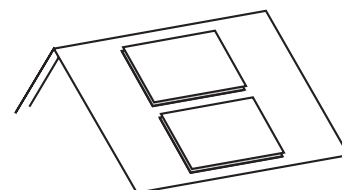
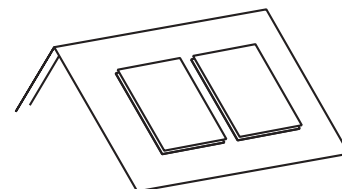
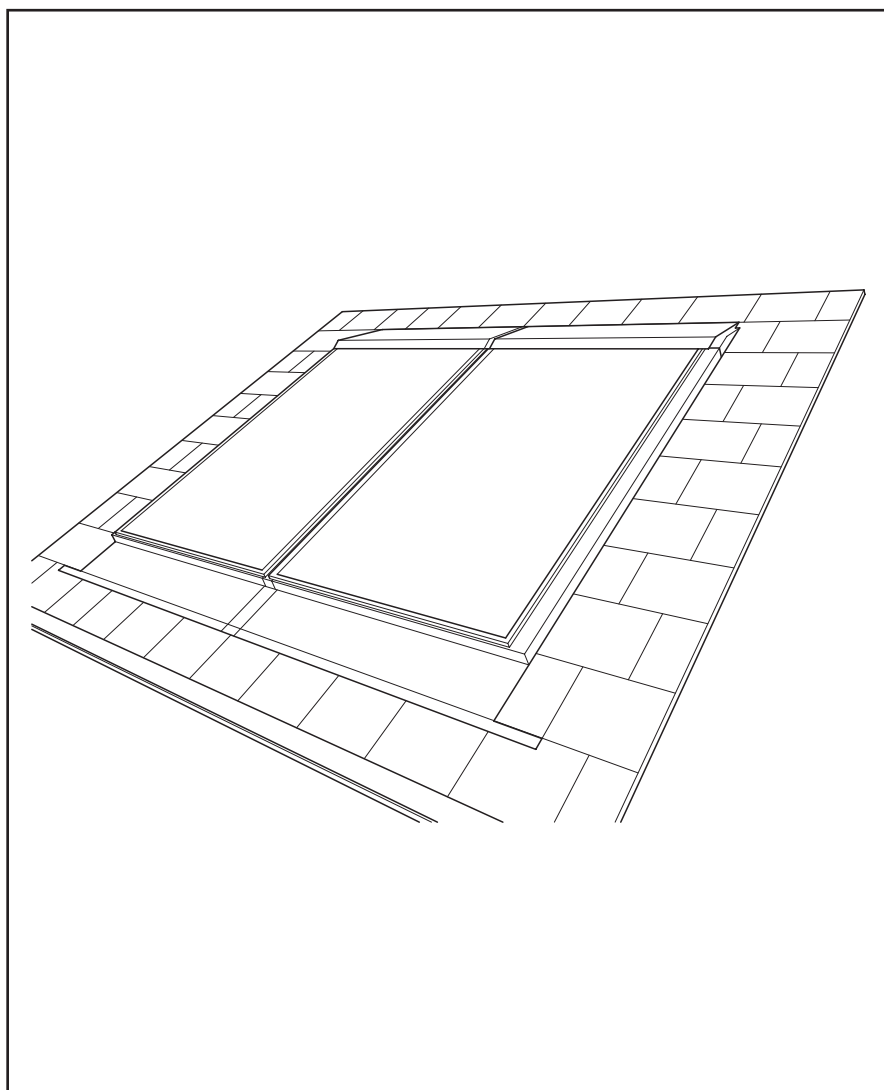


Solar Collectors

In-Roof Tile Installation (First Fix)



Please leave these instructions
with the User

Contents



1.0	Legislation	3
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1.0 Legislation

Please note the following instructions regarding laws, regulations and technical rules.

