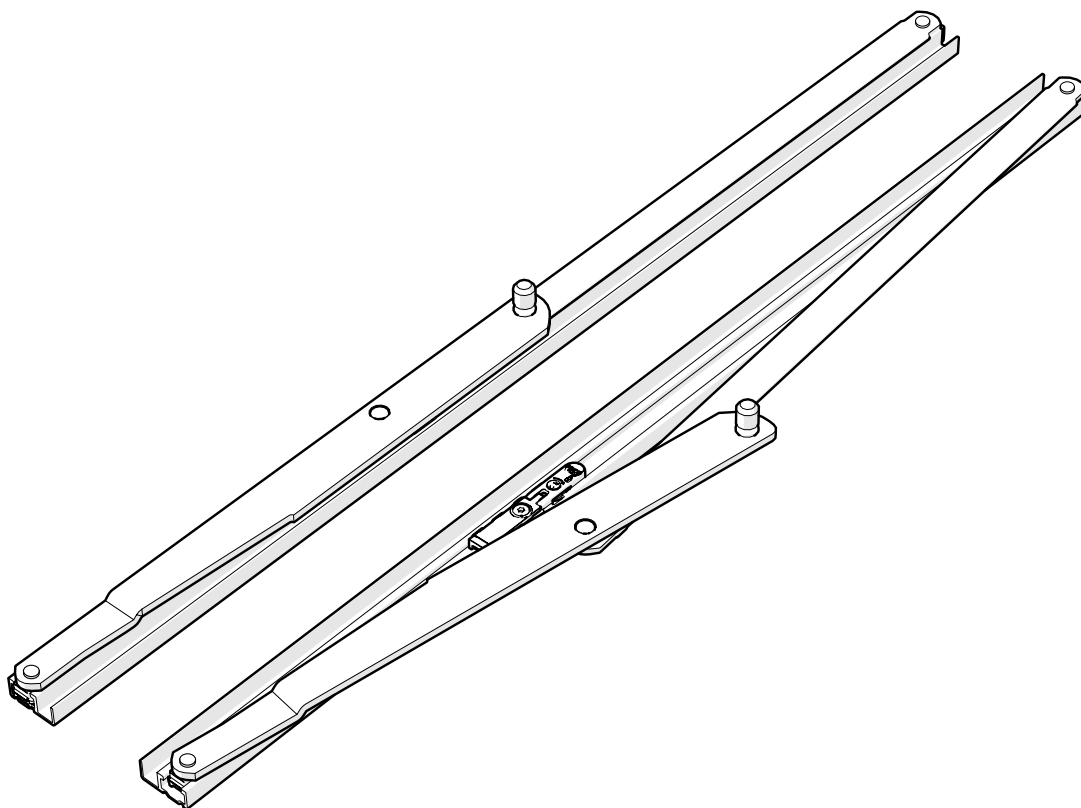


Yale Revolution Window Hinge

Product Overview

Issue: May 2017



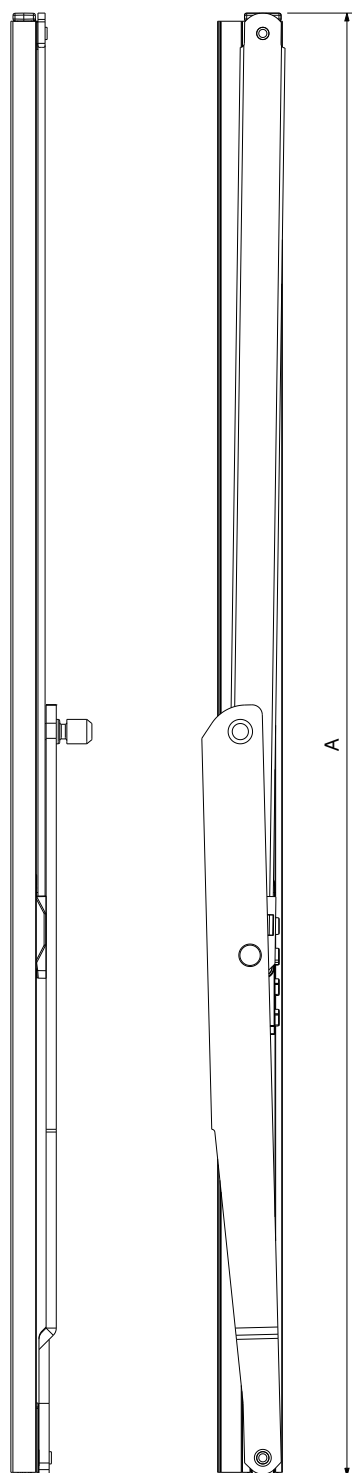
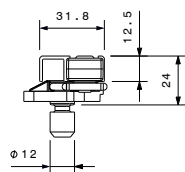
PRODUCT FEATURES

- Can be fitted to all standard fully reversible profiles (32mm x 12mm).
- Quick and easy to install in:
 - PVC
 - Aluminium
 - Timber
- 27 module sizes covering sash heights from approximately 290mm - 1790mm.
- Carry capacity up to 80kg.
- The sash fully rotates on the outside of the building.
- Patented configurable dual closing function
 - Anti blow back
 - Easy close
- Unique key-lockable safety restrictor.
- Performs to:
 - BS 6375 Parts 1 & 2
 - BS EN 14351 Part 1
 - BS 8213 Part 1
 - BS EN1670 Grade 4
- Profile specific security accessories are available to achieve PAS24.
- Fire egress options are available on certain sizes.
- 10 year guarantee.

Yale Revolution Window Hinge

Product Features

Issue: May 2017



PART CODES AND VARIANTS

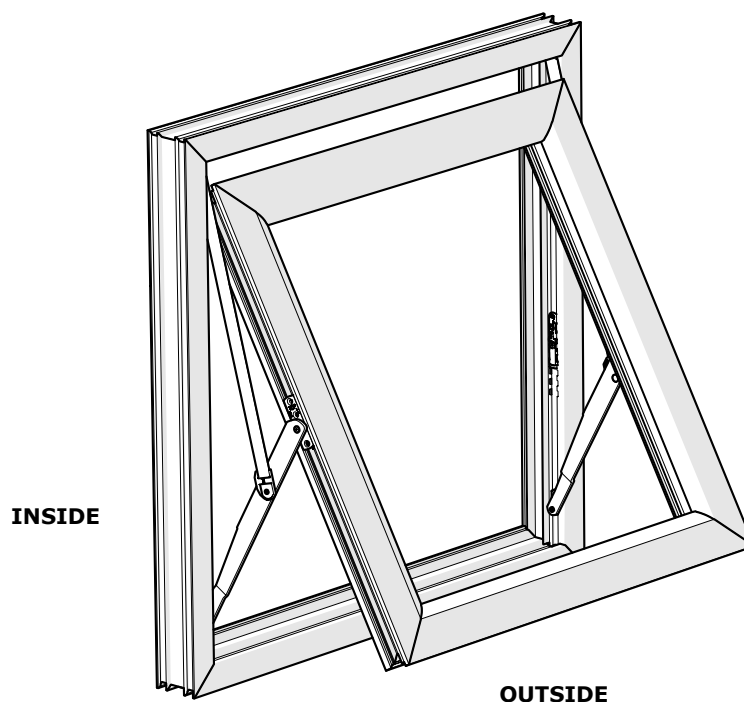
Module Size	Part Number	Built-in Restrictor	Maximum Weight	Dimension A Overall Length (mm)
M4.0	YREV-M040-SL		80Kg	318
M4.5	YREV-M045-SL		80Kg	368
M5.0	YREV-M050-SL		80Kg	418
M5.5	YREV-M055-SL		80Kg	468
M6.0	YREV-M060-SL	•	80Kg	518
M6.5	YREV-M065-SL	•	80Kg	568
M7.0	YREV-M070-SL	•	80Kg	618
M7.5	YREV-M075-SL	•	80Kg	668
M8.0	YREV-M080-SL	•	80Kg	718
M8.5	YREV-M085-SL	•	80Kg	768
M9.0	YREV-M090-SL	•	80Kg	818
M9.5	YREV-M095-SL	•	80Kg	868
M10.0	YREV-M100-SL	•	80Kg	918
M10.5	YREV-M105-SL	•	80Kg	968
M11.0	YREV-M110-SL	•	80Kg	1018
M11.5	YREV-M115-SL	•	80Kg	1068
M12.0	YREV-M120-SL	•	80Kg	1118
M12.5	YREV-M125-SL	•	80Kg	1168
M13.0	YREV-M130-SL	•	80Kg	1218
M13.5	YREV-M135-SL	•	80Kg	1268
M14.0	YREV-M140-SL	•	80Kg	1318
M14.5	YREV-M145-SL	•	80Kg	1368
M15.0	YREV-M150-SL	•	80Kg	1418
M15.5	YREV-M155-SL	•	80Kg	1468
M16.0	YREV-M160-SL	•	80Kg	1518
M17.0	YREV-M170-SL	•	60Kg	1618
M18.0	YREV-M180-SL	•	60Kg	1718

Note: For sash sizes, please see profile specific instructions (on page 013).

Yale Revolution Window Hinge

Installation Instructions: Overview

Issue: May 2017

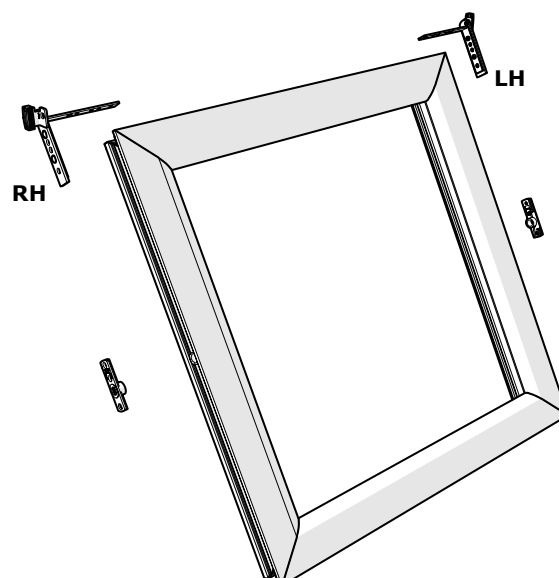
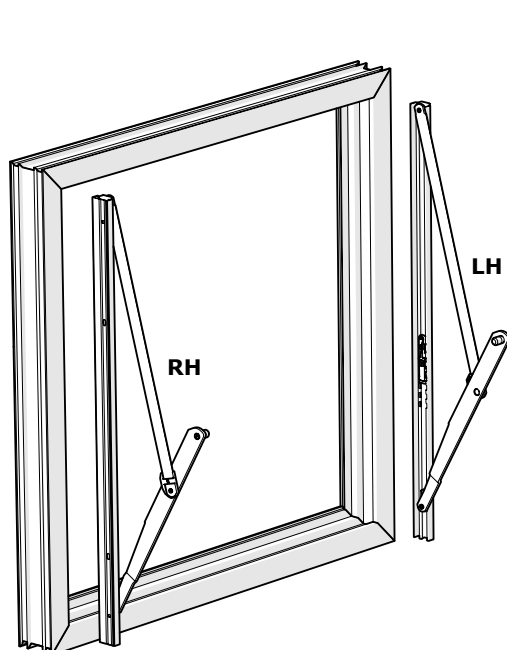


FITTING THE HINGE TO THE FRAME

- The left hand hinge can be identified by the presence of the restrictor mechanism, this hinge is fitted to the left hand side of the frame when viewed from the inside (for frame hardware installation please see page 004).

FITTING THE ACCESSORIES TO THE SASH

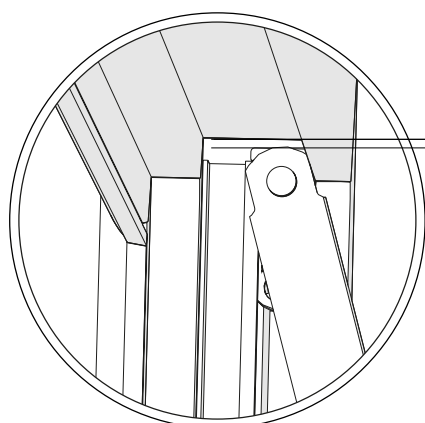
- The left hand bracket is fitted to the top left hand corner of the sash when viewed from the inside. The sash castings are fitted on the sides of the sash (for sash hardware installation please see page 005).



Yale Revolution Window Hinge

Installation Instructions: Frame Preparation

Issue: May 2017

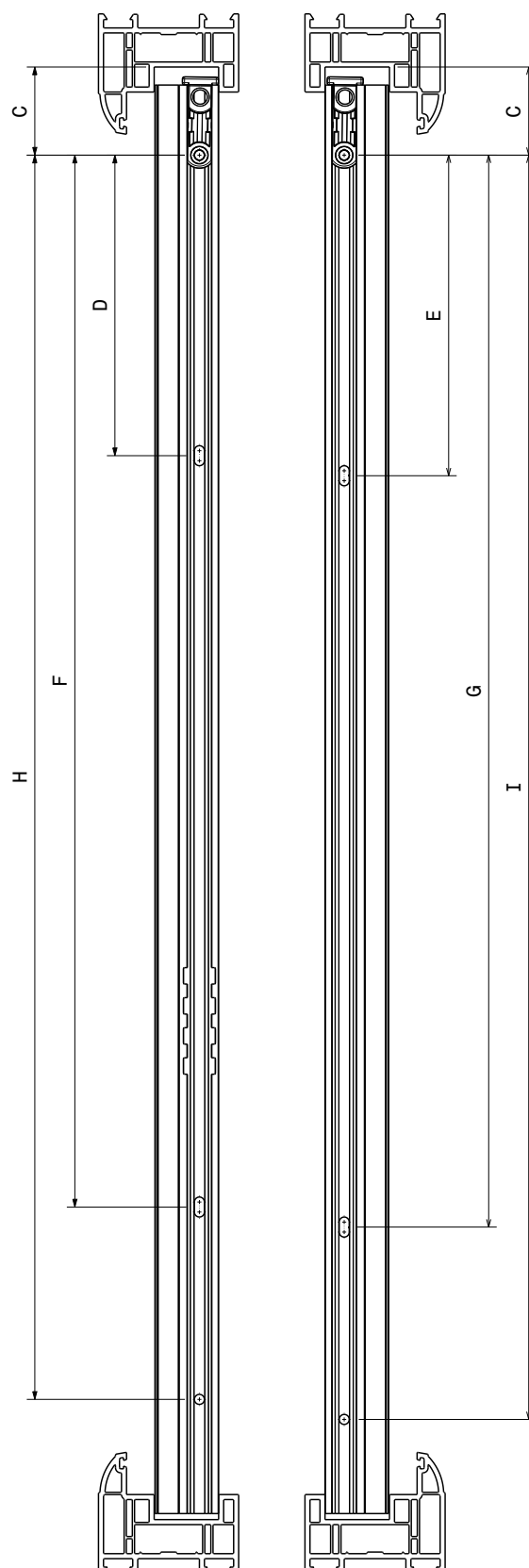


B

The hinge is positioned in accordance with dimensions B & C (please see profile specific instructions page 013).

