. Ignore the one illustrated. It may suit the keeps before the interlocking section is trimmed and fitted.

17 Additional Notes

Profiles (excluding Veka, WHS Halo and Deceuninck) have a provision for a short extruded aluminium locking strip to be fitted to be central to the guide catch when the sashes are closed. One strip per catch is required.

Hardware - Applications and Maintenance

Applications / Warranty

All products have been designed to meet the requirements of current and proposed Standards and are manufactured in accordance with BS EN ISO 9001 Quality Management Systems, and meet the requirements of BS EN 1670 for Corrosion Resistance.

In the unlikely event of a product failing as a result of defective manufacture or design, ERA will replace free of charge or credit shall not exceed the original value of the part. This guarantee is valid for 10 years from the date of manufacture, with the exception of balances (please see separate information) from date of manufacture.

This guarantee does not apply to surface finishes or to faults caused by wilful or neglectful damage or by excessive wear and tear. The guarantee as set out above is the full extent of ERA's liability. Please note corrosion levels may be effected in coastal areas or highly polluted locations.

Recommended Screws

Cam Lock :	3.9 x 45mm	Cam Lock Keeps:	3.9 x 45mm
Sash Travel Restrictors:	3.9 x 19mm drill point	Sash Lifts:	3.9 x 19mm
Sash Eyes:	3.9 x 19mm	Bow Handles:	3.9 x 19mm
Tilt Restrictors:	3.9 x 25mm (weather bar screw also optional for recommendation)		
QR Kit Channel:	3.9 x 19mm		

Maintenance

All hardware should be lightly lubricated twice a year (if applicable) and the surface cleaned with a damp cloth to remove any dust or grime, taking care not to scratch the surface finish.

Testing

High Security Cam Lock and Keeps

Corrosion Resistance:	Meets the requirements of BS EN 1670:2004 Grade 3
Performance:	Tested to meet the requirements of PAS 024:2012 (on selected systems)

Sash Travel Restrictor

Corrosion Resistance:	Meets the requirements of BS EN 1670:2004 Grade 3
Performance:	Meets the requirements of BS EN 14351-1 clause 4.8

Other Hardware (excluding Gearing, Guide Catches, Top Sash Knob)

Corrosion Resistance:	Meets the requirements of BS EN 1670:2004 Grade 3

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Balances Technical Specification

F Balances

Technical Specification

Tube Diameter	17mm

K Balances

Technical Specification

Tube Diameter	19mm

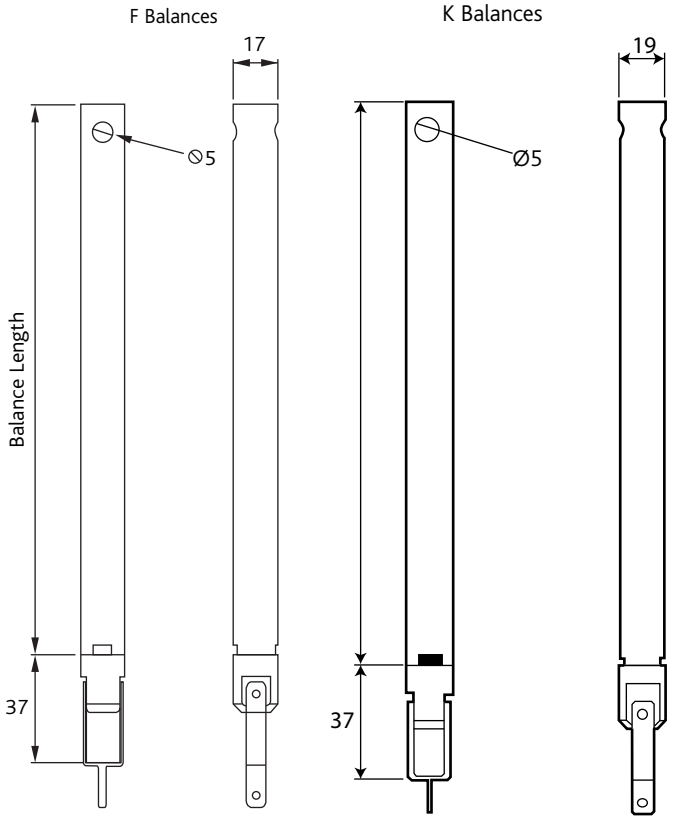
Part Numbers

F0	16	-	14	W
Denotes type of balance (e.g. F0, F1, K)	Weight of sash in lbs (e.g 16lbs)		Tube length in inches (e.g. 14 inches)	Tube Colour (e.g. White)

'F' and 'K' balances are pre-tensioned and therefore should be correct weight for the sash provided the information supplied was correct. The 'F' and 'K' balances should not need adjusting but if the do adjust according to the 'installation instructions'. For Tube Colour - W=White, B=Black, R=Brown, G=Grey, C=Cream and T=Tan

Sash Weight Range

Type	Sash Weight Range
F Balance	3.6kgs (8lbs) - 24.4kgs (53.9lbs)
K Balance	6.8kgs (15lbs) - 51.7kgs (113.9lbs)



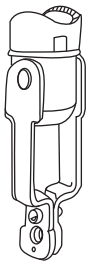
Sash Weight Range

F Balance Range

Plug Colour	Weight Range (lbs)	Weight Range (Kgs)
Grey (F008)	8 - 14	3.6 - 6.3
Claret (F016)	14 - 21.9	6.3 - 9.9
Yellow (F024)	21.9 - 29.9	9.9 - 13.6
Black (F032)	29.9 - 36.9	13.6 - 16.7
Natural (F039)	36.9 - 43.9	16.7 - 19.9
Orange (F146)	43.9 - 48.9	19.9 - 22.2
Green (F151)	48.9 -53.9	22.2 - 24.4

K Balance Range

Balance Ref	Weight Range (lbs)	Weight Range (Kgs)
K015	15 - 18.8	6.8 - 8.6
K020	18.8 - 23.9	8.6 - 10.8
K025	23.9 - 28.9	10.8 - 13.1
K030	28.9 - 34	13.1 - 15.4
K035	34 - 39	15.4 - 17.6
K040	39 - 43.9	17.6 - 19.9
K045	43.9 - 48.9	19.9 - 22.2
K050	48.9 - 53.9	22.2 - 24.4
K055	53.9 - 59	24.4 - 26.7
K060	59 - 63.9	26.7 - 29
K065	63.9 - 68.9	29 - 31.2
K070	68.9 - 73.9	31.2 - 33.5
K075	73.9 - 78.9	33.5 - 35.8
K080	78.9 - 84	35.8 - 38.1
K085	84 - 88.9	38.1 - 40.3
K090	88.9 - 93.9	40.3 - 42.6
K095	93.9 - 98.9	42.6 - 44.9
K100	98.9 - 103.9	44.9 - 47.1
K105	103.9 - 109	47.1 - 49.4
K110	109 - 113.9	49.4 - 51.7



Foot for Tilt application

Diagram not to scale. F Balance shown. All dimensions are in mm and are nominal.