When setting up solar energy installations, the laws and regulations at local, state, European and international level that apply to the country in question must be observed. Generally acknowledged technical regulations apply; these are usually formulated in the form of standards, guidelines, provisions, regulations and technical rules laid down by local and national bodies, energy supply companies, trade organisations and technical committees in the relevant fields. The installation of solar units may require improved rain resistance with regard to roof, wall and sealing technology and this must be taken into account accordingly. To meet regulations for the prevention of accidents, it may be necessary to use safety equipment (straps, scaffolding, supports, etc.). Such safety equipment is not supplied and must be ordered separately. Installation must only be carried out by technically qualified and authorised personnel with a recognised qualification (verified by a state or national body) in the relevant technical area.

Use a safety harness when working at height.

The structure of the roof must be assessed for its suitability prior to commencing work.

This product is unclassified against BS 476-3.

Consult a Structural Engineer if you are unsure of the collector's siting.

Loading due to snow may exceed the capability of the property's structure.

Wind loads may cause excess forces on the structure and cause damage.

The Installer is responsible for the suitability of the site and its sub-structure.

The collector should be sited to avoid damage from falling debris and vandalism.

All pipe work within this installation must be Earth bonded.

In exposed areas, the collector must be protected against the risk of lightning.

It is recommended that a minimum of 2 people are used to lift this product.

The collector must not be lifted by its pipe connections.

Ensure all hydraulic connections are securely fixed and are free of leaks.

The system must be inspected on completion of the work.

A further inspection is recommended annually.

Avoid installing the collector in shaded areas.

The general recommended torque setting for nuts and bolts is 10Nm.

A separate second array can be installed behind the first if necessary.

Large arrays will require specialist piping, pump groups and design.

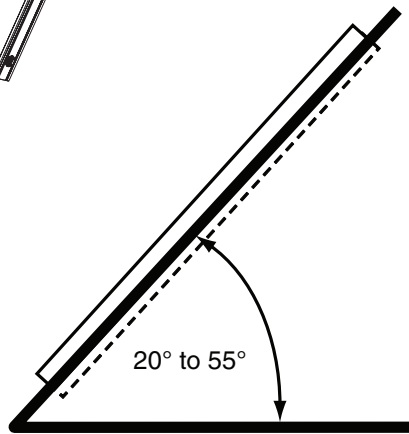
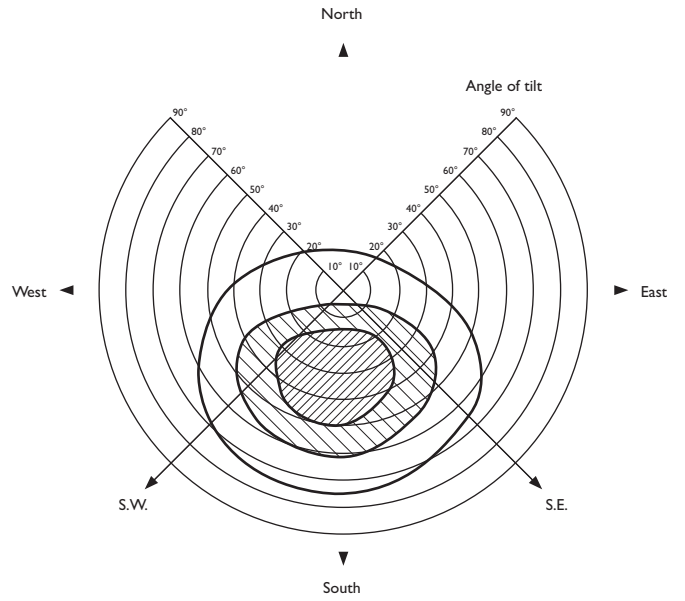
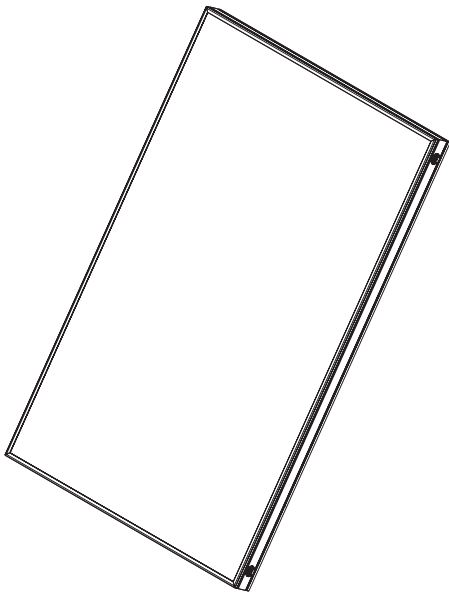
The collector must not be installed on an uneven roof surface.