FRAME FIXING POSITIONS

Module Size	Dimension (mm)					
	D	E	F	G	H	I
M4.0	-	-	-	-	221	231
M4.5	-	-	-	-	271	281
M5.0	-	-	221	231	321	331
M5.5	-	-	221	231	371	381
M6.0	100	110	-	-	421	431
M6.5	131.5	141.5	-	-	471	481
M7.0	112	122	-	-	521	531
M7.5	143	153	480	490	571	581
M8.0	150	160	525	535	621	631
M8.5	189	199	571	581	671	681
M9.0	221	231	625	635	721	731
M9.5	226.5	236.5	621	631	771	781
M10.0	238	248	671	681	821	831
M10.5	243	253	671	681	871	881
M11.0	256	266	721	731	921	931
M11.5	296	306	771	781	971	981
M12.0	290	300	821	831	1021	1031
M12.5	286	296	821	831	1071	1081
M13.0	316	326	871	881	1121	1131
M13.5	353.5	363.5	921	931	1171	1181
M14.0	353	363	971	981	1221	1231
M14.5	381	391	971	981	1271	1281
M15.0	380	390	1021	1031	1321	1331
M15.5	384.5	394.5	1021	1031	1371	1381
M16.0	415	425	1071	1081	1421	1431
M17.0	448	458	1121	1131	1521	1531
M18.0	479	489	1171	1181	1621	1631



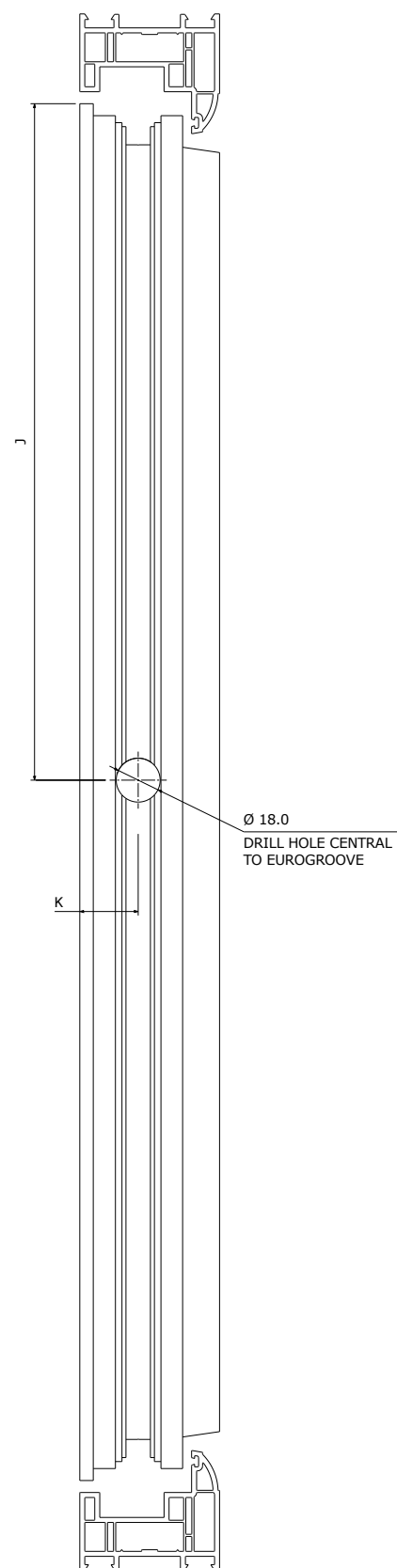
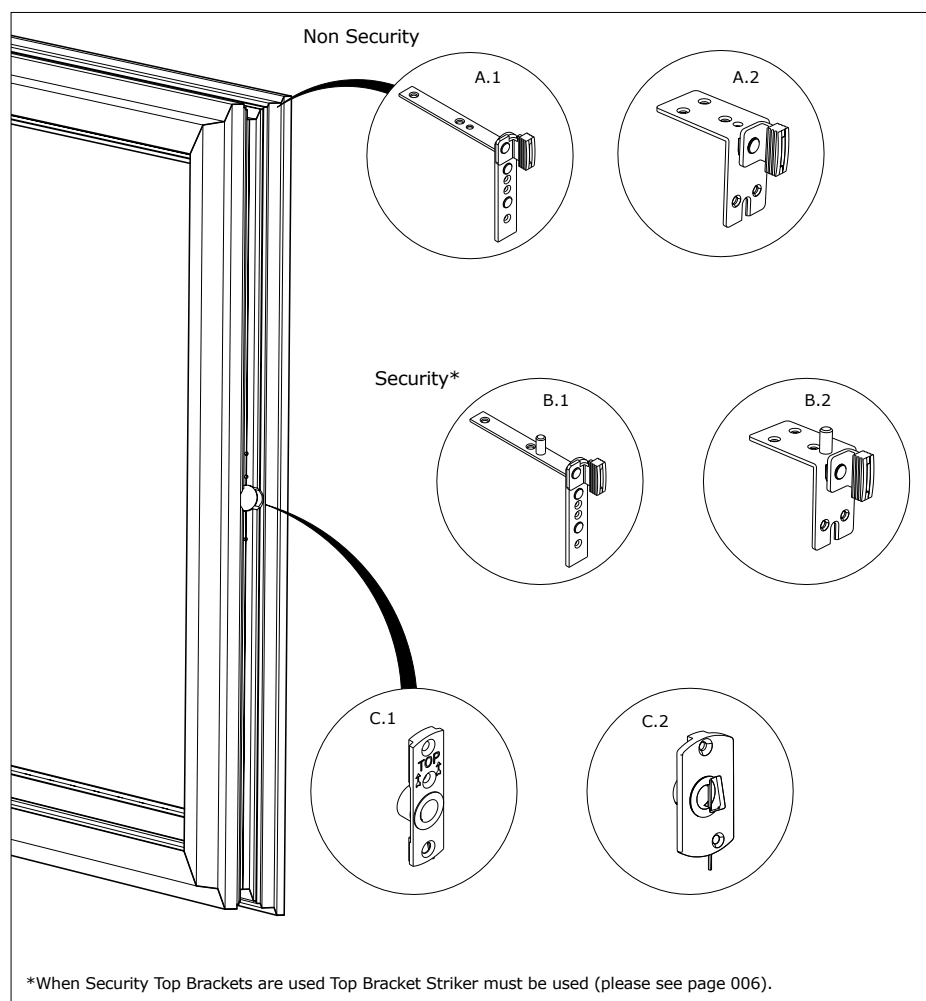
Lh Channel
Fixing Dimensions

Rh Channel
Fixing Dimensions

Yale Revolution Window Hinge

Installation Instructions: Sash Preparation

Issue: May 2017



Applicable To Both
Sides Of Sash

SASH FITTING

- The correct Sash Hardware must be selected.
- A.1 and A.2 are examples of a Non-Security Top Bracket Assembly.
- B.1 and B.2 are examples of a Security Top Bracket Assembly.
- (Left hand top bracket shown)
- C.1 and C.2 are examples of Sash Castings
- The Sash Casting is positioned in accordance with dimensions 'J' & 'K' (please see page 013).

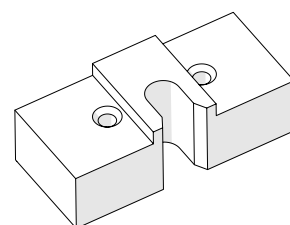
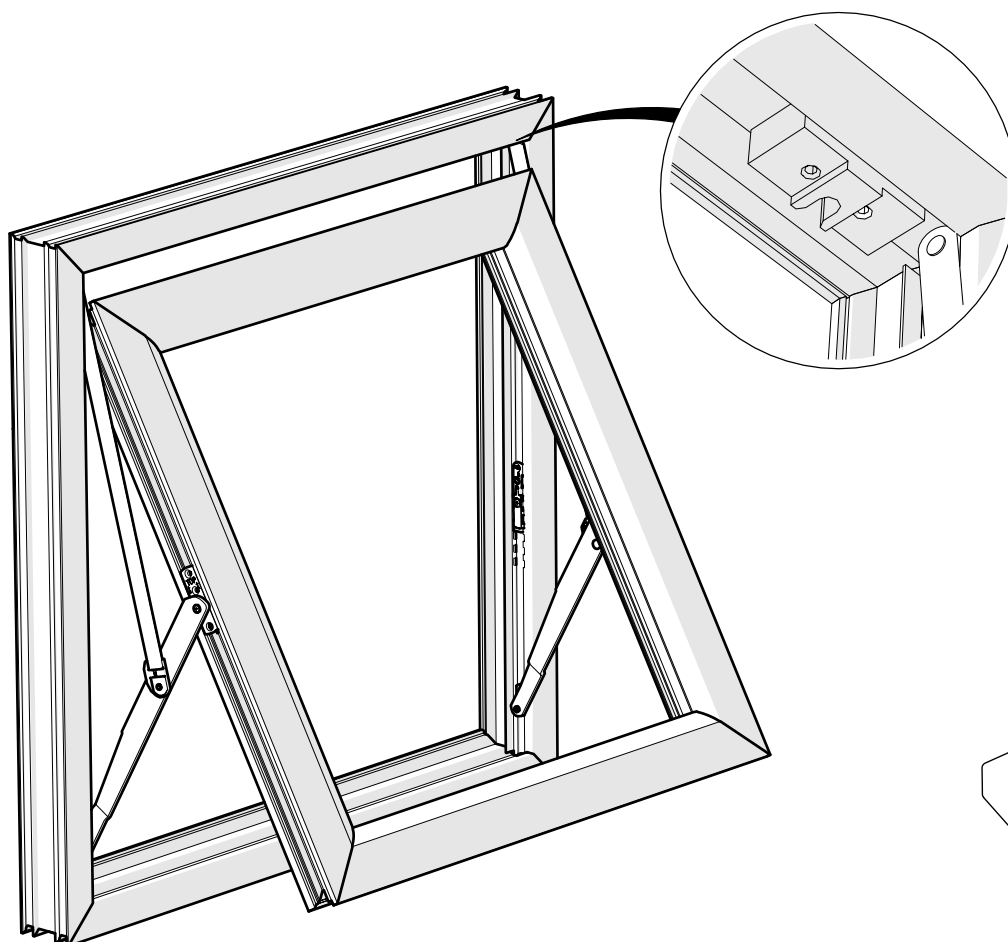
Yale Revolution Window Hinge

Installation Instructions: Security Accessories

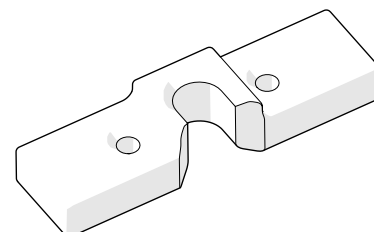
Issue: May 2017

FITTING OF THE TOP BRACKET STRIKER

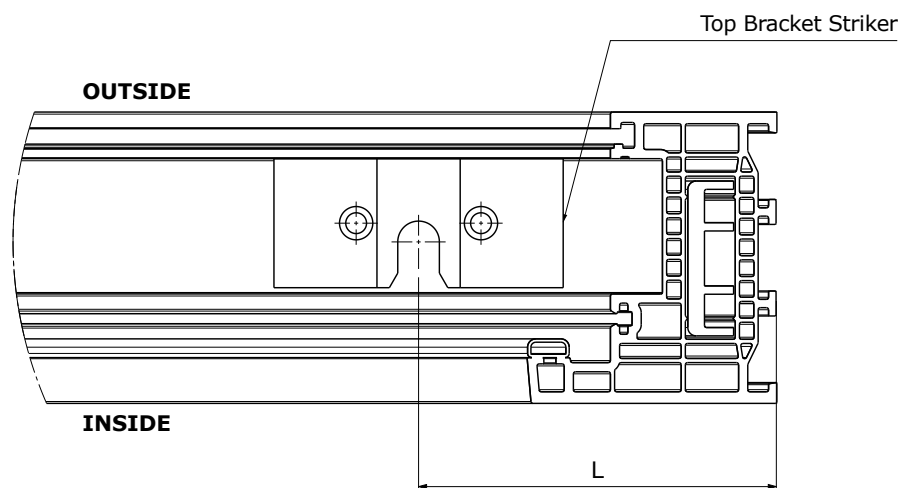
- The correct Top Bracket Striker must be selected.
- For dimension 'L', please see profile specific instructions (page 013). (Please note: packer is to be fitted in both corners of the frame).
- Top Bracket Striker is located in the groove at the top of the window frame.



Top Bracket Striker - R9163



Top Bracket Striker - R9405



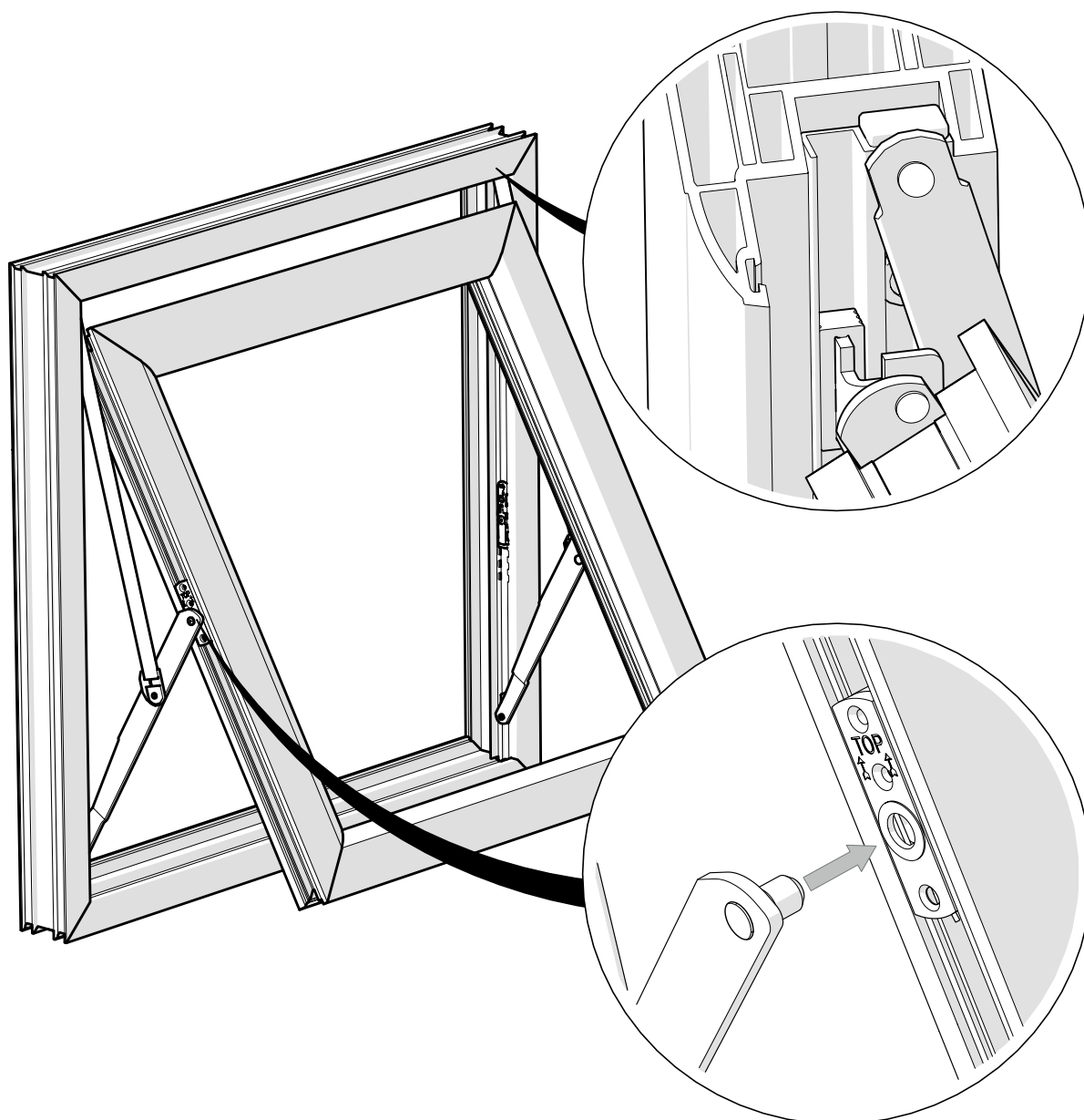
Yale Revolution Window Hinge

Installation Instructions: Assembly Of Sash Into Frame

Issue: May 2017

LOCATING TOP BRACKET ASSEMBLY

- Ensure the top bracket assembly glider is located within the glider channel section of the hinge - applicable to both sides.



LOCATING SASH BOLT

- Ensure the sash bolt of the hinge is inserted fully in to the sash casting, until it clicks in to place - applicable to both sides.