Tube Colours

Tube Colour	Pantone Ref
White	RAL 9910
Brown	RAL 8014
Black	RAL 9005
Grey	RAL 7042
Cream	RAL 1015
Tan	RAL 8003

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Balances Application and Maintenance

Applications

A pair of balances is required for each sash. The balance is housed in the outer frame jamb where a screw is secured through the brass eyelet at the top of the frame. The balances Tilt Foot is then connected to the Quick Release via the Tilt Shoe.

Balances are calculated and supplied for the appropriate weight bracket of the sash. On site adjustment can be made easily using a Flathead screwdriver and turning in an anti-clockwise direction. Apply tension until the window is holding the weight correctly.

All balances have semi flexible tubes which enable the balance to be slightly bowed during installation. This can be vital in a replacement situation.

Notes: A universal balance foot attachment is also available which may be used on alternative systems.

Recommended Screws

Balances:	F Balance - M5 x 30mm machine screws
	K Balance - M5 x 30mm machine screws

Maintenance

Depending upon location, cleaning and lubrication of the spiral rod may be desirable after a length of time, the period of which will vary according to site circumstances. A few drops of light oil applied to the spiral rod will always improve the operating action of a balance after long service. As guidance annual maintenance is good practice.

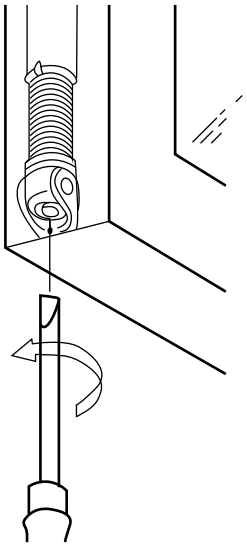
Testing

F and K Type balances have been tested to over 25,000 cycles.

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Balances Adjustment Guidelines

24 Balances sashes and adjusting balances



Try the sashes up and down TO THE LIMIT OF THEIR TRAVEL. If there is a tendency for either sash to drop when in the up position, adjust the balances as follows:

Disconnect balance foot attachment from pivot shoe (or kit), a screwdriver can now be inserted in the slot in the ratchet fitting at the bottom of the balance (see Fig. 24). Adjust by turning the ratchet in an anti-clockwise direction as viewed from underside (see Fig. 24). Two 'clicks' of the ratchet equal one complete turn. Ensure that the same number of turns are applied to each balance pair.

Two turns maximum would be required ONLY if necessary and sash is not holding correctly. Please make sure you only turn in an anti-clockwise direction. When the balance is tensioning you will hear it click on every turn. Do not over tension otherwise it will break the spring. Weight guidance is printed on text of tube.

25 IMPORTANT

Don't use balances on sashes beyond their respective weight.
Don't tension balances more than necessary.
Don't tension balances before glazing.
Do keep the foot attachment tight into the sash and make sure that the covers of the fitting do not rub the jamb when the sash is moved.
Do fit correct travel stops.

NB: Image for illustration only, foot attachment can differ on installation.

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Transit Clip

Applying the Transit Clip attachment:

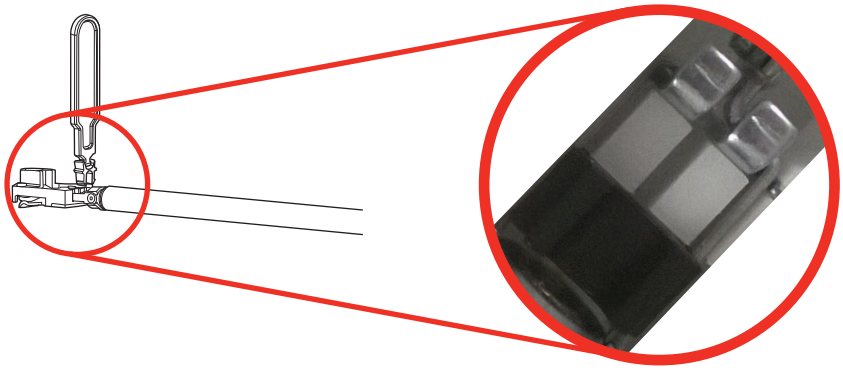
1 

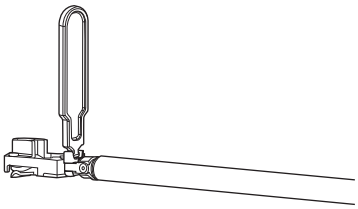
2 

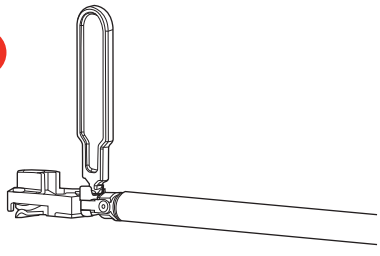
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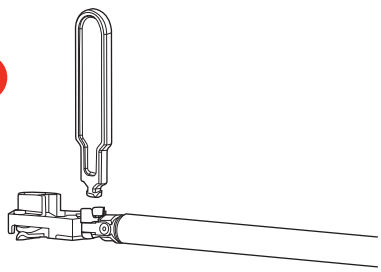
1. Align the tool to the Transit Clip
2. Insert tool into clip
3. Rotate the tool 90 degrees to close the clip
4. Align the clip to the gap between the balances and the shoe
5. Insert the clip into the gap between the balance and the shoe
6. With the clip in place, rotate the tool 90 degrees to release the clip
7. Remove the tool. The clip should now be fixed in the correct position

Note: Once in place, the Transit clip does not need to be removed

4 

5 

6 

7 

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Sash Travel Stop

Sash Travel Stop Guidance

Travel stops are a fundamental component in the assembly of a vertical sliding window for the safe operating procedure of the spring balances. Travel stops are required at the top and bottom of a sash window.

The key attributes these offer are over extension of a spring balance. Both of these failures can potentially lead to damage of springs beyond repair and would result in the requirement of replacements.

Over extension on the balance happens when the top sash is pulled downwards towards cill, further than the maximum travel of the spring itself.

Under extension occurs with the bottom sash is raised upwards to the point where the spring is fully retracted into the tube and then the spring is colliding with the spring casing.