Do not apply excessive force when installing the collector.

Hot, exposed surfaces that can be touched must be insulated to protect against injury.

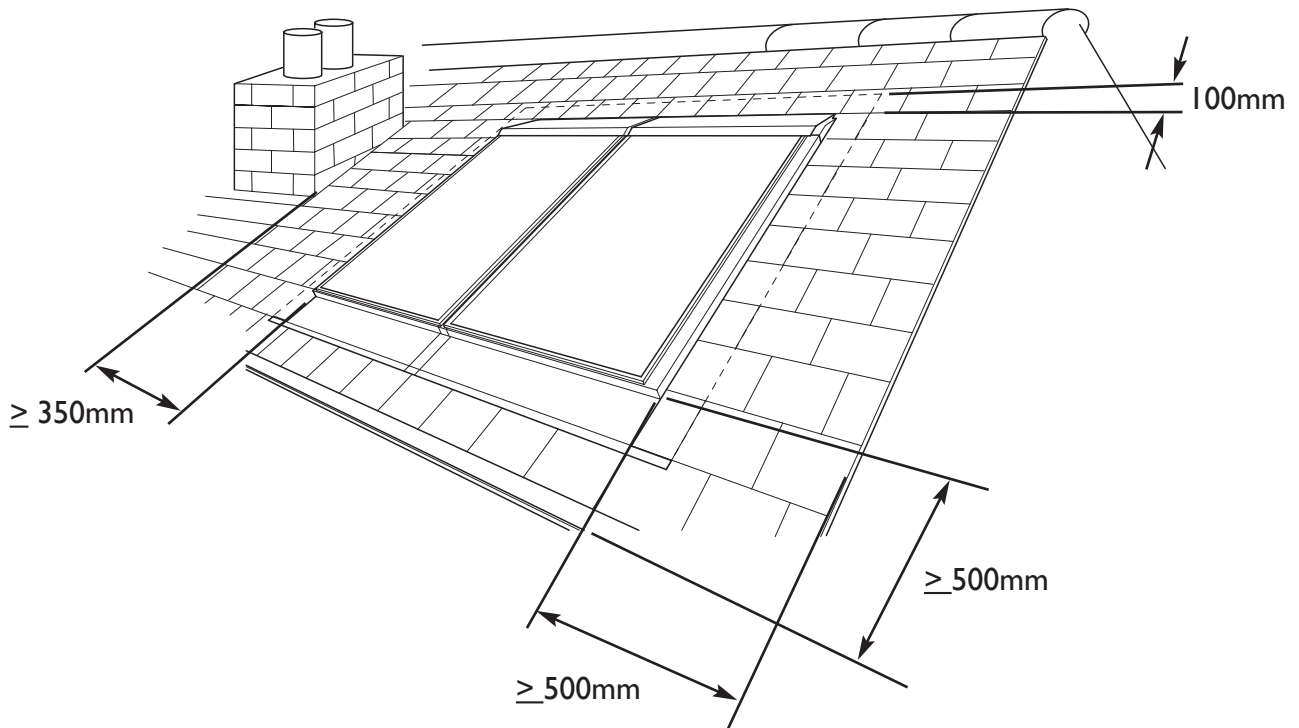
Lubrication is not required for the 'O' ring connections.