Yale Revolution Window Hinge

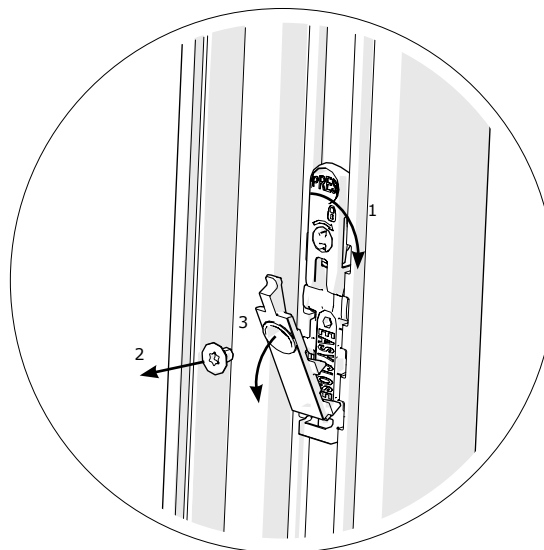
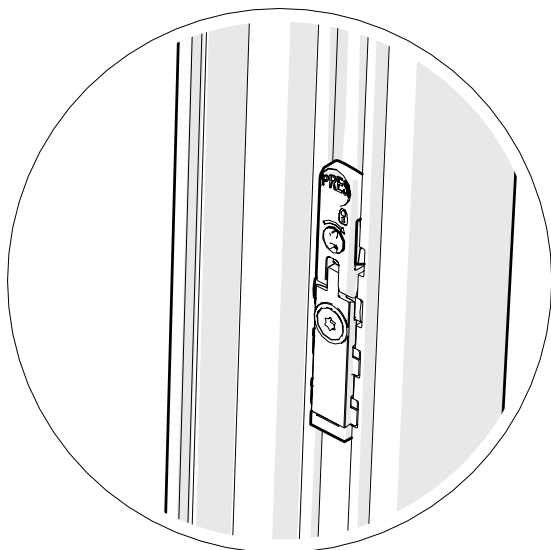
Product Operation: How To Change Configuration

Issue: May 2017

RESTRICTION POSITION

The Yale Revolution Window Hinge can be configured to either of the following;

- Anti-Blow Back
- Easy Close



ANTI-BLOW BACK

Product as supplied will hold the sash in the set restricted positions when under moderate wind load.

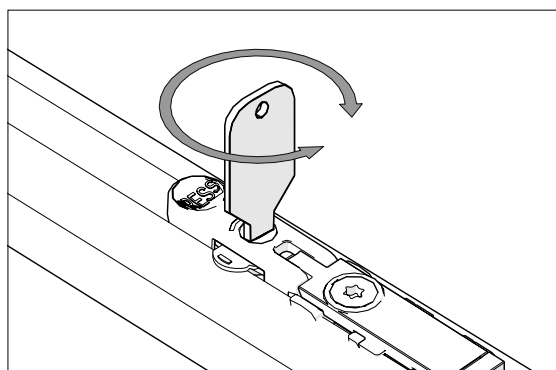
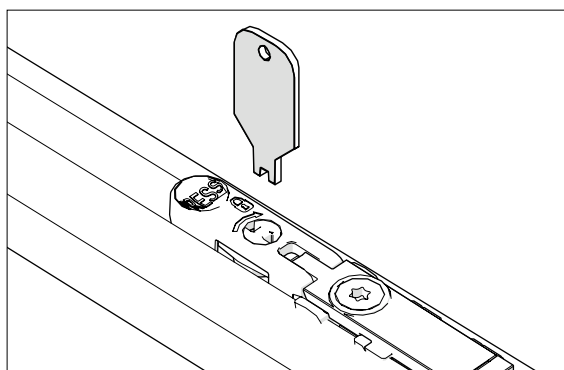
EASY CLOSE

Product function can be changed by re-configuration of the sash release lever, this allows the sash to be easily closed without any user interaction. This can be done by:

1. Using the key to engage the lock out feature
2. Removing the retaining screw (M4 x 6mm) (T20 Torx drive required)
3. Removing the insert
4. Disengaging the lockout feature

KEY OPERATED LOCK OUT FEATURE

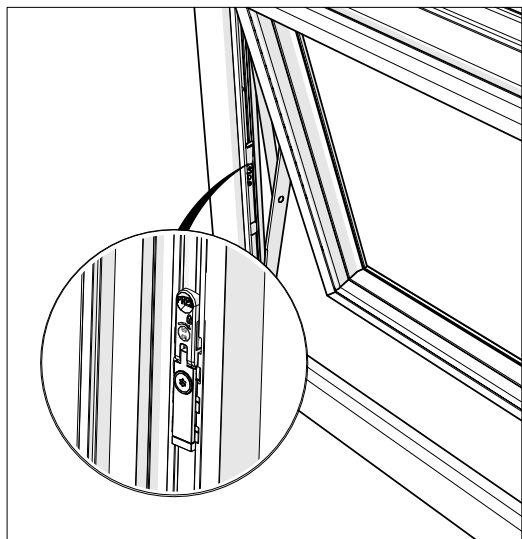
- Insert the key into the restrictor lever lock and rotate 90° (clockwise) to ensure that the window cannot be accidentally derestricted.
- Reverse this procedure to take the hinge out of this mode.



Yale Revolution Window Hinge

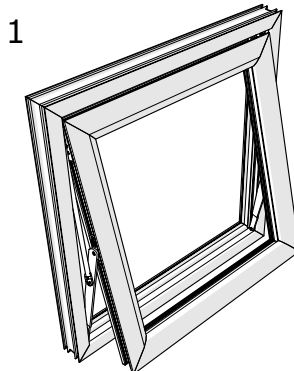
Product Operation: Anti-Blow Back

Issue: May 2017



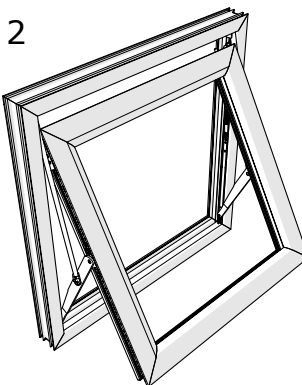
RESTRICTOR LEVER

- The restrictor lever can be found on the left hand hinge, when viewed from the inside.
- The restrictor lever must be pressed to open and close the sash, when locked out.
- Please note: the restrictor lever is only present in module sizes M6.0 and above.



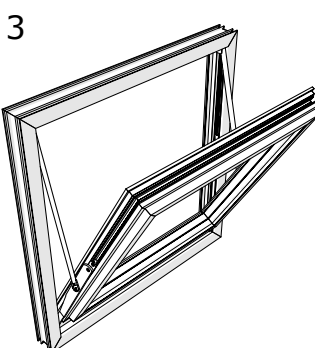
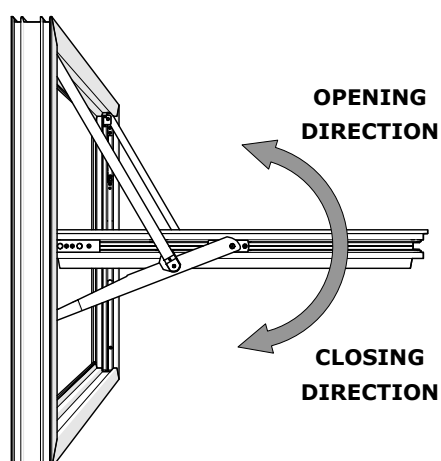
SAFETY POSITION

- Open the window until the hinge locks the sash out and restricts at the first position.
- The restrictor lever will then need to be pressed in order to release the sash from this position (this could be to open or close).



VENTILATION POSITION

- Continue to open the window further until it locks out and restricts at the second position.
- The restrictor lever will then need to be pressed in order to release the sash from this position (this could be to open or close).



WASH POSITION

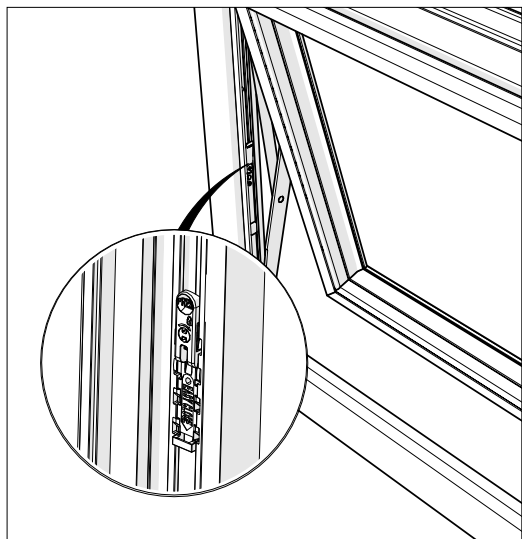
- Fully reverse the sash until it engages into this third position.
- The restrictor lever will then need to be pressed in order to release the sash from this position (to close).

At each of the above positions the key operated lock out feature can be used to prevent the restrictor being released.

Yale Revolution Window Hinge

Product Operation: Easy Close Operation

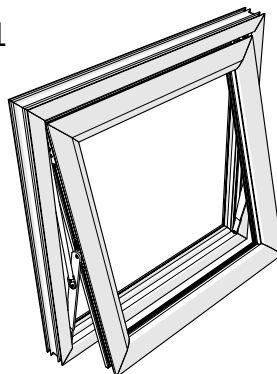
Issue: May 2017



RESTRICTOR LEVER

- The restrictor lever can be found on the left hand hinge, when viewed from the inside.
- The restrictor lever must be pressed to open the sash, when locked out.
- Please note: the restrictor lever is only present in module sizes M6.0 and above.

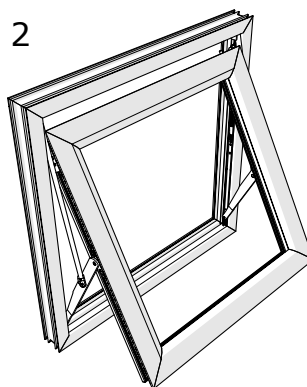
1



SAFETY POSITION

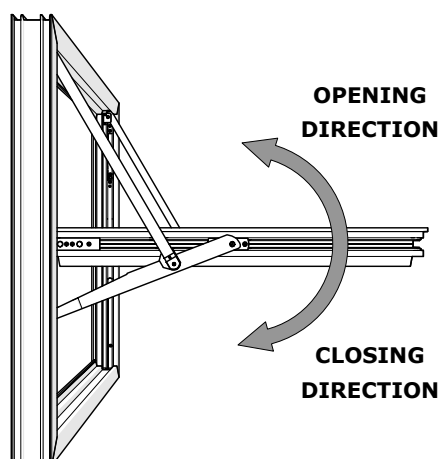
- Open the window until the hinge locks the sash out and restricts at the first position.
- The restrictor lever will then need to be pressed in order to open the window further (there is no need to press the button to close the window).

2

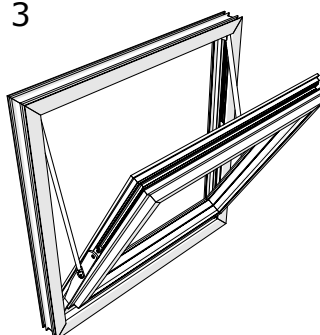


VENTILATION POSITION

- Continue to open the window further until it locks out and restricts at the second position.
- The restrictor lever will then need to be pressed in order to open the window further (there is no need to press the button to close the window).



3



WASH POSITION

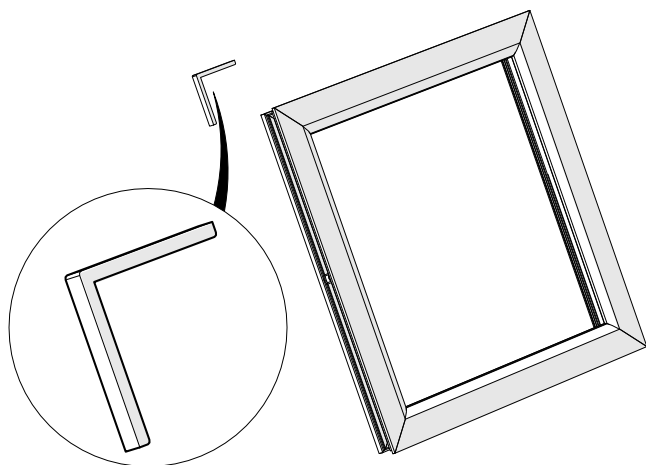
- Fully reverse the sash until it engages into this third position.
- The restrictor lever will then need to be pressed in order to release the sash from this position (to close).

At each of the above positions the key operated lock out feature can be used to prevent the restrictor being released.

Yale Revolution Window Hinge

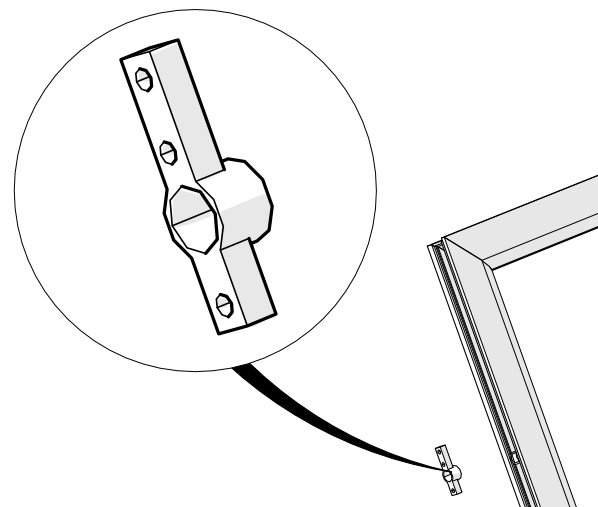
Installation Instructions: Accessories

Issue: May 2017



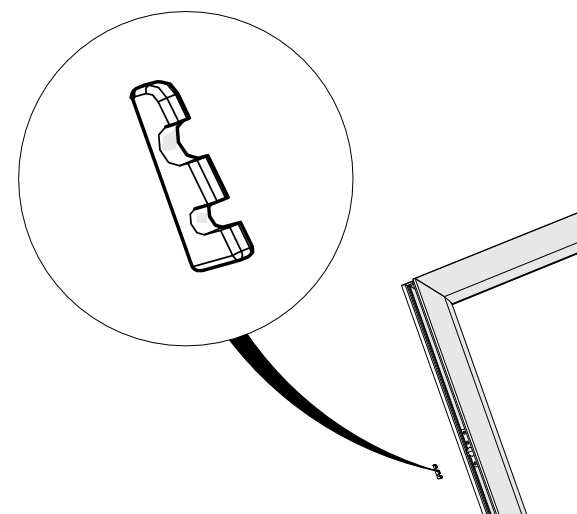
1. TOP BRACKET PACKER (2-OFF REQ'D) (R9164)

- Can be fitted into the eurogroove beneath the Top Bracket Assemblies to conceal the fixing screws.
- Includes groove to allow water drainage from head of sash.



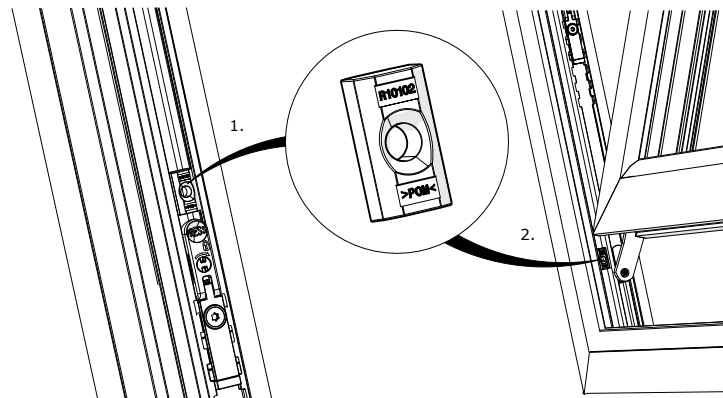
2. SASH CASTING PACKER (2-OFF REQ'D) (R9177)

- Can be fitted into the eurogroove beneath the Sash Castings to conceal the fixing screws.
- The use of this item will require the locating hole diameter be increased to 22mm from the standard 18mm (as shown on page 005).



3. SASH CASTING PACKER (RED) (2-OFF REQ'D) (R9224)

- Can be fitted underneath the Sash Castings to provide the window manufacturer a visual indication that the hinge has securely engaged into the sash casting with the retaining spring held in place.



4. TRACK STOP (R10102)

Can be used in two applications.

1. Can be fitted into the hinge channel to support the mechanism to reduce the risk of damage to the window through misuse or excessive force being applied which causes the sash to be forced free from the frame.

The sash is rotated till horizontal and the Track Stop is screwed into position above the slider/ restrictor.

2. Can be fitted into the hinge channel to limit the rotation of the sash to prevent clash with low lintels when reversed beyond the wash position.