Sash Travel Stop Lengths

The recommended minimum size of travel stops to be fitted to an equally split sash window are:

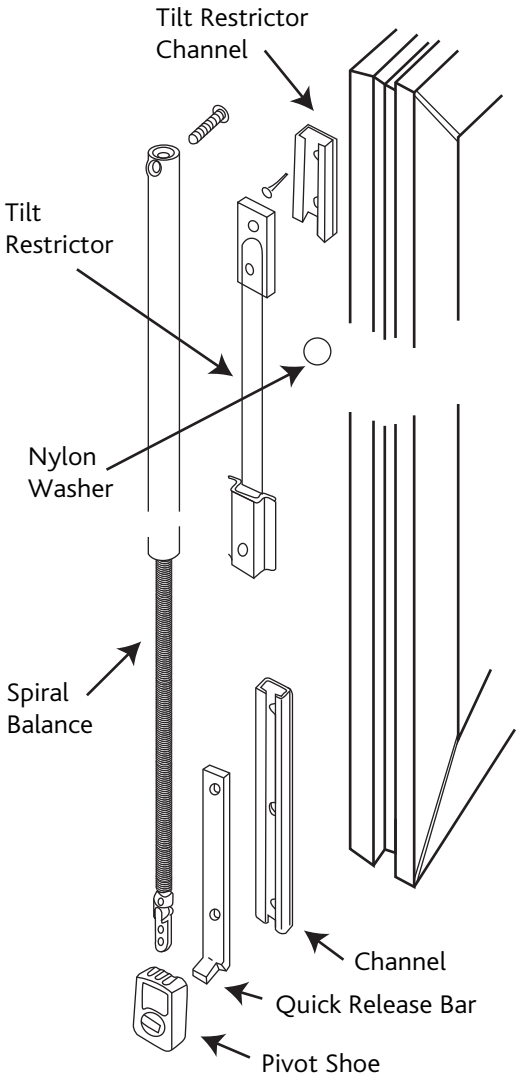
Top sash lower travel stop is 220mm
Bottom sash upper travel stop is 130mm

The above recommendations are for equal split, however longer stops can be used if required.

For every 25mm that the top sash is smaller than an equally split window, 50mm must be added to the lower travel stop. If horns are installed then reduce the calculated length of the travel stop by the length of the horn. This rule also applies for every 25mm the bottom sash is smaller that equally split windows, except the added value must be towards the upper travel stop.

NB: Do not operate the sashes without lower and upper travel stops installed as this can result in balance failure.

Gearing Assembly

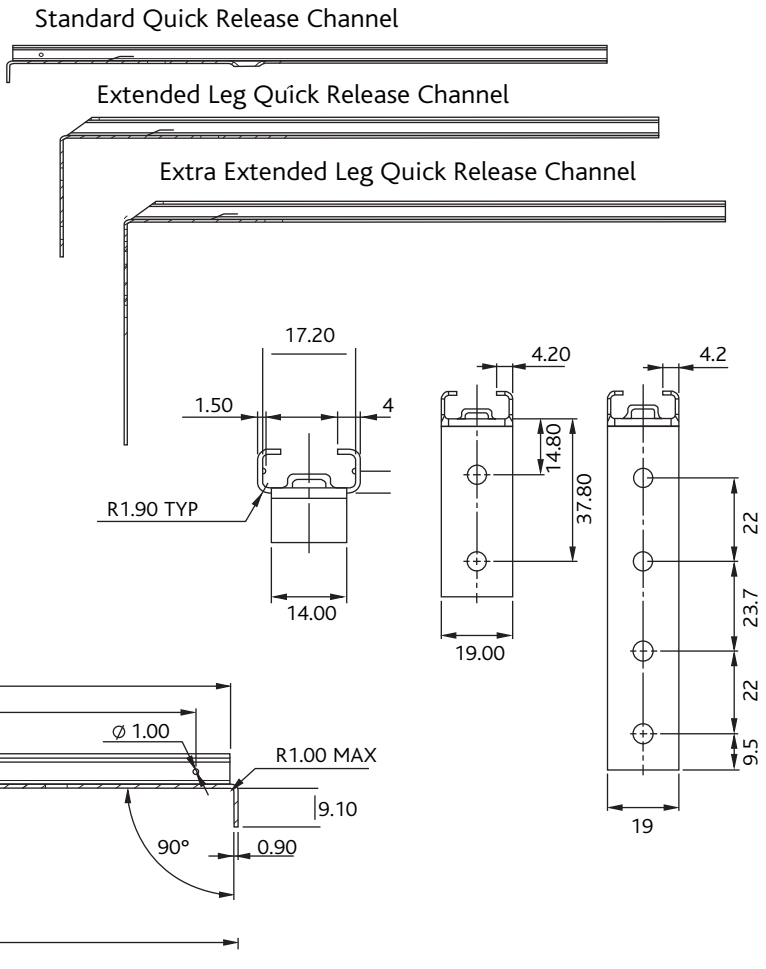


26 Quick Release Bar:

Prep sash by screwing the long channel into the bottom corner of the sash. Insert the Quick Release Bar into the outer frame before the cill is attached and fix into place. When finalising assembly slide the sash onto the Quick Release Bar.

IMPORTANT: Once the quick release pivot bar has been assembled and positioned fully within the channel suitable screws must be used to secure both parts together through screw holes present in bar. Failure to follow this process could result in possible damage to the window and gearing components.

Channels



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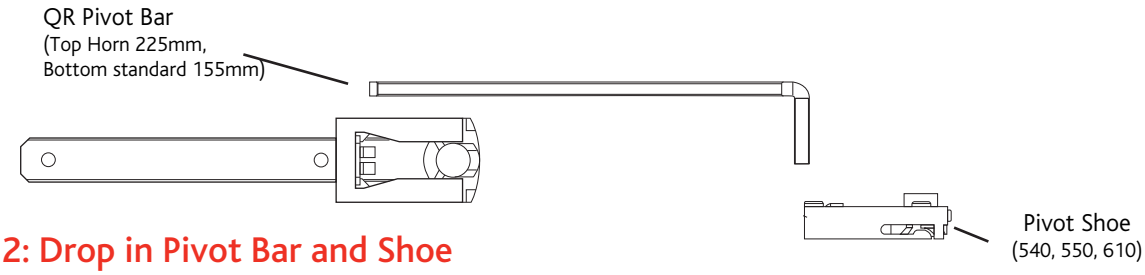
Gearing Assembly

Option 1: Quick Release Kit

Quick release kit includes 2 pivot bars assembled with pivot shoes attached and 2 QR channels. Size of show / channel depends on profile system.