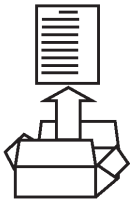
2.0 General Layout



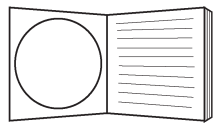
less than optimum by

	0-5%		5-10%		10-20%
--	------	--	-------	--	--------

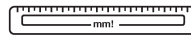




3A



3B



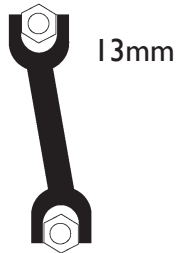
3C



3D



3E



3F



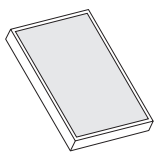
3G



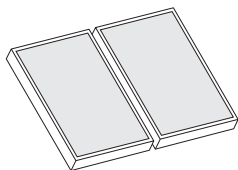
3H



3J



3K



3L

R/H

3M

L/H

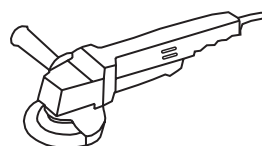
3N



3P



3Q

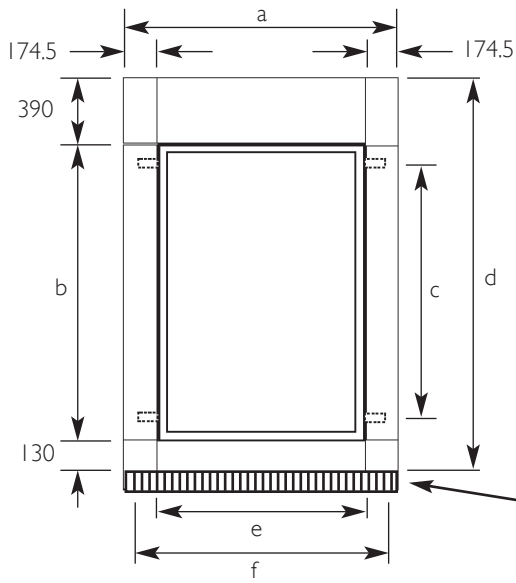


3R