The sash is rotated until engaged into the wash position and the Track Stop is screwed into position beneath the top bracket glider.

Yale Revolution Window Hinge

Specification

Issue: May 2017

MATERIALS

- Links: Material - Cold Rolled Carbon Steel. Grade CS4 (BS 1449). Finish - Plated with Zinc, Full Trivalent Passivate and Lacquer
- Rivets: Material - Austenitic Stainless Steel Wire. Grade 304 (BS EN 10263).
- Channels: Material - Aluminium Alloy. Grade 6063-T6 (BS EN 755). Finish - Powder coat
- Washers: Material - Nylon
- Sliders: Material - Nylon
- Die-Cast Components: Material - Zinc Alloy. Grade ZL3 (BS EN 1774). Finish - Plated with Zinc, Full Trivalent Passivate and Lacquer

MAINTENANCE AND LUBRICATION

- The Revolution hinge aluminium channels must not be painted after installation.
- The channels should be lightly lubricated with a white neutral grease (e.g. Vaseline), and the hinge pivot points should be kept lightly oiled, at 6-12 month intervals depending on local conditions.

SUGGESTED FITTING SEQUENCE

- Fit the Revolution hinges on to the frame as shown on page 004.
- Fit the accessories on to the sash as shown on page 005.
- Install the sash into the frame as shown on page 007.

TESTING AND ACCREDITATION

- BS 6375 Part 1: Severe weather resistance
- BS 6375 Part 2: Load bearing safety devices
- EN14351-1:2006 Clause 4.8 – Load-bearing capacity of safety devices
- PAS24: Enhanced security of whole windows and doors
- BS8213: Safety in use and cleaning of windows

ENVIRONMENTAL CONSTRAINTS

- Normal operating temperature range is -20°C to +60°C.
- Normal operating humidity range is 10% RH to 90% RH.
- Materials used will not degrade, due to ultra violet light or when using neutral acidity non-solvent cleaning chemicals, at a rate faster than other parts of the window assembly.

RECOMMENDATIONS

- The window should be installed square and care taken not to damage the aluminium channel of the hinge.
- Austenitic Stainless Steel fixing screws are recommended to provide enhanced corrosion resistance. It is also recommended that users consult with a screw specialist to determine the optimum form and type.

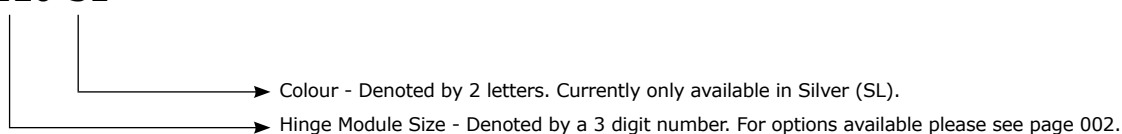
COMPATIBLE PRODUCTS

- Virage Window Handle
- Defender Window Lock
- Encloser Window Lock

DETERMINING THE FULLY REVERSIBLE HINGE PART CODE

- Each part code contains 2 pieces of variable information: the hinge module size and channel colour (part number below denotes a M12.0 hinge).

YREV-M120-SL



DISCLAIMER

It is the responsibility of the user to ensure that this document is at the latest issue. Due to our policy of continual product improvement we reserve the right to alter specifications without notice. It is the responsibility of the window and or door manufacturer to ensure that the finished window and or door meets the required performance and safety specification.

Yale Revolution Window Hinge

Profile Specific Compatibility

Issue: May 2017

COMPATIBILITY LIST

The following profiles have been verified by Yale DWS Technical department on profile specifications provided by the following suppliers on or before the issue date of this Technical Manual.

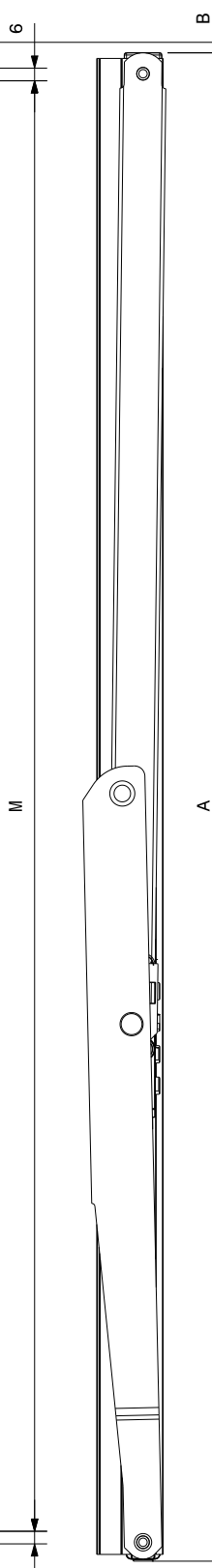
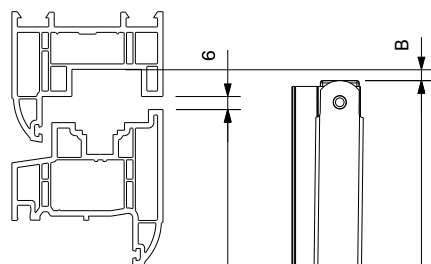
If you wish to use this product on a system not specified below, you must contact Yale DWS before we can offer any product guarantee.

014	Sheerframe 8000 Fully Reversible (PVC)
016	Profile 22 Fully Reversible (PVC)
018	Spectus Fully Reversible (PVC)
020	Rehau Total70R Fully Reversible (PVC)
022	Deceuninck Fully Reversible (PVC)
024	Halo System 10 Fully Reversible (PVC)
026	Veka Matrix 70mm Fully Reversible (PVC)
028	Duraflex Fully Reversible (PVC)
030	System 2000 HS1 Fully Reversible (Timber)
032	Profile B Fully Reversible (Timber)
034	SMART Alitherm 700 Fully Reversible (Aluminium)
036	SAPA Dualframe 75si Fully Reversible (Aluminium)
038	Senior Architectural Systems SPW600e Fully Reversible (Aluminium)

Yale Revolution Window Hinge

Sheerframe 8000 Fully Reversible (PVC)

Issue: May 2017

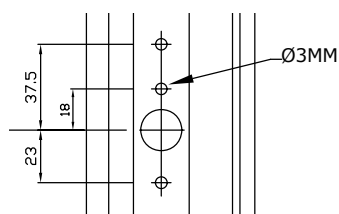


SHEERFRAME 8000 FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	68.5	29.2
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1587	728			
M17.0	1588	1687	778			
M18.0	1688	1787	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Sheerframe 8000 Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9142	LH Top Bracket Assembly (8RXG)	1
S9143	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	730	808*	61	450
M8.5	738	752*	61	457
M9.0	788	703*	61	490
M9.5	838	660*	61	524
M10.0	888	623*	61	557
M10.5	938	590*	61	590
M11.0	988	559*	61	624
M11.5	1038	533*	61	657
M12.0	1088	509*	61	690
M12.5	1138	487*	61	723
M13.0	1188	480	61	756
M13.5	1238	480	61	791
M14.0	1288	480	61	824
M14.5	1338	480	61	857
M15.0	1388	480	61	891
M15.5	1438	480	61	923
M16.0	1488	480	61	956
M17.0	1588	480	62	1023
M18.0	1688	480	62	1089

* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

REQUIRED SECURITY ACCESSORIES

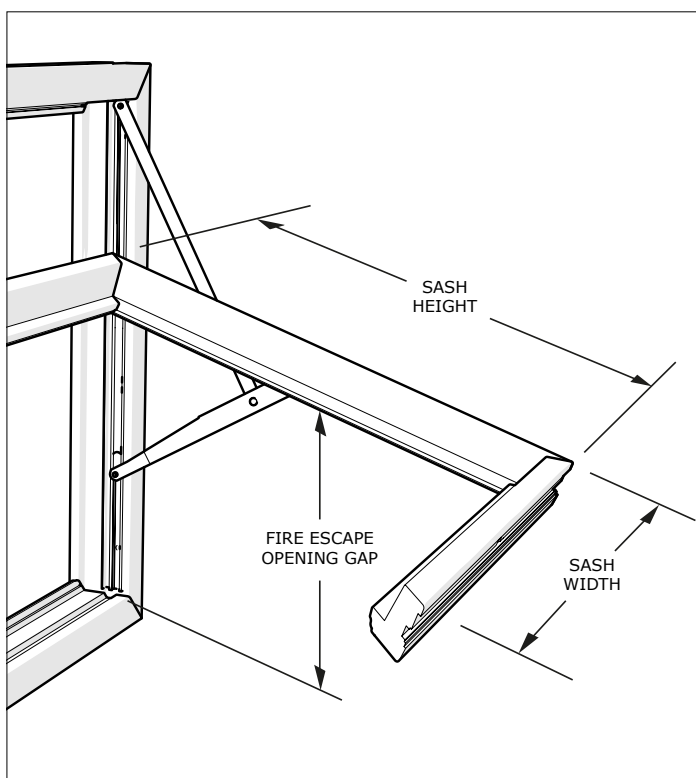
Part No.	Description	Qty
S9144	LH Top Bracket Assembly (8RXG)	1
S9145	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2
R9163	Top Bracket Striker (White)	2
R9639	Top Bracket Striker (Brown)	2
R9637	Top Bracket Striker (Drip Channel Cutout (White))	2
R10164	Top Bracket Striker (D.C.C. (Brown))	2

A Non-security Accessory Kit (YTTK007)

Part No.	Description	Qty
S9142	LH Top Bracket Assembly (8RXG)	1
S9143	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	1
R9177	Sash Casting Packer	1
R10102	Track Stop	1
R9224	Sash Casting Packer (Red)	1
R9159	Top Bracket Packer (5MM)	1
R9164	Top Bracket Packer	1

Security Accessory Kit (YTTK008)

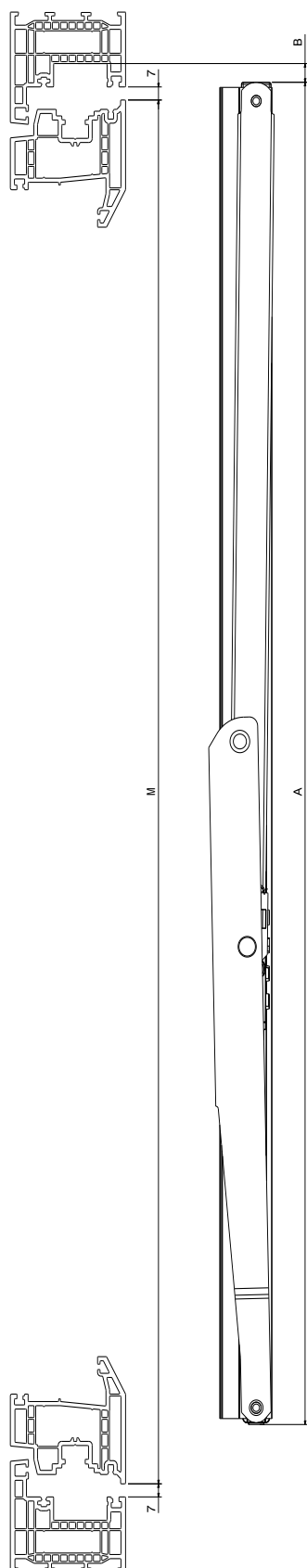
Part No.	Description	Qty
R9177	Sash Casting Packer	1
S9145	RH Top Bracket Assembly (8RXG)	1
S9144	LH Top Bracket Assembly (8RXG)	1
R9163	Top Bracket Striker (White)	1
S9174	Sash Casting	1
R10102	Track Stop	1
R9224	Sash Casting Packer (Red)	1
R9159	Top Bracket Packer (5MM)	1
R9164	Top Bracket Packer	1



Yale Revolution Window Hinge

Profile 22 Fully Reversible (PVC)

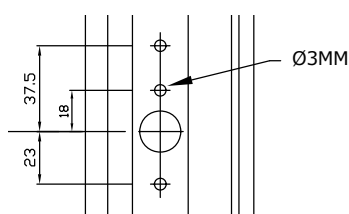
Issue: May 2017

**PROFILE 22 FULLY REVERSIBLE DETAIL**

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	291	340	148	49.0	58.5	30.6
M4.5	341	390	173			
M5.0	391	440	198			
M5.5	441	490	223			
M6.0	491	540	248			
M6.5	541	590	273			
M7.0	591	640	298			
M7.5	641	690	323			
M8.0	691	740	344			
M8.5	741	790	369			
M9.0	791	840	394			
M9.5	841	890	419			
M10.0	891	940	444			
M10.5	941	990	469			
M11.0	991	1040	492			
M11.5	1041	1090	517			
M12.0	1091	1140	542			
M12.5	1141	1190	567			
M13.0	1191	1240	592			
M13.5	1241	1290	607			
M14.0	1291	1340	632			
M14.5	1341	1390	657			
M15.0	1391	1440	682			
M15.5	1441	1490	707			
M16.0	1491	1590	732			
M17.0	1591	1690	782			
M18.0	1691	1790	832			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Profile 22 Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9138	LH Top Bracket Assembly (8RXD)	1
S9139	RH Top Bracket Assembly (8RXD)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

Part No.	Description	Qty
S9140	LH Top Bracket Assembly (8RXD)	1
S9141	RH Top Bracket Assembly (8RXD)	1
S9174	Sash Casting	2
R9163SAC1	Top Bracket Striker Machined P22	2

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

A Non-security Accessory Kit (YTTK011)

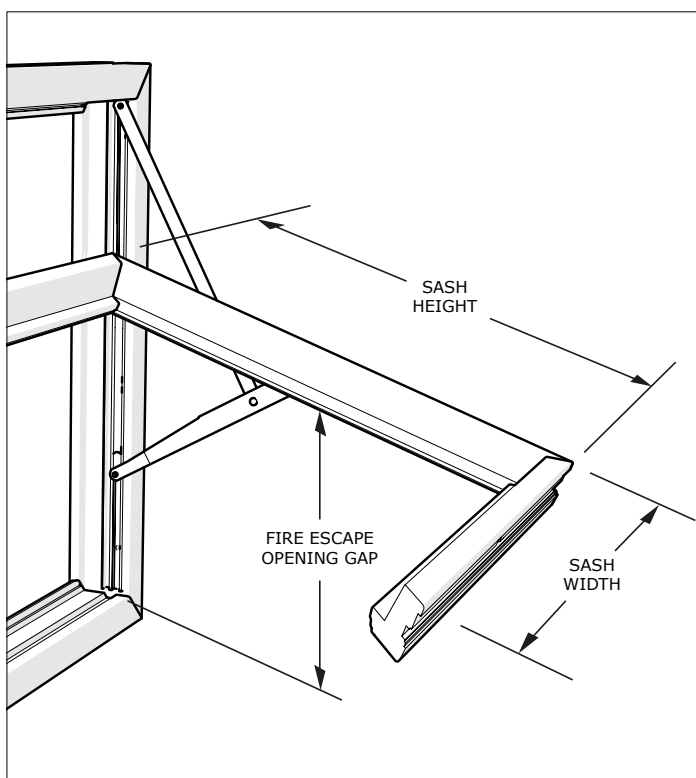
Part No.	Description	Qty
R9224	Sash Casting Packer (Red)	1
R10102	Track Stop	1
R9177	Sash Casting Packer	1
S9138	LH Top Bracket Assembly (8RXD)	1
S9139	RH Top Bracket Assembly (8RXD)	1
S9174	Sash Casting	1

Security Accessory Kit (YTTK012)

Part No.	Description	Qty
R9224	Sash Casting Packer (Red)	1
R10102	Track Stop	1
R9163SAC1	Top Bracket Striker Machined P22	1
R9177	Sash Casting Packer	1
S9140	LH Top Bracket Assembly (8RXD)	1
S9141	RH Top Bracket Assembly (8RXD)	1
S9174	Sash Casting	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	725	812*	63	450
M8.5	741	755*	62	453
M9.0	791	705*	62	486
M9.5	841	661*	62	519
M10.0	891	623*	62	552
M10.5	941	590*	61	585
M11.0	991	559*	61	619
M11.5	1041	532*	61	652
M12.0	1091	508*	61	685
M12.5	1141	486*	61	718
M13.0	1191	476	61	752
M13.5	1241	476	61	787
M14.0	1291	476	61	819
M14.5	1341	476	61	852
M15.0	1391	476	61	886
M15.5	1441	476	61	919
M16.0	1491	476	61	952
M17.0	1591	476	62	1018
M18.0	1691	476	62	1084