Parts	Profile
540	Spectus
550	Eurocell, Rehau
610	VEKA, WHS Halo, Deceuninck

Two variants: Horn QR Kits and Bottom QR Kit (profile specific)

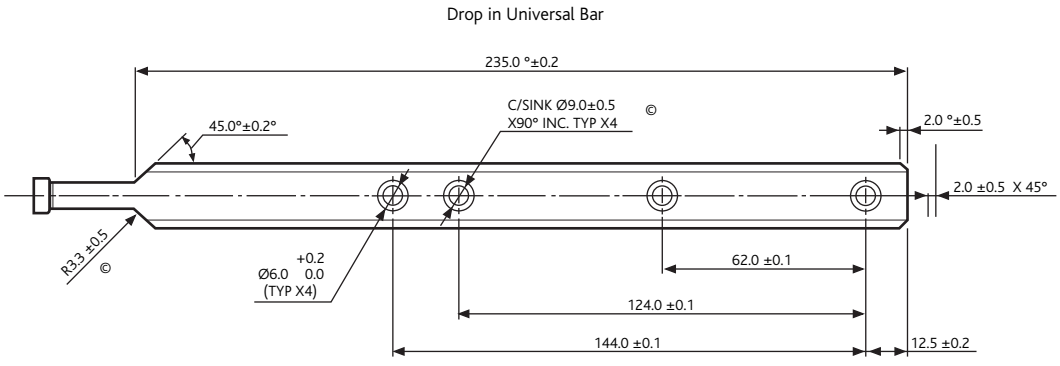


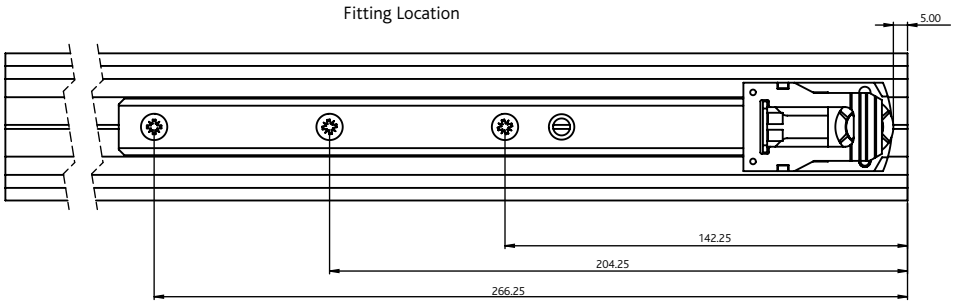
Option 2: Drop in Pivot Bar and Shoe

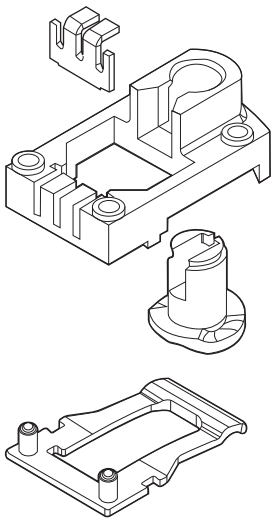
Drop in Bar are in eaches and no channel is required.

The Drop in Bar screws to the sash and then on installation is dropped into captive Drop in Pivot shoes in outer frame.

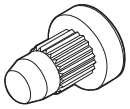
For run through horns we recommend the use of the Drop in Pivot Bar and Shoe.







Drop in Pivot Shoe

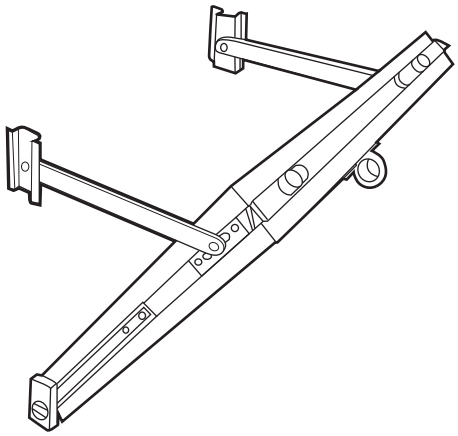


Drop in Pivot Shoe Insert
(for Veka and WHS Halo profiles)

RECOMMENDED FIXING SCREWS: 4.8 x 19mm C-SUNK FLAT HEAD

Gearing Assembly

27



27 Tilt Restrictors - Sash:

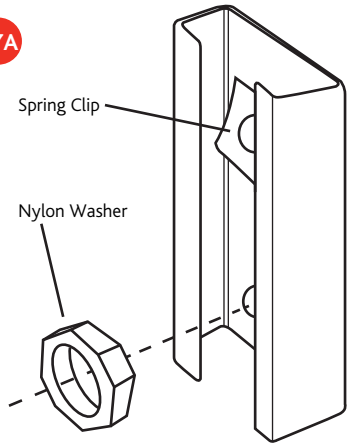
Position the Tilt Restrictor Channel on the sash with two pan head fixing screws. Use Nylon washer on lower screw fixing (See Fig 27A). Repeat the process with the other side of the sash. Slide the larger of the Tilt Restrictors into the outer frame before screwing the cill into place; then fix to the sash. Repeat the process with the other side of the sash.

For guidance the Restrictor should be fixed to the outer frame 1/3 of the way down the frame to allow for a 40-45° angle. Then slot the Tilt Restrictor into the channel and secure in place. Align both sides of the sash so the channels are in the same positions on both sides of the sash.

For sashes up to 600mm use the 250mm restrictor and for sashes over 600mm use the 350mm. A 150mm version is available for certain profiles.

For dimensions please see page 21.

27A

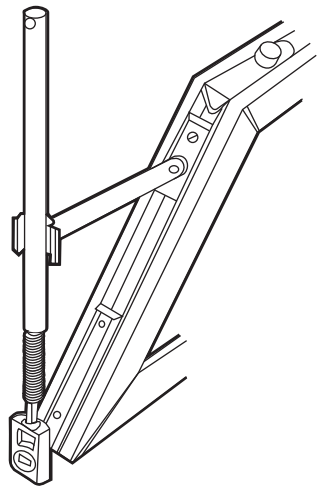


28 Balances:

Ensure the correct balance is used for each sash, please refer to the information attached to the balance. Insert the balance into the outer frame and screw the top of the spring through the brass eyelet in the outer tube to the top of the frame outer jamb.

Connect balance to the Tilt Shoe on the Quick Release Kit. If required please apply tension to the brass ratchet in an anti-clockwise direction with a flat head screwdriver (please refrain from turning in a clockwise direction as this may damage the spring).