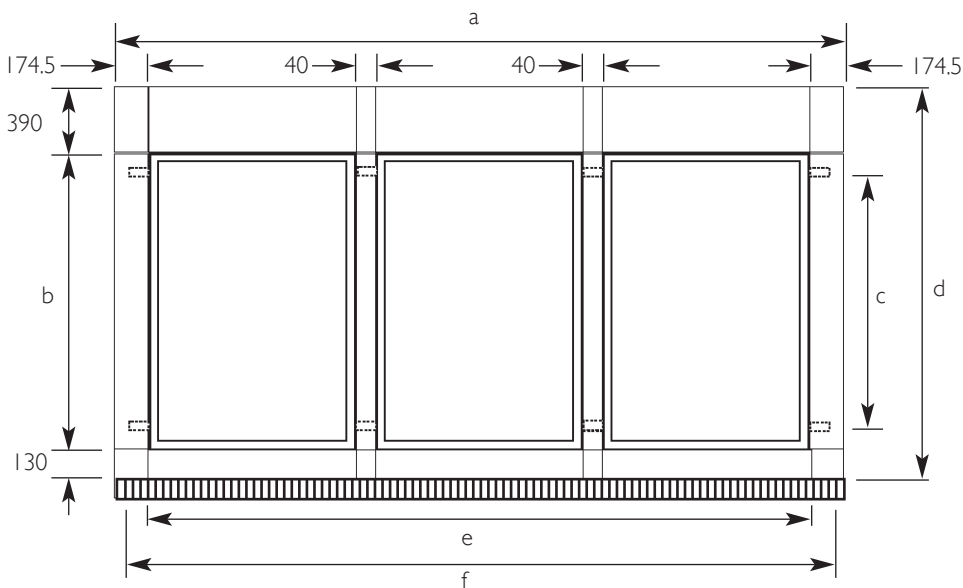
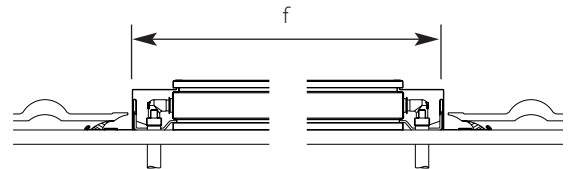
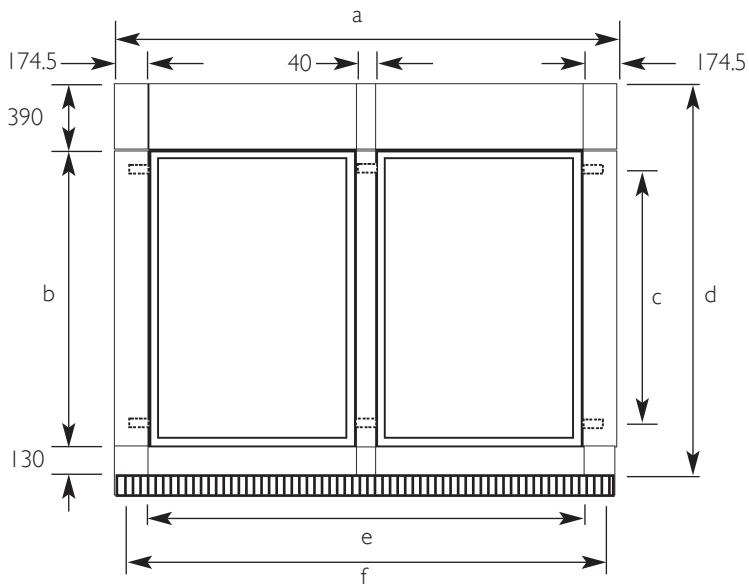
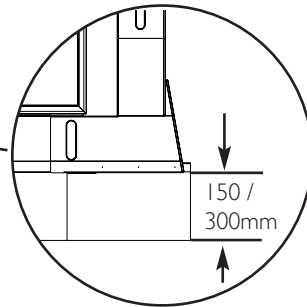
- 3A - Contents
- 3B - Page Reference Number
- 3C - Measure
- 3D - Specialist Advice Required
- 3E - Materials to be Provided by Installer
- 3F - Spanner Tight
- 3G - Information or Advice
- 3H - Screwdriver
- 3J - Hammer
- 3K - 1 Collector
- 3L - 2 Collectors
- 3M - Right Hand Side
- 3N - Left Hand Side
- 3P - Caution
- 3Q - Drill / Driver
- 3R - Tile Cutter