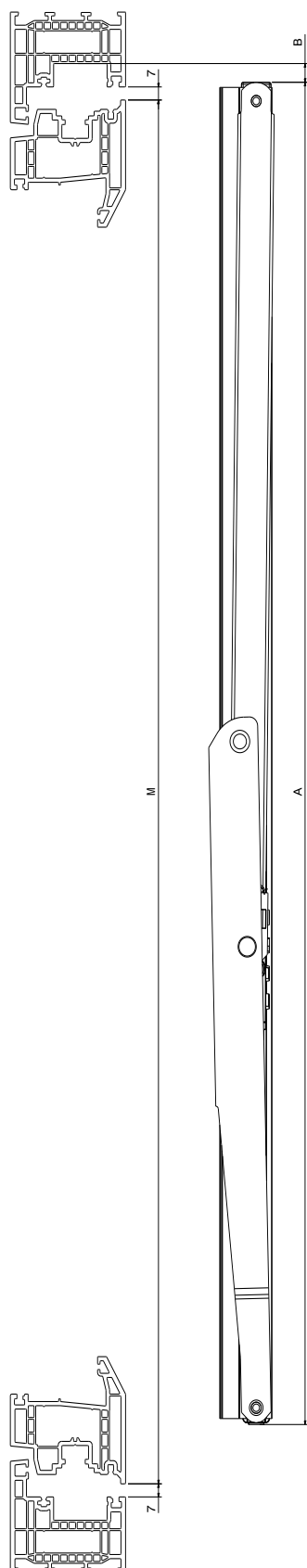


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Spectus Fully Reversible (PVC)

Issue: May 2017

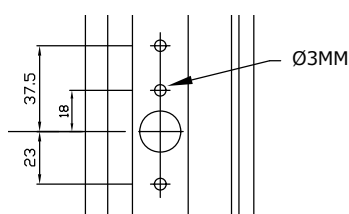


SPECTUS FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	291	340	148	49.0	58.5	30.6
M4.5	341	390	173			
M5.0	391	440	198			
M5.5	441	490	223			
M6.0	491	540	248			
M6.5	541	590	273			
M7.0	591	640	298			
M7.5	641	690	323			
M8.0	691	740	344			
M8.5	741	790	369			
M9.0	791	840	394			
M9.5	841	890	419			
M10.0	891	940	444			
M10.5	941	990	469			
M11.0	991	1040	492			
M11.5	1041	1090	517			
M12.0	1091	1140	542			
M12.5	1141	1190	567			
M13.0	1191	1240	592			
M13.5	1241	1290	607			
M14.0	1291	1340	632			
M14.5	1341	1390	657			
M15.0	1391	1440	682			
M15.5	1441	1490	707			
M16.0	1491	1590	732			
M17.0	1591	1690	782			
M18.0	1691	1790	832			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Spectus Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9138	LH Top Bracket Assembly (8RXD)	1
S9139	RH Top Bracket Assembly (8RXD)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

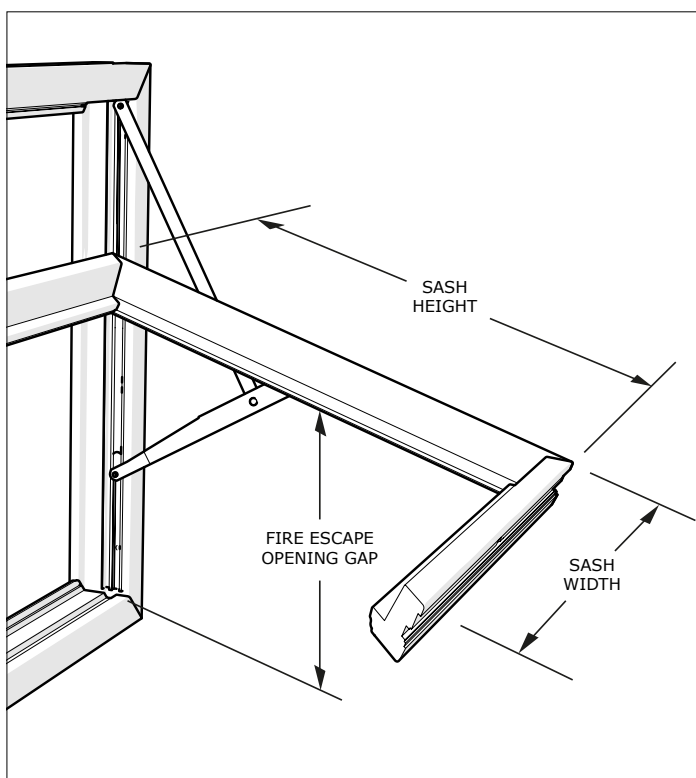
Part No.	Description	Qty
S9140	LH Top Bracket Assembly (8RXD)	1
S9141	RH Top Bracket Assembly (8RXD)	1
S9174	Sash Casting	2
R9163SAC1	Top Bracket Striker Machined P22	2

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	725	812*	63	450
M8.5	741	755*	62	453
M9.0	791	705*	62	486
M9.5	841	661*	62	519
M10.0	891	623*	62	552
M10.5	941	590*	61	585
M11.0	991	559*	61	619
M11.5	1041	532*	61	652
M12.0	1091	508*	61	685
M12.5	1141	486*	61	718
M13.0	1191	476	61	752
M13.5	1241	476	61	787
M14.0	1291	476	61	819
M14.5	1341	476	61	852
M15.0	1391	476	61	886
M15.5	1441	476	61	919
M16.0	1491	476	61	952
M17.0	1591	476	62	1018
M18.0	1691	476	62	1084

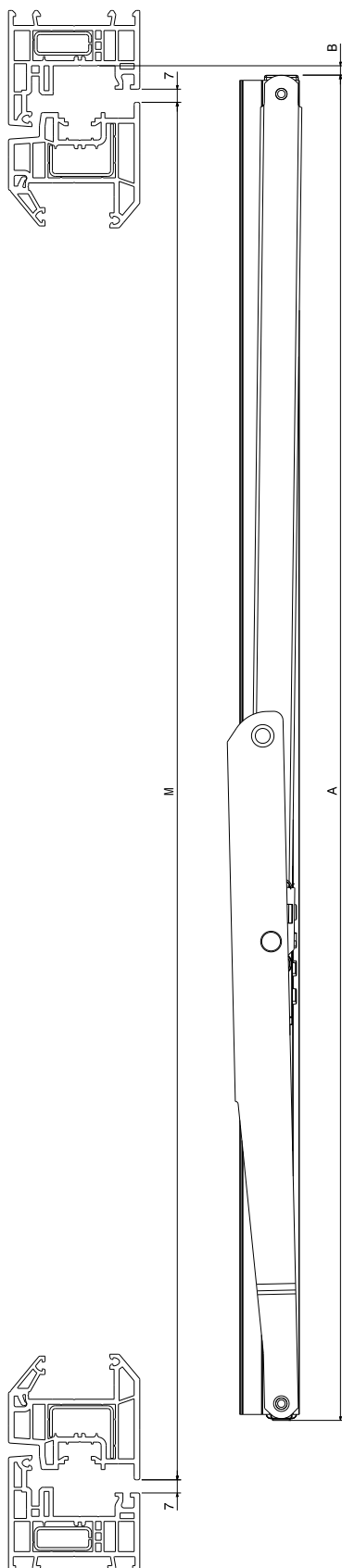


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Rehau Total70R Fully Reversible (PVC)

Issue: May 2017

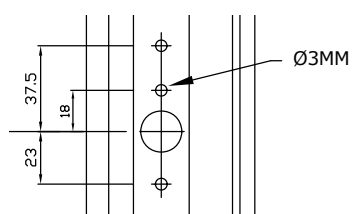


REHAU TOTAL70R FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	286	335	143	44.0	58.5	32.0
M4.5	336	385	168			
M5.0	386	435	193			
M5.5	436	485	218			
M6.0	486	535	243			
M6.5	536	585	268			
M7.0	586	635	293			
M7.5	636	685	318			
M8.0	686	735	339			
M8.5	736	785	364			
M9.0	786	835	389			
M9.5	836	885	414			
M10.0	886	935	439			
M10.5	936	985	464			
M11.0	986	1035	487			
M11.5	1036	1085	512			
M12.0	1086	1135	537			
M12.5	1136	1185	562			
M13.0	1186	1235	587			
M13.5	1236	1285	602			
M14.0	1286	1335	627			
M14.5	1336	1385	652			
M15.0	1386	1435	677			
M15.5	1436	1485	702			
M16.0	1486	1585	727			
M17.0	1586	1685	777			
M18.0	1686	1785	827			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Rehau Total70R Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S10184	LH Top Bracket Assembly (8AXD)	1
S10185	RH Top Bracket Assembly (8AXD)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

Part No.	Description	Qty
S10186	LH Top Bracket Assembly (8AXD)	1
S10187	RH Top Bracket Assembly (8AXD)	1
S9174	Sash Casting	2
R9163	Top Bracket Striker (White)*	2

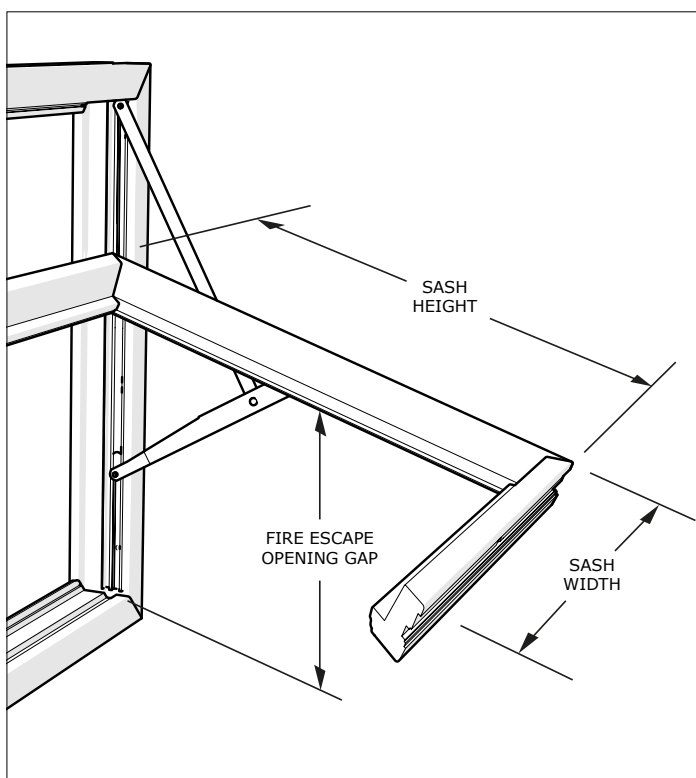
* Also available in Brown (part no. **R9639**)

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	719	811*	64	450
M8.5	736	754*	62	453
M9.0	786	705*	62	486
M9.5	836	661*	62	520
M10.0	886	623*	62	553
M10.5	936	590*	62	585
M11.0	986	559*	62	620
M11.5	1036	532*	62	652
M12.0	1086	508*	62	685
M12.5	1136	485*	62	718
M13.0	1186	476	62	752
M13.5	1236	476	62	787
M14.0	1286	476	62	820
M14.5	1336	476	62	853
M15.0	1386	476	62	886
M15.5	1436	476	62	919
M16.0	1486	476	61	952
M17.0	1586	476	62	1019
M18.0	1686	476	63	1084



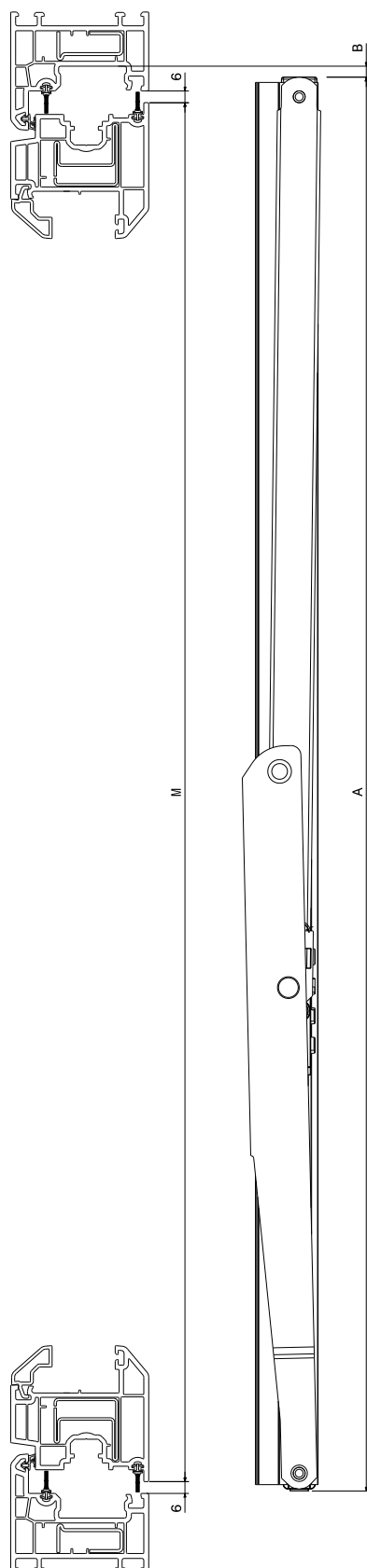
* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Deceuninck Fully Reversible (PVC)

Issue: May 2017

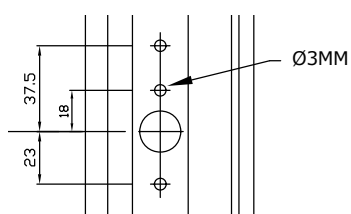
DECEUNINCK FULLY REVERSIBLE DETAIL



Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	69.0	31.7
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1537	728			
M17.0	1538	1587	753			
M18.0	1588	1637	778			
M19.0	1638	1687	803			
M20.0	1688	1737	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Deceuninck Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9142	LH Top Bracket Assembly (8RXG)	1
S9143	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

Part No.	Description	Qty
S9144	LH Top Bracket Assembly (8RXG)	1
S9145	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2
R9163	Top Bracket Striker (White)*	2

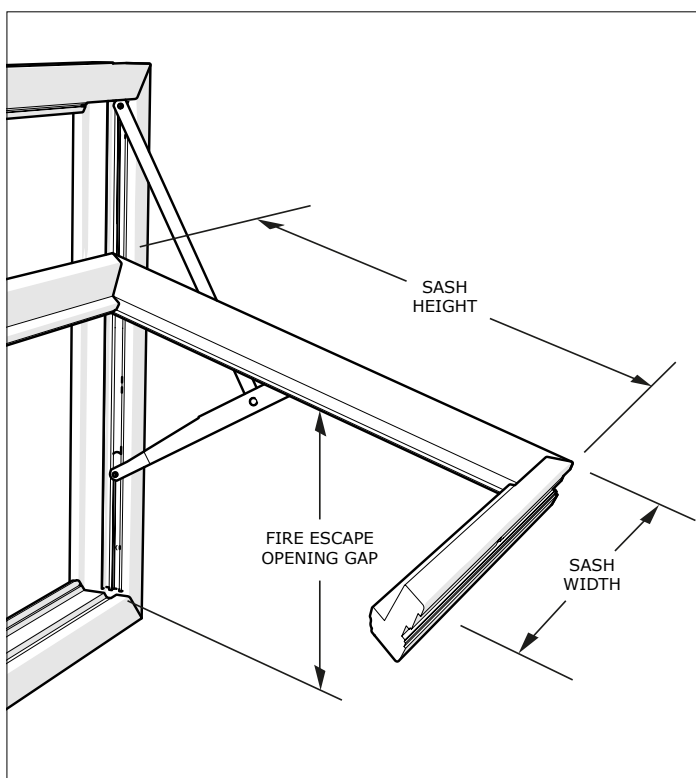
* Also available in Brown (part no. **R9639**)