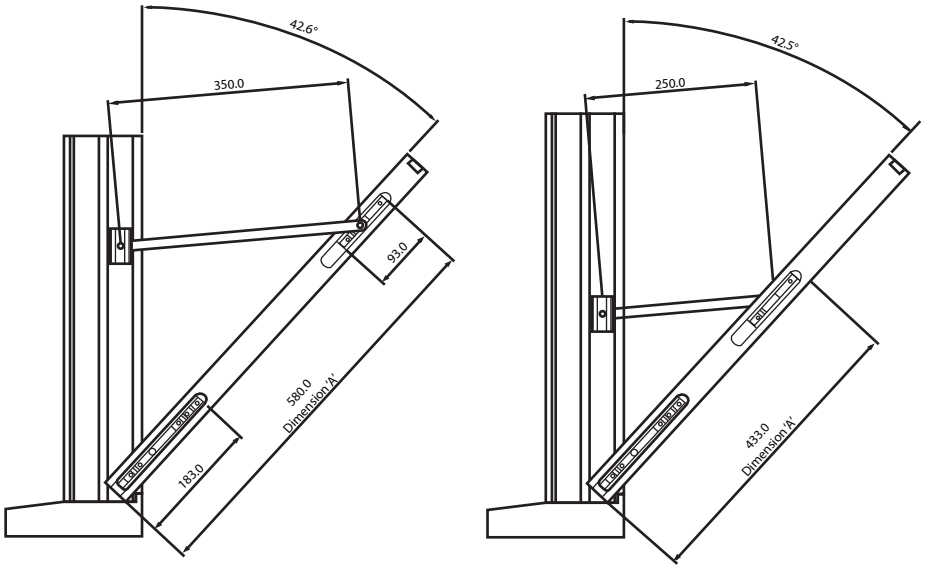
28



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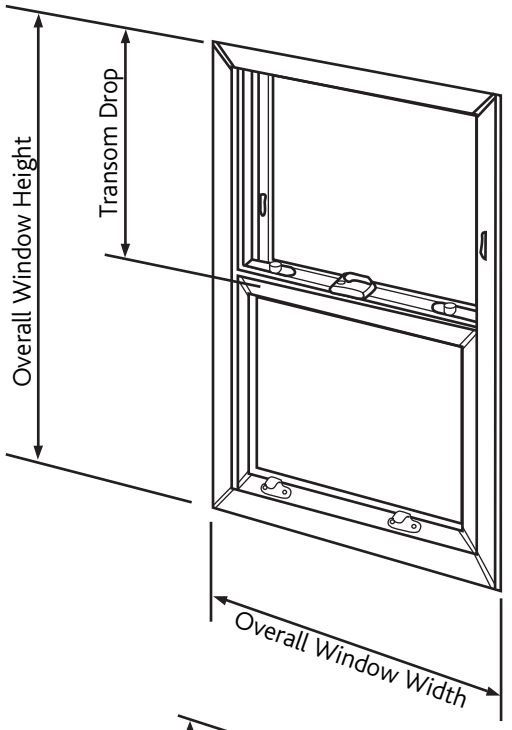
Gearing Assembly



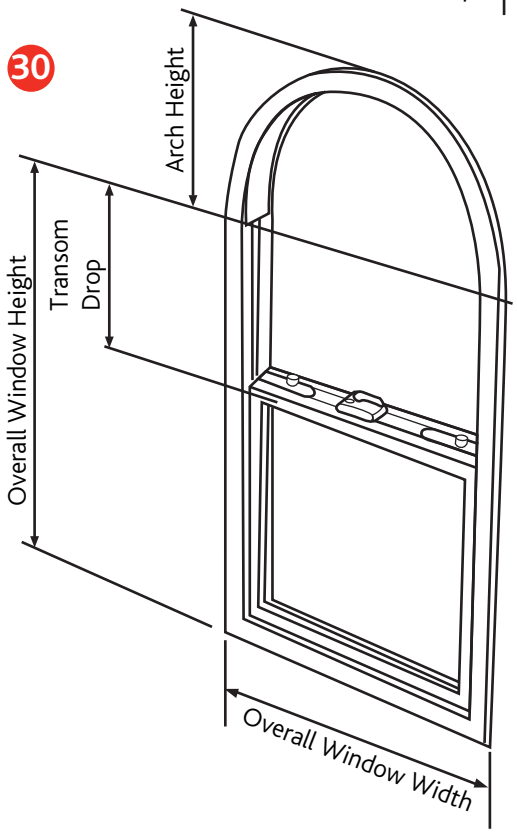
Part Number	Description	Profile System	UOM	Dimension 'A' (mm)
BD084-7	150mm QR Ali Flat Tilt Restrictor	Spectus, Eurocell, Rehau	PRS	268
BD084-8	250mm QR Ali Flat Tilt Restrictor		PRS	433
BD084-9	350mm QR Ali Flat Tilt Restrictor		PRS	580
BD084-4	150mm QR Snap Fit Tilt Restrictor		PRS	268
BD084-5	250mm QR Snap Fit Tilt Restrictor		PRS	433
BD084-6	350mm QR Snap Fit Tilt Restrictor		PRS	580
BD085-0	250mm QR Metal Ends Tilt Restrictor		PRS	371
BD085-1	350mm QR Metal Ends Tilt Restrictor		PRS	533
BD088-1	150mm QR Ali Profile Tilt Restrictor		PRS	268
BD088-2	250mm QR Ali Profile Tilt Restrictor		PRS	433
BD088-3	350mm QR Ali Profile Tilt Restrictor		PRS	580
BD085-4	250mm QR Veka Tilt Restrictor	Veka, WHS Halo	PRS	433
BD085-5	350mm QR Veka Tilt Restrictor		PRS	580
BD088-4	150mm QR Ali Veka Tilt Restrictor		PRS	268
BD088-5	250mm QR Ali Veka Tilt Restrictor		PRS	433
BD088-6	350mm QR Ali Veka Tilt Restrictor		PRS	580
BD085-2	250mm QR Deceuninck Tilt Restrictor	Deceuninck	PRS	433
BD085-3	350mm QR Deceuninck Tilt Restrictor		PRS	580

PVCu VS Windows - Measuring Guidelines

29



30



Firstly the profile system must be identified, please refer to the customer order forms for options which are available on request from ERA.

29 Standard Windows:

When using ERA sash balances, key dimensions are required to ensure the correct balances for the size and weight of the window:

Dimensions

Overall Window Height - is the overall height of the complete window including the outer frame in mm.

Transom Drop - is the measurement from the top of the head to the centre point on the overlapping rail in mm.

Overall Window Width - is the overall width of the complete window including the frame in mm.

Glass specification required.

30 Arched Window:

When using ERA spiral balances, key dimensions are required to ensure the correct balances for the size and weight of the window:

Dimensions

Overall Window Height - is the overall height of the complete window including the outer frame in mm.

Transom Drop - is the measurement from the top of the head to the centre point on the overlapping rail in mm.

Arch Height - is the dimension from the centre line on the top sash to the top of the head.

Overall Window Width- is the overall width of the complete window including the frame in mm.

Glass Specification required.