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	715	803*	62	450
M8.5	738	747*	62	459
M9.0	788	699*	61	492
M9.5	838	656*	61	525
M10.0	888	619*	61	558
M10.5	938	586*	61	591
M11.0	988	556*	61	625
M11.5	1038	529*	61	658
M12.0	1088	505*	61	691
M12.5	1138	484*	61	724
M13.0	1188	478	61	758
M13.5	1238	478	61	792
M14.0	1288	478	61	825
M14.5	1338	478	61	858
M15.0	1388	478	61	892
M15.5	1438	478	61	925
M16.0	1488	478	61	958
M17.0	1588	478	62	1024
M18.0	1688	478	61	1091

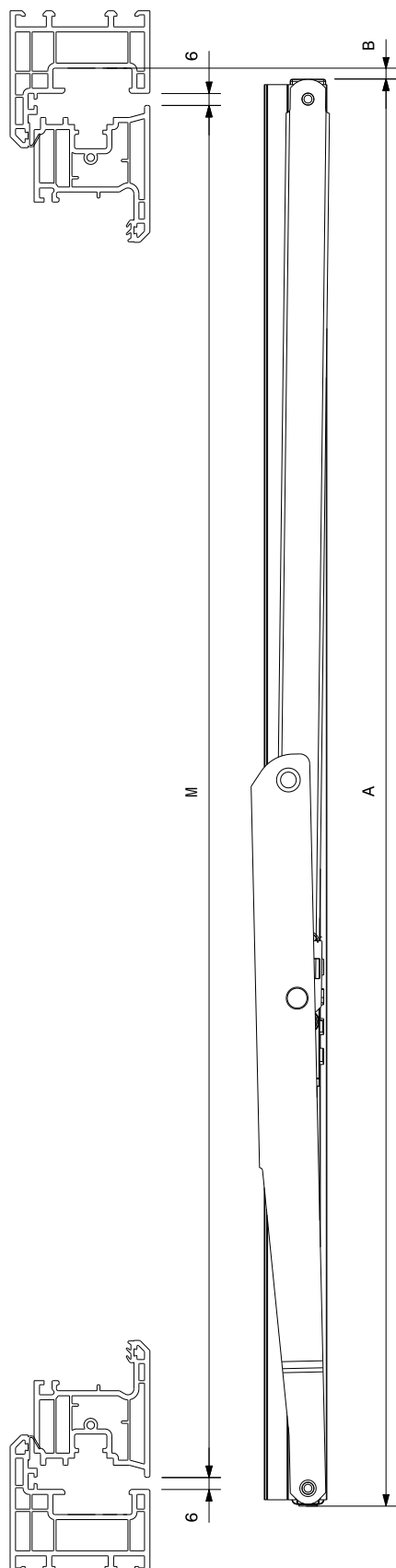


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Halo System 10 Fully Reversible (PVC)

Issue: May 2017

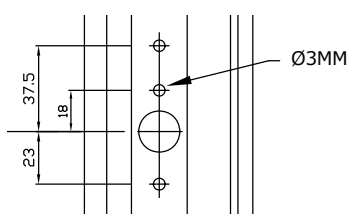


HALO SYSTEM 10 FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	69.0	29.7
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1587	728			
M17.0	1588	1687	778			
M18.0	1688	1787	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Halo System 10 Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9142	LH Top Bracket Assembly (8RXG)	1
S9143	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

Part No.	Description	Qty
S9144	LH Top Bracket Assembly (8RXG)	1
S9145	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2
R9163	Top Bracket Striker (White)*	2

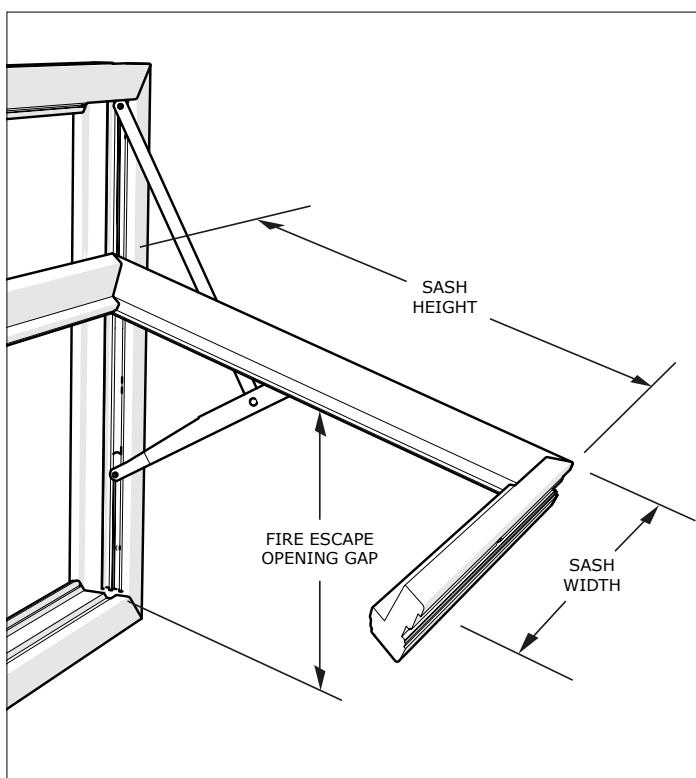
* Also available in Brown (part no. **R9639**)

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	708	804*	62	450
M8.5	738	751*	61	466
M9.0	788	704*	61	499
M9.5	838	662*	61	532
M10.0	888	626*	61	565
M10.5	938	594*	61	598
M11.0	988	564*	61	632
M11.5	1038	538*	61	665
M12.0	1088	515*	61	698
M12.5	1138	493*	61	731
M13.0	1188	492	61	765
M13.5	1238	492	61	799
M14.0	1288	492	61	832
M14.5	1338	492	61	865
M15.0	1388	492	61	899
M15.5	1438	492	61	932
M16.0	1488	492	61	965
M17.0	1588	492	61	1032
M18.0	1688	492	62	1094

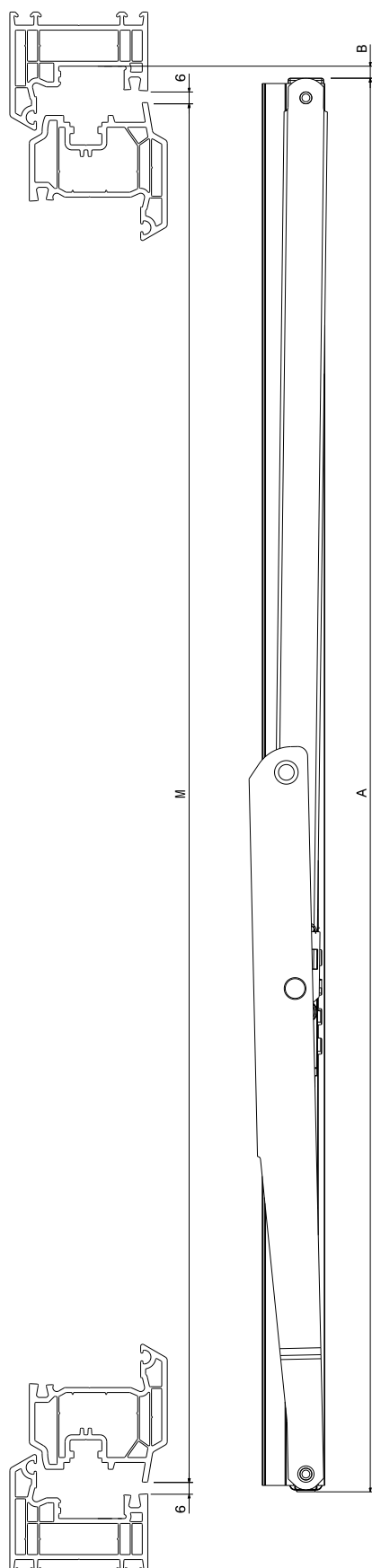


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Veka Matrix 70mm Fully Reversible (PVC)

Issue: May 2017

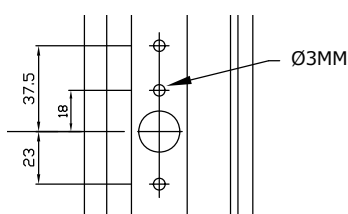


VEKA MATRIX 70MM FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	69.2	41.3
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1587	728			
M17.0	1588	1687	778			
M18.0	1688	1787	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Veka Matrix 70mm Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9142	LH Top Bracket Assembly (8RXG)	1
S9143	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

Part No.	Description	Qty
S9144	LH Top Bracket Assembly (8RXG)	1
S9145	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2
R9163	Top Bracket Striker (White)*	2

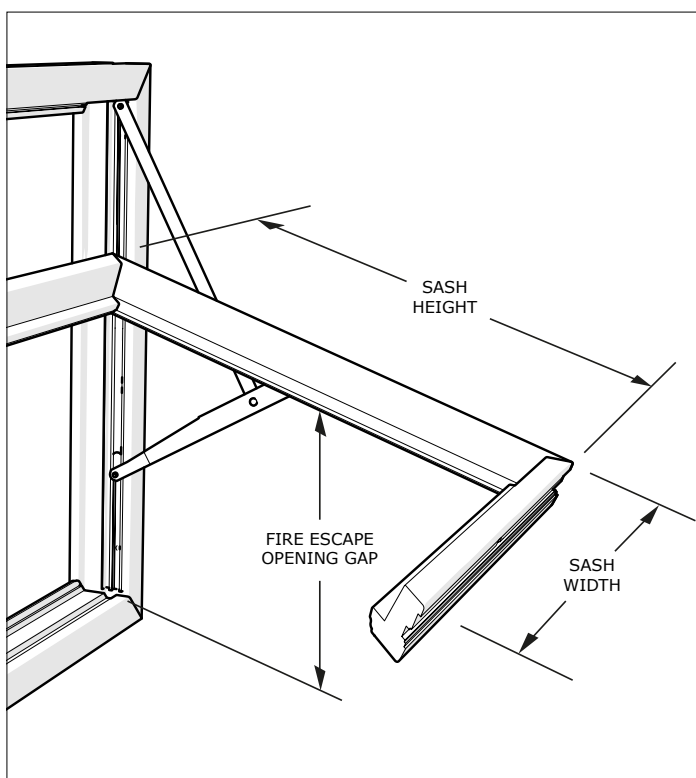
* Also available in Brown (part no. **R9639**)

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	704	785*	62	450
M8.5	738	732*	62	469
M9.0	788	686*	61	502
M9.5	838	644*	61	535
M10.0	888	609*	61	568
M10.5	938	577*	61	601
M11.0	988	547*	61	635
M11.5	1038	522*	61	668
M12.0	1088	499*	61	701
M12.5	1138	478	61	734
M13.0	1188	478	61	768
M13.5	1238	478	61	803
M14.0	1288	478	61	836
M14.5	1338	478	61	868
M15.0	1388	478	61	902
M15.5	1438	478	61	935
M16.0	1488	478	61	968
M17.0	1588	478	62	1034
M18.0	1688	478	61	1101

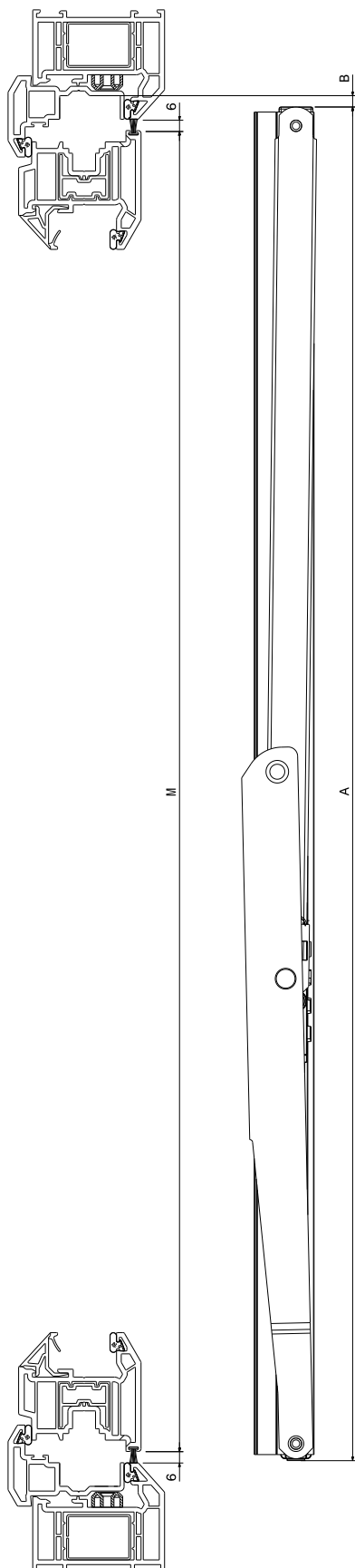


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Duraflex Fully Reversible (PVC)

Issue: May 2017

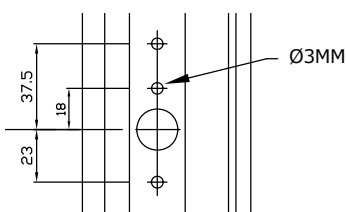


DURAFLEX FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	69.0	30.3
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1587	728			
M17.0	1588	1687	778			
M18.0	1688	1787	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

Duraflex Fully Reversible (PVC)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9142	LH Top Bracket Assembly (8RXG)	1
S9143	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

Part No.	Description	Qty
S9144	LH Top Bracket Assembly (8RXG)	1
S9145	RH Top Bracket Assembly (8RXG)	1
S9174	Sash Casting	2
R9163	Top Bracket Striker (White)*	2

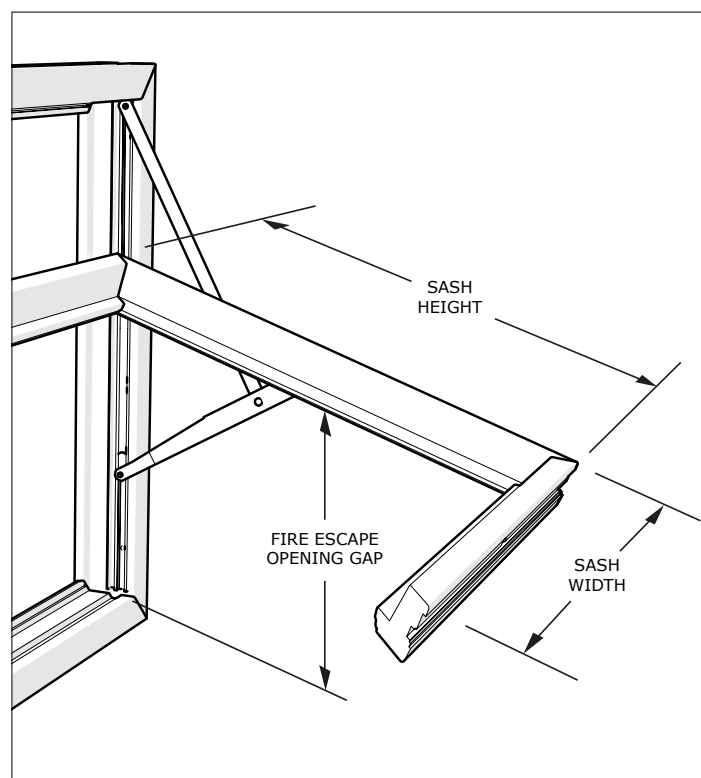
* Also available in Brown (part no. **R9639**)

ACCESSORIES

Part No.	Description	Qty
R9164	Top Bracket Packer	2
R9177	Sash Casting Packer	2
R9224	Sash Casting Packer (Red)	2
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	713	799*	62	450
M8.5	738	744*	61	461
M9.0	788	696*	61	494
M9.5	838	653*	61	528
M10.0	888	617*	61	561
M10.5	938	584*	61	594
M11.0	988	554*	61	628
M11.5	1038	528*	61	661
M12.0	1088	504*	61	694
M12.5	1138	482*	61	726
M13.0	1188	478	61	760
M13.5	1238	478	61	795
M14.0	1288	478	61	828
M14.5	1338	478	61	861
M15.0	1388	478	61	894
M15.5	1438	478	61	927
M16.0	1488	478	61	960
M17.0	1588	478	61	1027
M18.0	1688	478	61	1093

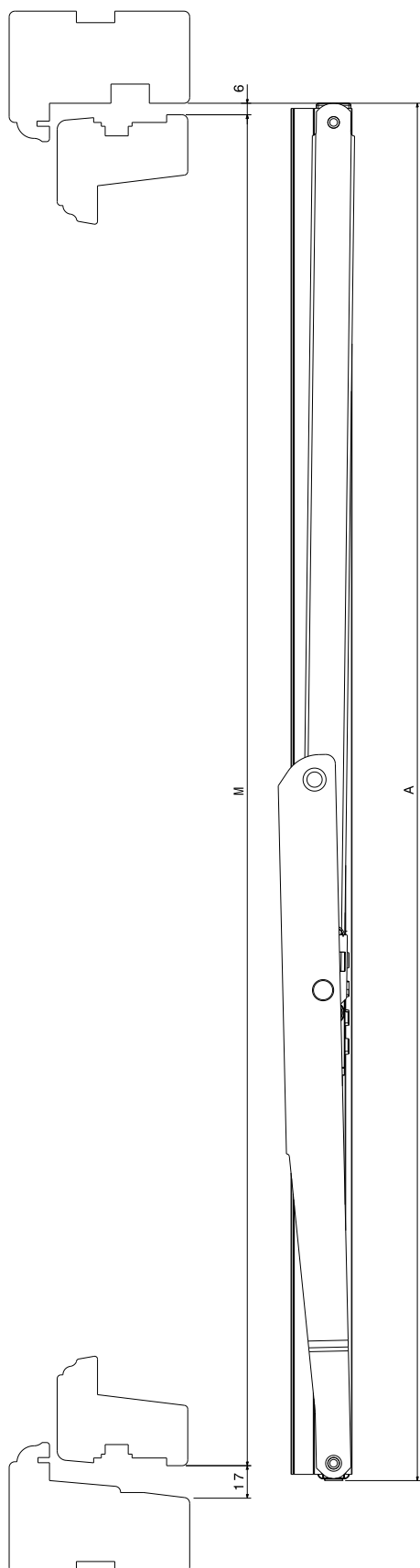


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

System 2000 HS1 Fully Reversible (Timber)

Issue: May 2017

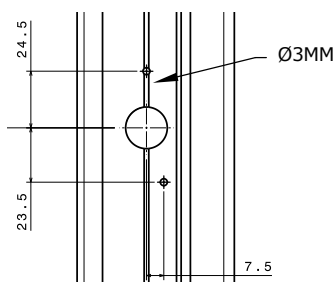


SYSTEM 2000 HS1 FULLY REVERSIBLE DETAIL

Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	304	353	151	39.0	35.5	30.0
M4.5	354	403	176			
M5.0	404	453	201			
M5.5	454	503	226			
M6.0	504	553	251			
M6.5	554	603	276			
M7.0	604	653	301			
M7.5	654	703	326			
M8.0	704	753	347			
M8.5	754	803	372			
M9.0	804	853	397			
M9.5	854	903	422			
M10.0	904	953	447			
M10.5	954	1003	472			
M11.0	1004	1053	495			
M11.5	1054	1103	520			
M12.0	1104	1153	545			
M12.5	1154	1203	570			
M13.0	1204	1253	595			
M13.5	1254	1303	610			
M14.0	1304	1353	635			
M14.5	1354	1403	660			
M15.0	1404	1453	685			
M15.5	1454	1503	710			
M16.0	1504	1603	735			
M17.0	1604	1703	785			
M18.0	1704	1803	835			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.
 For profile cross section detail, please check with profile manufacturer.

SASH CASTING FIXING HOLE POSITIONING



Yale Revolution Window Hinge

System 2000 HS1 Fully Reversible (Timber)

Issue: May 2017

NON SECURITY ACCESSORY COMPONENTS

Part No.	Description	Qty
S9168	LH & RH Universal Top Bracket Assembly (19F)	2
S9419	Sash Casting	2

SECURITY ACCESSORY COMPONENTS

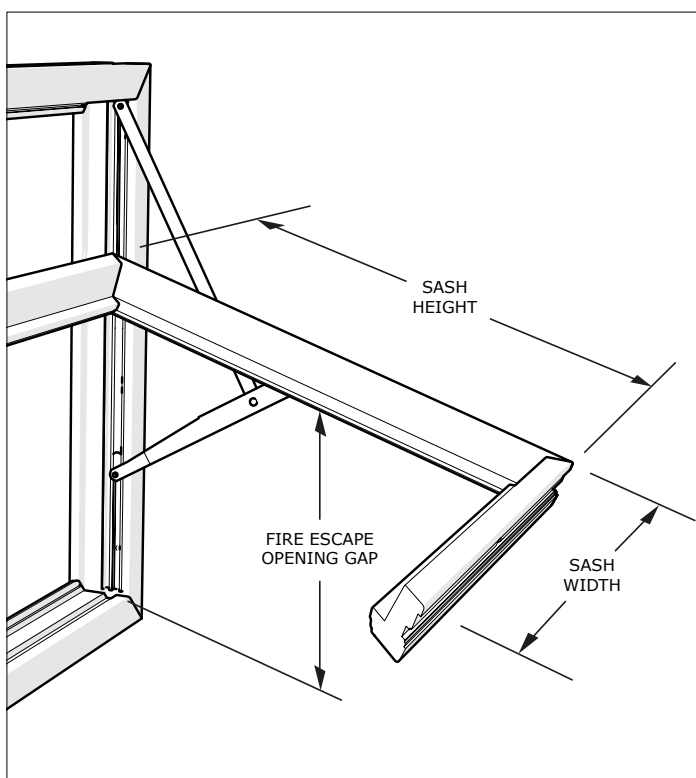
Part No.	Description	Qty
S9171	LH & RH Universal Top Bracket Assembly (19F)	2
S9419	Sash Casting	2
R9405	Top Bracket Striker	2

ACCESSORIES

Part No.	Description	Qty
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	715	778*	63	450
M8.5	754	726*	62	473
M9.0	804	681*	62	506
M9.5	854	640*	62	539
M10.0	904	605*	62	572
M10.5	954	573*	62	605
M11.0	1004	544*	62	639
M11.5	1054	519*	62	672
M12.0	1104	496*	62	705
M12.5	1154	478	62	738
M13.0	1204	478	62	772
M13.5	1254	478	62	806
M14.0	1304	478	62	839
M14.5	1354	478	62	872
M15.0	1404	478	62	906
M15.5	1454	478	62	939
M16.0	1504	478	62	972
M17.0	1604	478	62	1038
M18.0	1704	478	62	1104

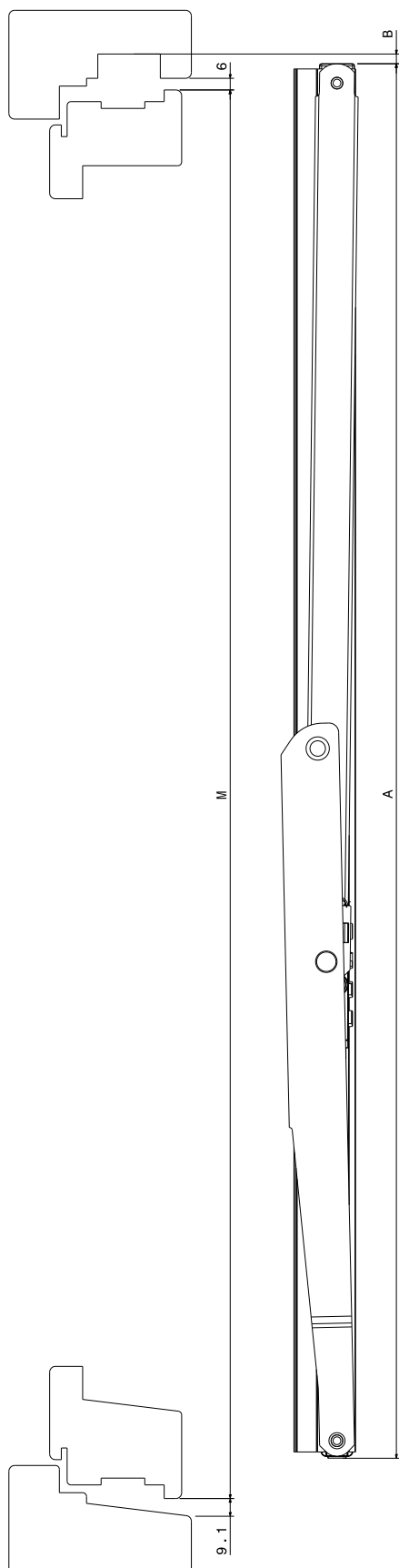


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Profile B Fully Reversible (Timber)

Issue: May 2017

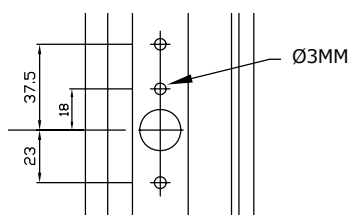


PROFILE B FULLY REVERSIBLE DETAIL

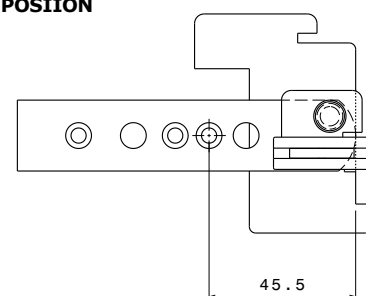
Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	304	353	144	44.0	N/A	30.0
M4.5	354	403	169			
M5.0	404	453	194			
M5.5	454	503	219			
M6.0	504	553	244			
M6.5	554	603	269			
M7.0	604	653	294			
M7.5	654	703	319			
M8.0	704	753	340			
M8.5	754	803	365			
M9.0	804	853	390			
M9.5	854	903	415			
M10.0	904	953	440			
M10.5	954	1003	465			
M11.0	1004	1053	488			
M11.5	1054	1103	513			
M12.0	1104	1153	538			
M12.5	1154	1203	563			
M13.0	1204	1253	588			
M13.5	1254	1303	603			
M14.0	1304	1353	628			
M14.5	1354	1403	653			
M15.0	1404	1453	678			
M15.5	1454	1503	703			
M16.0	1504	1603	728			
M17.0	1604	1703	778			
M18.0	1704	1803	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.
 For profile cross section detail, please check with profile manufacturer.

SASH CASTING FIXING HOLE POSITIONING



TOP BRACKET FIXING POSITION



Yale Revolution Window Hinge

Profile B Fully Reversible (Timber)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9136	LH Top Bracket Assembly (8R)	1
S9137	RH Top Bracket Assembly (8R)	1
S9421	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

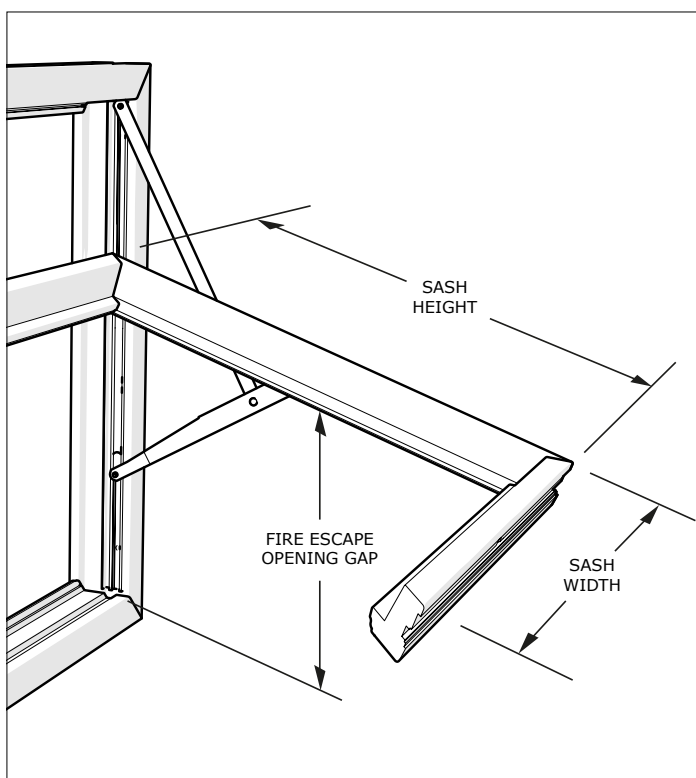
Part No.	Description	Qty
N/A	N/A	N/A

ACCESSORIES

Part No.	Description	Qty
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	720	787*	63	450
M8.5	754	734*	62	469
M9.0	804	688*	62	502
M9.5	854	646*	62	535
M10.0	904	611*	62	568
M10.5	954	579*	62	601
M11.0	1004	549*	62	635
M11.5	1054	524*	62	668
M12.0	1104	501*	62	701
M12.5	1154	480	62	734
M13.0	1204	480	62	768
M13.5	1254	480	62	803
M14.0	1304	480	62	835
M14.5	1354	480	62	868
M15.0	1404	480	62	902
M15.5	1454	480	62	935
M16.0	1504	480	62	968
M17.0	1604	480	62	1035
M18.0	1704	480	61	1100

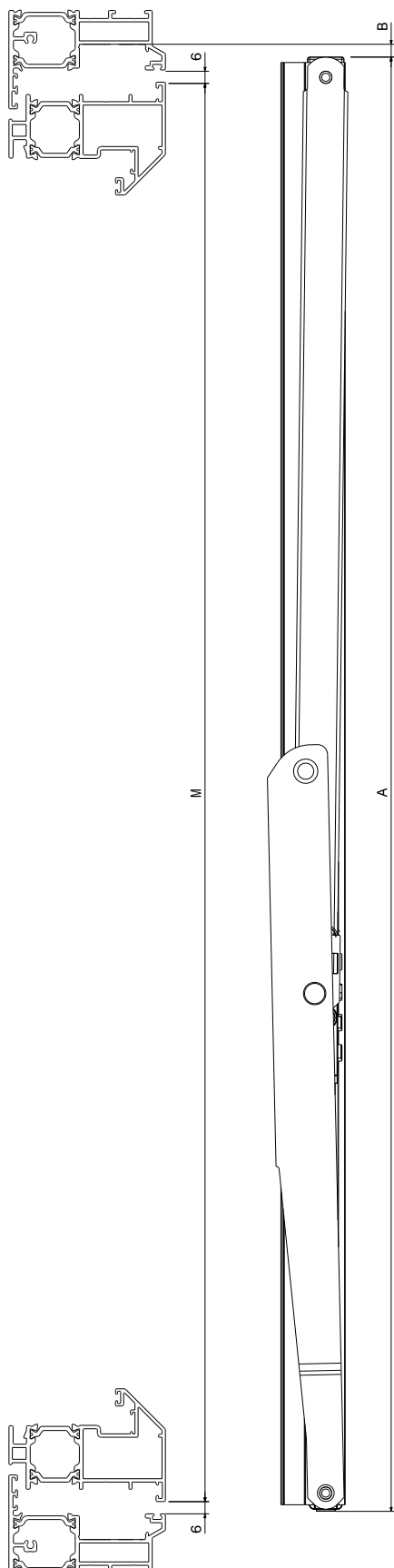


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

SMART Alitherm 700 Fully Reversible (Aluminium)

Issue: May 2017

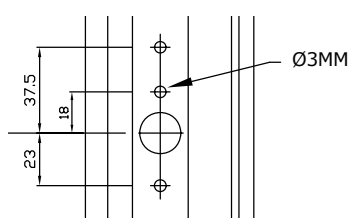


SMART ALITHERM 700 FULLY REVERSIBLE DETAIL

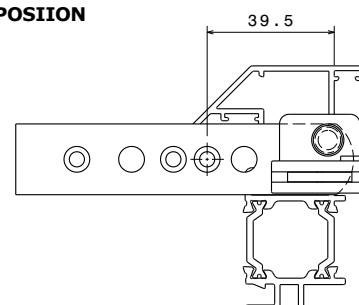
Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	N/A	29.0
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1587	728			
M17.0	1588	1687	778			
M18.0	1688	1787	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



TOP BRACKET FIXING POSITION



Yale Revolution Window Hinge

SMART Alitherm 700 Fully Reversible (Aluminium)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9136	LH Top Bracket Assembly (8R)	1
S9137	RH Top Bracket Assembly (8R)	1
S9421	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