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Troubleshooting Guide - F/K Balances

Problem	Cause	Solution
Rods disconnecting from the bottom of the balance on the lower sash	Balance is too short	Replace with correct length balance
Rods disconnecting from the bottom of the balance on the top sash	Balance is too short; or Cill stops are too short or not correctly fixed in place	Replace with correct length balance; or ensure cill stops are fitted correctly and of the right dimensions
Damaged or bent outer tube or damage to the bottom of the balance or bracket	Balance is too long; or no head stop on the bottom sash	Replace with correct length balance; or ensure the head stop is fitted correctly and of the right dimensions
Noisy operation of balances when the window is operated	Bent rod; or dry spring	Replace balance
Top / bottom sash not holding position when opened	Insufficient tension	Apply more tension, using a screwdriver to turn the screw on the balance. Please ensure you apply (no more than 2 turns) equally to each balance
Top / bottom sash jumping up when opened	Too much tension	Disconnect the balance and using the F/K tool turn the balance clockwise slowly to release tension
Top / bottom sash not holding position when opened even after application of more tension	Balance may be broken; or balance may not be strong enough for the weight of the sash	Reduce the tension, using a screwdriver to turn the screw on the balance. Please ensure you apply (no more than 2 turns) equally to each balance
Balance will not adjust. Rod will not move	Balance have been over tensioned and spring collapsed	Replace balance; or check sash weight against and ensure correct balance has been used
Sash drops at top position but jumps from cills	Balance too strong for the window	Balance broken. Check sash weight against and ensure correct balance has been used
Damaged or distorted brackets	Protruding fixing screws	Change screws and brackets
Pivot bars bending	Window could be bowed as a result of the installation or fabrication of window size; or pivot bars have been inserted too far	Adjust window fixing; or adjust pivot bars

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Troubleshooting Guide - Hardware

Problem	Cause	Solution
Cam Lock does not work or locate into Keep	Keep or Cam Lock not positioned correctly	Reposition lock or keep to suit
Finishes corroding or fading	Incorrect use of cleaning products, or hardware subject to extreme atmospheres	See maintenance guidelines
	In some circumstances in a New Build house mortar may cause corroding of hardware when rooms are drying	Do not fix cam lock etc to the window until the room has dried or cover in shrink wrap

Troubleshooting Guide - Sash Travel Restrictor

Problem	Cause	Solution
Sash is not restricted but restriction is required	Restrictor is not in the operating position	Release latch using key provided
Sash is restricted but not required	Restrictor is not in the closed position	Push latch back into restrictor body and lock using key provided
Key is broken	Too much pressure has been applied to the key	New key required

Troubleshooting Guide - Hardware

Problem	Cause	Solution
Sash will not stay in the upright position	Guide catches are not engaged properly into the outer frame	Push the sash hard against the weatherseal / gasket whilst pulling the Sash Knob back. Once sash is closed, release the Sash Knob to engage the latch back into the outer frame

Troubleshooting Guide - Tilt Restrictors

Problem	Cause	Solution
When installed the sash will not close after tilting	Incorrect length of restrictor has been used for the sash size; or a gap smaller than recommended has been left between the sash and frame	Replace restrictor with the correct length and ensure the correct gap is left between sash and frame
The Tilt Restrictor will not fit into the profile section	Incorrect Tilt Restrictor used	Replace with the correct part
Channel stands proud of sash arm	Channel not screwed flat	Change the screws and screw the channel flush

Troubleshooting Guide - Pivot Bars

Problem	Cause	Solution
Sash will not tilt	Grub screw in the Tilt Shoe is not assembled correctly	Contact ERA, a new part is required

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Part Codes & Screw Specifications

Hardware

Product	Colour Options	Box Qty	UOM	Part Codes	Screw Size/ Specification (EA)
Sash Pull 	Hardex Chrome	100	EA	VHSLHC01	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Hardex Bronze	100	EA	VHSLHB01	
	Hardex Gold	100	EA	VHSLHG01	
	Hardex Graphite	100	EA	VHSLGR01	
	Premium Satin	100	EA	VHSLPS01	
	Antique Black	100	EA	VHSLAB01	
	White	100	EA	VHSLWH01	
	Black	100	EA	VHSLBK01	
Inline Sash Eye 	Hardex Chrome	100	EA	VHSEHC01	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Hardex Bronze	100	EA	VHSEHB01	
	Hardex Gold	100	EA	VHSEHG01	
	Hardex Graphite	100	EA	VHSEGR01	
	Premium Satin	100	EA	VHSEPS01	
	Antique Black	100	EA	VHSEAB01	
	White	100	EA	VHSEWH01	
	Black	100	EA	VHSEBK01	
Offset Sash Eye 	Hardex Chrome	100	EA	VHOSHC01	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Hardex Bronze	100	EA	VHOSHB01	
	Hardex Gold	100	EA	VHOSHG01	
	Hardex Graphite	100	EA	VHOSGR01	
	Premium Satin	100	EA	VHOSPS01	
	Antique Black	100	EA	VHOSAB01	
	White	100	EA	VHOSWH01	
	Black	100	EA	VHOSBK01	
Sash Pull Handles 	Hardex Chrome	100	EA	VHBHHC01	4 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Hardex Bronze	100	EA	VHBHHB01	
	Hardex Gold	100	EA	VHBHHG01	
	Hardex Graphite	100	EA	VHBHGR01	
	Premium Satin	100	EA	VHBHPS01	
	Antique Black	100	EA	VHBHAB01	
	White	100	EA	VHBHWH01	
	Black	100	EA	VHBHBK01	
Classic Cam Lock	Hardex Chrome	50	EA	VHCLHC01	2 x SELF DRILL 3.9 * 45mm CSR FLAT HEAD
	Hardex Bronze	50	EA	VHCLHB01	
	Hardex Gold	50	EA	VHCLHG01	
	Hardex Graphite	50	EA	VHCLGR01	
	Premium Satin	50	EA	VHCLPS01	
	Antique Black				
	Lock and 8mm Keep	100	EA	VHCLAB0108	
	Lock and 11mm Keep	100	EA	VHCLAB0111	
	White	50	EA	VHCLWH01	
	Black	50	EA	VHCLBK01	
Classic Cam Lock Keeps				8mm Keep	11mm Keep	2 x SELF DRILL 3.9 * 45mm CSR FLAT HEAD
	Hardex Chrome	100	EA	VHKPHC08	VHKPHC11	
	Hardex Bronze	100	EA	VHKPHB08	VHKPHB11	
	Hardex Gold	100	EA	VHKPHG08	VHKPHG11	
	Hardex Graphite	100	EA	VHKPGR08	VHKPGR11	
	Premium Satin	100	EA	VHKPPS08	VHKPPS11	
	Antique Black	See table above - packaged as a set Lock and Keep				
	White	100	EA	VHKPWH08	VHKPWH11	
	Black	100	EA	VHKPBK08	VHKPBK11	
Flat Fitch Catch and Keep	Hardex Chrome	100	EA	VHCLFHC01A	2 x SELF DRILL 3.9 * 45mm CSR FLAT HEAD
	Hardex Bronze	100	EA	VHCLFHB01A	
	Hardex Gold	100	EA	VHCLFHG01A	
	Hardex Graphite	100	EA	VHCLFGR01A	
	Premium Satin	100	EA	VHCLFPS01A	
	Antique Black	100	EA	VHCLFAB01A	
Bottom Sash Knobs 				Classic	Heritage	Architectural	
	Hardex Chrome	100	EA	VHSKCHC01C	VHSKHHC01C	VHSKAHC01C	
	Hardex Bronze	100	EA	VHSKCHB01C	VHSKHHB01C	VHSKAHB01C	
	Hardex Gold	100	EA	VHSKCHG01C	VHSKHHG01C	VHSKAGH01C	
	Hardex Graphite	100	EA	VHSKCGR01C	VHSKHGR01C	VHSKAGR01C	
	Premium Satin	100	EA	VHSKCPS01C	VHSKHPS01C	VHSKAPS01C	
	Antique Black	100	EA	VHSKCAB01C	VHSKHAB01C	VHSKAAB01C	
	White	100	EA	VHSKCWH01C	VHSKHWH01C	VHSKAWH01C	
	Black	100	EA	VHSKCBK01C	VHSKHBK01C	VHSKABK01C	
Guide Catches	Left White	100	EA	BF-CAT-LWB	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Right White	100	EA	BF-CAT-RWB	
	Left Brown	100	EA	BF-CAT-LBB	
	Right Brown	100	EA	BF-CAT-RBB	
Travel Restrictors (Side Fix)  Travel Restrictors (Front Fix) 				Side Fix	Front Fix	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Hardex Chrome	30	EA	VHTRSFHC01A	VHTRFFHC01A	
	Hardex Bronze	100	EA	VHTRSFHB01A	VHTRFFHB01A	
	Hardex Gold	100	EA	VHTRSFHG01A	VHTRFFHG01A	
	Hardex Graphite	100	EA	VHTRSFGR01A	VHTRFFGR01A	
	Premium Satin	100	EA	VHTRSFPS01A	VHTRFFPS01	
	Antique Black	30	EA	VHTRSFAB01A	VHTRFFAB01A	
	White	100	EA	VHTRSFWH01A	VHTRFFBK01A	
	Black	100	EA	VHTRSFBK01A	VHTRFFWH01A	