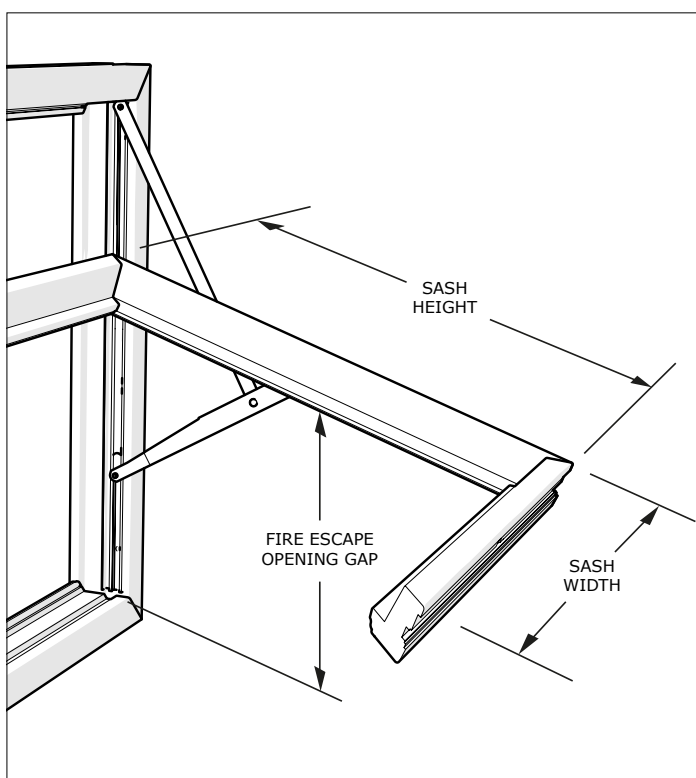
Part No.	Description	Qty
N/A	N/A	N/A

ACCESSORIES

Part No.	Description	Qty
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	730	824*	63	450
M8.5	738	766*	62	446
M9.0	788	715*	61	479
M9.5	838	670*	61	513
M10.0	888	631*	61	546
M10.5	938	596*	61	579
M11.0	988	565*	61	613
M11.5	1038	537*	61	646
M12.0	1088	512*	61	679
M12.5	1138	490*	61	712
M13.0	1188	476	61	745
M13.5	1238	476	61	780
M14.0	1288	476	61	813
M14.5	1338	476	61	846
M15.0	1388	476	61	879
M15.5	1438	476	61	912
M16.0	1488	476	61	945
M17.0	1588	476	62	1012
M18.0	1688	476	61	1078

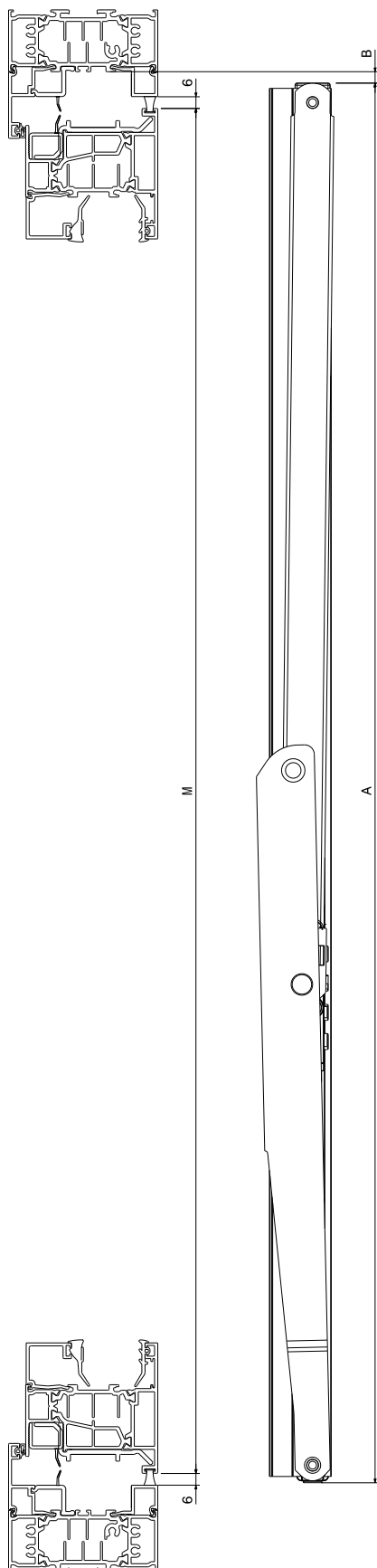


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

SAPA Dualframe 75si Fully Reversible (Aluminium)

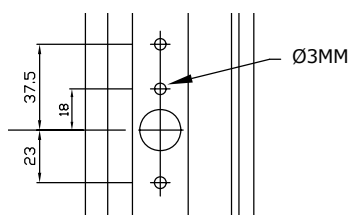
Issue: May 2017

**SAPA DUALFRAME 75SI FULLY REVERSIBLE DETAIL**

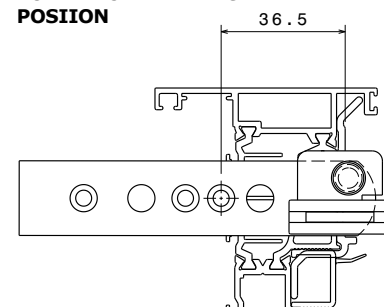
Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	N/A	32.5
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1537	728			
M17.0	1588	1637	778			
M18.0	1688	1737	828			

Note: Dimension 'A' is referred to on page 002.
Dimensions 'C' and 'B' are referred to on page 004.
Dimensions 'J' and 'K' are referred to on page 005.
Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



TOP BRACKET FIXING POSITION



Yale Revolution Window Hinge

SAPA Dualframe 75si Fully Reversible (Aluminium)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9136	LH Top Bracket Assembly (8R)	1
S9137	RH Top Bracket Assembly (8R)	1
S9421	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

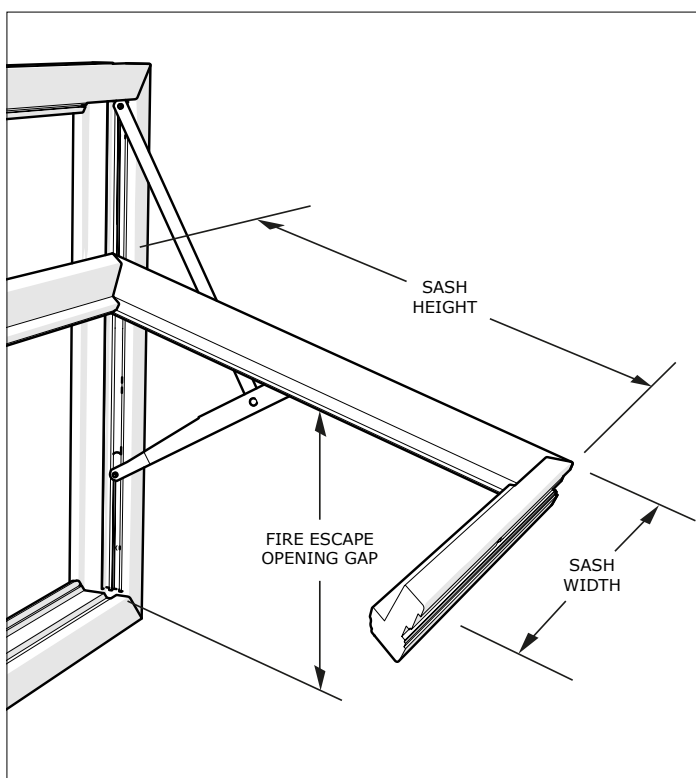
Part No.	Description	Qty
N/A	N/A	N/A

ACCESSORIES

Part No.	Description	Qty
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.0	704	788*	62	450
M8.5	738	734*	61	468
M9.0	788	688*	61	501
M9.5	838	647*	61	535
M10.0	888	611*	61	568
M10.5	938	579*	61	601
M11.0	988	550*	61	635
M11.5	1038	524*	61	668
M12.0	1088	501*	61	701
M12.5	1138	480	61	734
M13.0	1188	480	61	768
M13.5	1238	480	61	802
M14.0	1288	480	61	835
M14.5	1338	480	61	868
M15.0	1388	480	61	902
M15.5	1438	480	61	935
M16.0	1488	480	61	968
M17.0	1588	480	61	1034
M18.0	1688	480	61	1100

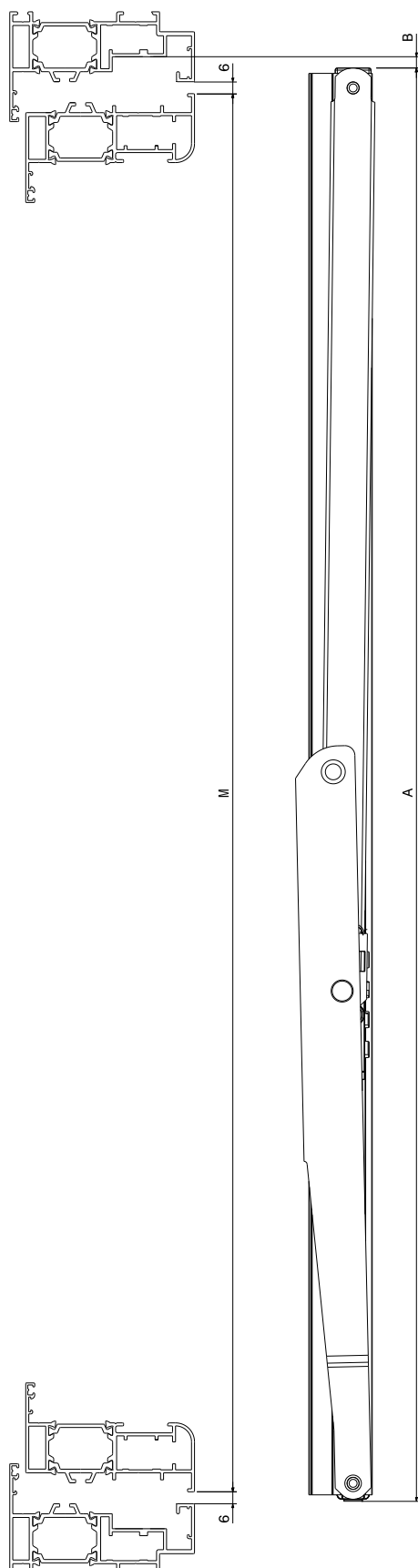


* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².

Yale Revolution Window Hinge

Senior Architectural Systems SPW600e Fully Reversible (Aluminium)

Issue: May 2017

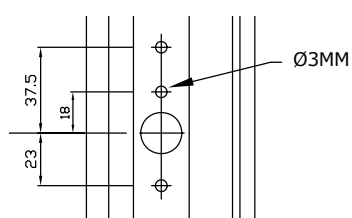


SENIOR ARCHITECTURAL SYSTEMS SPW600E FULLY REVERSIBLE DETAIL

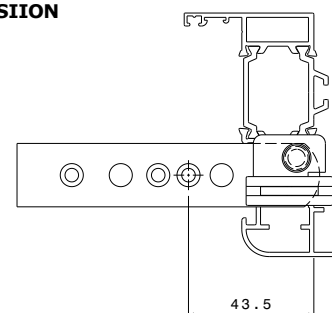
Module Size	Dimension (mm)					
	M		J	C	L	K
	MIN	MAX				
M4.0	288	337	144	44.0	N/A	28.2
M4.5	338	387	169			
M5.0	388	437	194			
M5.5	438	487	219			
M6.0	488	537	244			
M6.5	538	587	269			
M7.0	588	637	294			
M7.5	638	687	319			
M8.0	688	737	340			
M8.5	738	787	365			
M9.0	788	837	390			
M9.5	838	887	415			
M10.0	888	937	440			
M10.5	938	987	465			
M11.0	988	1037	488			
M11.5	1038	1087	513			
M12.0	1088	1137	538			
M12.5	1138	1187	563			
M13.0	1188	1237	588			
M13.5	1238	1287	603			
M14.0	1288	1337	628			
M14.5	1338	1387	653			
M15.0	1388	1437	678			
M15.5	1438	1487	703			
M16.0	1488	1537	728			
M17.0	1588	1637	778			
M18.0	1688	1737	828			

Note: Dimension 'A' is referred to on page 002.
 Dimensions 'C' and 'B' are referred to on page 004.
 Dimensions 'J' and 'K' are referred to on page 005.
 Dimension 'L' is referred to on page 006.

SASH CASTING FIXING HOLE POSITIONING



TOP BRACKET FIXING POSITION



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Due to our policy of continual improvement we reserve the right to alter specifications without notice. It is the responsibility of the window manufacturer to ensure that the finished window meets the required performance and safety specification.



Yale Revolution Window Hinge

Senior Architectural Systems SPW600e Fully Reversible (Aluminium)

Issue: May 2017

REQUIRED NON SECURITY ACCESSORIES

Part No.	Description	Qty
S9136	LH Top Bracket Assembly (8R)	1
S9137	RH Top Bracket Assembly (8R)	1
S9421	Sash Casting	2

REQUIRED SECURITY ACCESSORIES

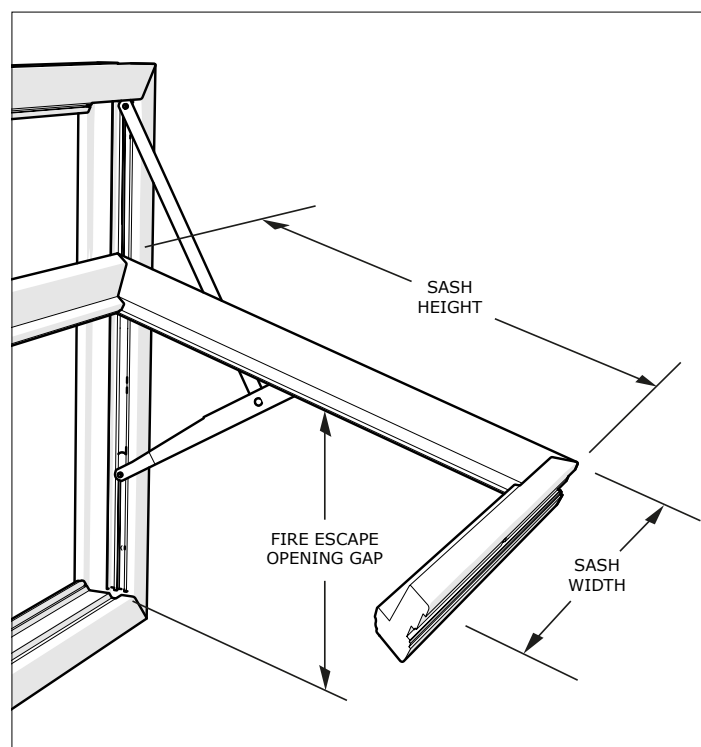
Part No.	Description	Qty
N/A	N/A	N/A

ACCESSORIES

Part No.	Description	Qty
R10102	Track Stop	2
R9007	Restrictor Key	1
S10167	Replacement Restrictor Insert Set	1

FIRE ESCAPE OPENING SIZES

Module Size	MIN Sash Height (mm)	MIN Sash Width Required to achieve Fire Escape		Fire Escape Opening Gap (mm) Relative to Height, Width & Angle shown
		Width (mm)	Angle (deg)	
M8.5	762	797*	63	450
M9.0	788	742*	62	462
M9.5	838	694*	62	496
M10.0	888	652*	62	529
M10.5	938	616*	62	561
M11.0	988	582*	62	596
M11.5	1038	553*	61	628
M12.0	1088	527*	61	661
M12.5	1138	503*	61	694
M13.0	1188	481*	61	728
M13.5	1238	478	62	763
M14.0	1288	478	61	796
M14.5	1338	478	61	829
M15.0	1388	478	61	862
M15.5	1438	478	61	895
M16.0	1488	478	61	928
M17.0	1588	478	62	995
M18.0	1688	478	61	1061



* These are the minimum required sash widths (when the sash height is as stated in the above table) to meet the fire escape regulations. These can be reduced when the sash height is increased, however to still meet the fire escape regulations the opening gap is to be a minimum of 450mm with a total area of 0.33m².