Accessories

Product	Colour Options	Box Qty	UOM	Part Codes
Balance Retaining Clip	N/A		EA	BF-RET-CLIP
Balance Retaining Clip Tool	N/A		EA	BF-RET-TOOL
Camlock Spare Key	N/A	100	EA	BH-LOC-KEY
Travel Restrictor Spare Key	N/A	100	EA	BF-STP-KEY

High Security Hardware

Product	Colour Options	Box Qty	UOM	Part Codes
High Security Cam lock Classic Lever 	Hardex Chrome	100	EA	VHCLCHC01A
	Hardex Bronze	100	EA	VHCLCHB01A
	Hardex Gold	100	EA	VHCLCHG01A
	Hardex Graphite	100	EA	VHCLCGR01A
	Premium Satin	100	EA	VHCLCPS01A
	Antique Black			
	Lock and 8mm Keep	100	EA	VHCLCAB0108
	Lock and 11mm Keep	100	EA	VHCLCAB0111
	Lock and SBD Slimline Keep	100	EA	VHCLCAB01SM
	Lock and SBD Keep	100	EA	VHCLCAB01LG
	White	100	EA	VHCLCWH01A
	Black	100	EA	VHCLCBK01A
High Security Cam lock Heritage Lever	Hardex Chrome	100	EA	VHCLHHC01A
	Hardex Bronze	100	EA	VHCLHHB01A
	Hardex Gold	100	EA	VHCLHHG01A
	Hardex Graphite	100	EA	VHCLHGR01A
	Premium Satin	100	EA	VHCLHPS01A
	Antique Black			
	Lock and 8mm Keep	100	EA	VHCLHAB0108
	Lock and 11mm Keep	100	EA	VHCLHAB0111
	Lock and SBD Slimline Keep	100	EA	VHCLHAB01SM
	Lock and SBD Keep	100	EA	VHCLHAB01LG
	White	100	EA	VHCLHWH01A
	Black	100	EA	VHCLHBK01A
High Security Cam lock Architectural Lever	Hardex Chrome	100	EA	VHCLAHC01A
	Hardex Bronze	100	EA	VHCLAHB01A
	Hardex Gold	100	EA	VHCLAHG01A
	Hardex Graphite	100	EA	VHCLAGR01A
	Premium Satin	100	EA	VHCLAPS01A
	Antique Black			
	Lock and 8mm Keep	100	EA	VHCLAAB0108
	Lock and 11mm Keep	100	EA	VHCLAAB0111
	Lock and SBD Slimline Keep	100	EA	VHCLAAB01SM
	Lock and SBD Keep	100	EA	VHCLAAB01LG
	White	100	EA	VHCLAWH01A
	Black	100	EA	VHCLABK01A
High Security Side Extrusion Strip 	N/A	500	EA	BF-SES-SBD2
High Security Sash Packer	N/A	500	EA	BS-SP-WH1

High Security Cam lock Keeps

			8mm Keep	11mm Keep
High Security Cam lock Keeps	Hardex Chrome	100	VHKPSHC08C	VHKPSHC11C
	Hardex Bronze	100	VHKPSHB08C	VHKPSHB11C
	Hardex Gold	100	VHKPSHG08C	VHKPSHG11C
	Hardex Graphite	100	VHKPSGR08C	VHKPSGR11C
	Premium Satin	100	VHKPSPS08C	VHKPSPS11C
	Antique Black	100	See table above - packaged as a set Lock and Keep	
	White	100	VHKPSWH08C	VHKPSWH11C

High Security Hardware

Product	Colour Options	Box Qty	UOM	Part Codes	Screw Size/Specification (EA)
High Security Guide Catches 	White LH	500	EA	BF-CAT-SBD71	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	White RH	500	EA	BF-CAT-SBD72	
High Security Chimneys 	N/A	500	EA	BF-CHM-SBD	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD

Packer and Gearing

Product	Colour Options	Box Qty	UOM	Part Codes	Screw Size/Specification (EA)
SPECTUS/PLASTMO Quick Release Kits	Top Horn Kit	50prs	PRS	QR-HORN-540B	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Bottom Kit	50prs	PRS	QR-BTM-540B	
(REHAU/EUROCELL) Quick Release Kits	Top Horn Kit	50prs	PRS	QR-HORN-550B	
	Bottom Kit	50prs	PRS	QR-BTM-550B	
VEKA/WHS HALO/DECEUNINCK Quick Release Kits	Top Horn Kit	50prs	PRS	QR-HORN-610B	
	Bottom Kit	50prs	PRS	QR-BTM-610B	
Drop in Pivot Shoe & Bar	DI Pivot Shoe	100	EA	DI-UNI-TSH	N/A
	DI Bar	100	EA	DI-UNI-BAR	3 x SELF DRILL 4.8 * 16mm OVAL HEAD
	DI Insert	100	EA	DI-UNI-TSH610	N/A
Quick Release Kit & Ext Long Channel	Top Horn Kit	50prs	PRS	QR-HORN-540EX	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Bottom Kit	50prs	PRS	QR-BTM-540EX	
Quick Release Kit & Ext Long Channel	Top Horn Kit	50prs	PRS	QR-HORN-550EXC	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Bottom Kit	50prs	PRS	QR-BTM-550EXC	
Quick Release Kit & Ext Long Channel	Top Horn Kit	50prs	PRS	QR-HORN-610EX	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD
	Bottom Kit	50prs	PRS	QR-BTM-610EX	
SPECTUS/PLASTMO REHAU/EUROCELL QR Aluminium Flat Tilt	150mm	50prs	PRS	BD084-7	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	250mm	50prs	PRS	BD084-8	
	350mm	50prs	PRS	BD084-9	
SPECTUS/PLASTMO REHAU/EUROCELL QR Snap Fit Tilt Restrictors	150mm	50prs	PRS	BD084-4	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	250mm	50prs	PRS	BD084-5	
	350mm	50prs	PRS	BD084-6	
SPECTUS/PLASTMO REHAU/EUROCELL Metal Tilt Restrictors	250mm	50prs	PRS	BD085-0	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	350mm	50prs	PRS	BD085-1	
SPECTUS/PLASTMO REHAU/EUROCELL QR Aluminium Profile Tilt	150mm	50prs	PRS	BD088-1	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	250mm	50prs	PRS	BD088-2	
	350mm	50prs	PRS	BD088-3	
VEKA/WHS HALO Plastic Profile Tilt	250mm	50prs	PRS	BD085-4	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	350mm	50prs	PRS	BD085-5	
VEKA/WHS HALO/DECEUNINCK QR Aluminium Profile Tilt	150mm	50prs	PRS	BD088-4	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	250mm	50prs	PRS	BD088-5	
	350mm	50prs	PRS	BD088-6	
DECEUNINCK Plastic Profile Tilt	250mm	50prs	PRS	BD085-2	2 x SELF DRILL 3.9 * 19mm CSR FLAT HEAD & 2 x SELF DRILL 3.9 * 25mm CSR FLAT HEAD
	350mm	50prs	PRS	BD085-3	

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VS Glossary

Bow Handle	A component fitted to a sash to enable movement by a user
Cam Lock/ Fitch Catch	A locking mechanism for a VS window
Travel Restrictor/ Sash Restrictor	Mechanism for preventing children falling out of a fully opened window, it restricts the opening of the sash
Constant Force	A type of sash balance which is produced from coiled flat spring steel strip
Guide Catch/ Tilt Latch	A mechanism that is fitted to the top of a sliding sash and permits the sash to tilt inwards for cleaning purposes on VS windows
QR Horn Kit/ Horn Pivot Assembly	Combination of pivot bar, pivot shoe and channel to house pivot bar in one kit
Lift Off	A method of removing sashes from vertical sliding windows
Lift Off Pivot Bars	A mechanism that permits sash lift off from a VS window
Outer Tube	Cylinder shape covering used to house the spiral rods and springs which make up the sash balance, usually made from PVCu
Pivot Bar	A product that enables sashes on VS window to be tilted inwards
Pivot Shoe	A mechanism to enable sashes on a VS window to tilt whilst balances are fitted
Pre-tensioned	A balance with the correct tension for a specific sash weight supplied ready to install
Restrictor	A device that reduces movement of a window from the maximum possible
Sash Balance	A device to support the weight of a sash on a VS window
Sash Eye/ Finger Pull	A component fitted to a sash to enable movement by a user using their finger or fingers
Sash Keep/ Cam Lock Keep	A device used with a sash lock (cam lock) to prevent sash movement

VS Glossary (continued)

Sash Knob/ Tilt Knob	A device that is used to operate the guide catch/ tilt latch
Sash Lift/ Finger Pull	A component fitted to a sash to enable movement by a user
Sash Lock/ Cam Lock/ Window Catch	A mechanism that locks a sliding sash on a VS window
Sash Window	A VS window with either one or two sliding sashes
Sliding Window	A window with one or more sashes sliding either vertically or horizontally
Sliding Window Hardware	Hardware products for a sliding window
Spiral Balance	A balance with a helical rod generating vertical thrust in conjunction with a spring to use on VS window sashes
Springs	Wound steel from flat or round wired; hardened and tempered high carbon, greased for extra protection
Take Out Systems	A mechanism that enable sliding sash balance mechanisms to remain in place whilst a sash is removed
Tension Tool	A hand held tool used to apply turns to a spiral balance to create the required tension to support the sash mass
Travel Restrictor	A Mechanism that limits the travel of a sliding sash to a predetermined amount
Vertical Slider	A window type with one or two sashes sliding vertically
VS	A vertical sliding window
Window	A purpose made frame glazed and for fitment to a building or structure
Window Balance	A device to counter weight the mass of a sliding sash on a VS window

Product Warranty

ERA Home Security has an unrivalled reputation for high quality design and technical innovation establishing it as one of the UK's leading VS window component manufacturers. All products have been designed to meet the requirements of current and proposed standards and a manufactured in accordance with BS EN ISO 9001 Quality Management Systems.

ERA offers guaranteed performance and reliability provided the product is fitted and maintained in accordance with the manufacturer's guidelines and shall not be subject to stresses and operating forces beyond recommended levels.

In the unlikely event of a product failing as a result of defective manufacture or design, ERA will repair, replace or credit any component returned and deemed as not meeting its high exacting standards.

The credit shall not exceed the original value of the part. This guarantee applies to all products supplied by ERA including sash balances, gearing and hardware.

Sash Balances

This product guarantee is valid as shown below from the date of purchase:

- F and K balances - 10 years

Balances must be stored adequately to protect against dust, contaminant, damage, corrosion or deterioration.

Hardware and Gearing

This product guarantee is valid for 10 years from the date of purchase. This guarantee does not apply to surface finishes or to faults caused by wilful or neglectful damage or by excessive wear and tear

Notes:
The guarantee as set out above is the full extent of ERA's liability in relation to our products.

ERA will not be liable for any other losses incurred by its customer whether direct, indirect or consequential which might arise from any failure in the performance of its products. ERA reserves the right to recover costs incurred from handling false claims. This guarantee does not exclude any statutory rights of the purchaser.

Parts required or replaced under this warranty shall be warranted under these terms and the period of such subsequent warranty shall be subject to that part in whole calendar months which remains out of the original warranty period at the date the defect was notified to ERA.

ERA reserves the right in the case of defects in materials or equipment not manufactured by ERA in place of its right set out above, that the buyer shall be entitled only to receive the same benefit from ERA as received by the company under any guarantee or warranty given it by the supplier of such materials or equipment. The benefit of this warranty shall not be capable of assignment without the consent of ERA. All other terms as set out in ERA's general terms and conditions of sale.

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