4.0 Dimensions













	SOL 200	SOL 200H	SOL 250	SOL 250H
 kg	35kg	36kg	48kg	49kg
 bar	10bar	10bar	10bar	10bar





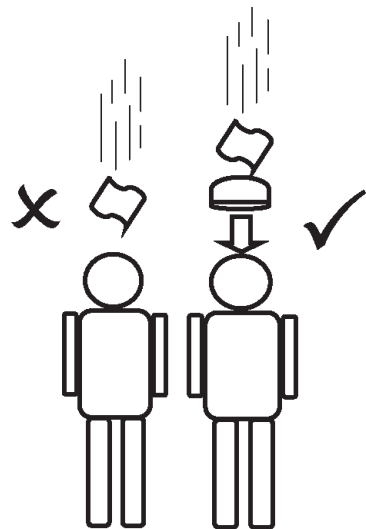
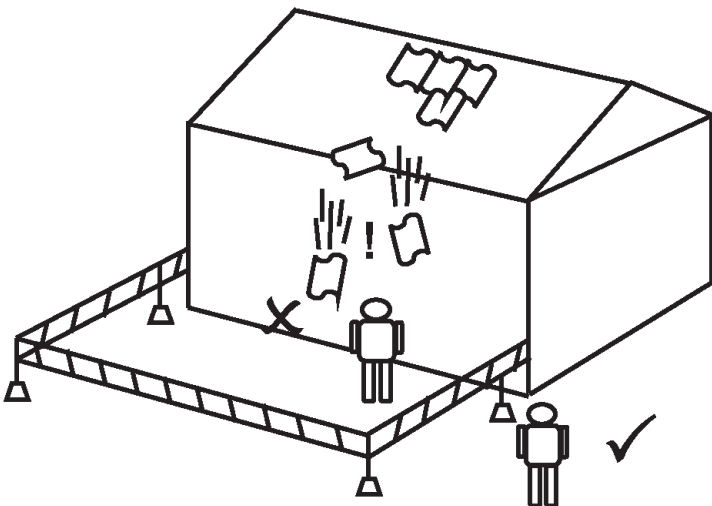
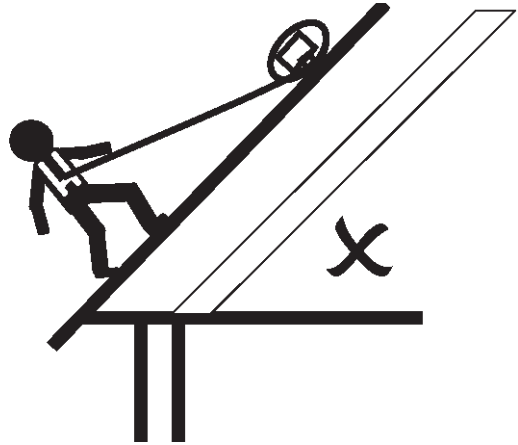
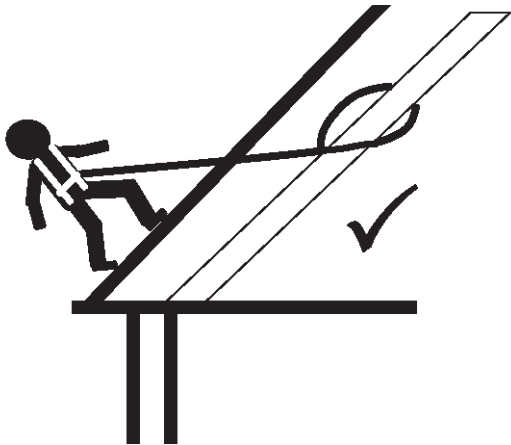
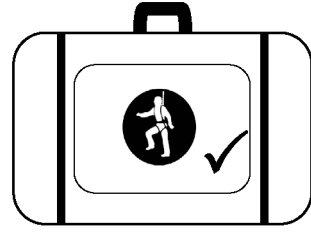
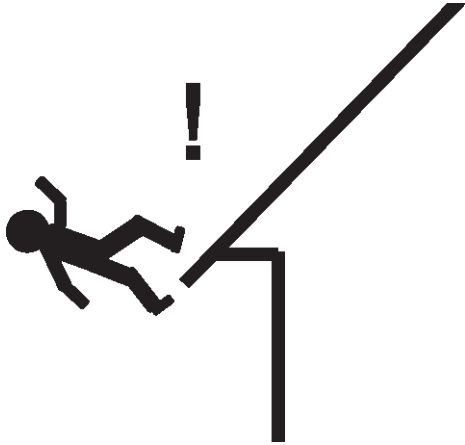
4.0 Dimensions

		mm			
		Sol 200	Sol 200H	Sol 250	Sol 250H
 1	a	1496	2101	1496	2536
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	1147	1753	1147	2187
	f	1289	1895	1289	2329
 2	a	2683	3895	2683	4763
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	2334	3546	2334	4414
	f	2476	3688	2476	4556
 3	a	3870	5688	3870	6990
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	3521	5339	3521	6641
	f	3663	5481	3663	6783
 4	a	5057	7481	5057	9217
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	4708	7132	4708	8868
	f	4850	7274	4850	9010
 5	a	6244	9274	6244	11444
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	5895	8925	5895	11095
	f	6037	9067	6037	11237

		mm			
		Sol 200	Sol 200H	Sol 250	Sol 250H
 6	a	7431	11067	7431	13671
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	7082	10718	7082	13322
	f	7224	10860	7224	13464
 7	a	8618	12860	8618	15898
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	8269	12511	8269	15549
	f	8411	12653	8411	15691
 8	a	9805	14653	9805	18125
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	9456	14304	9456	17776
	f	9598	14446	9598	17918
 9	a	10992	16446	10992	20352
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	10643	16097	10643	20003
	f	10785	16239	10785	20145
 10	a	12179	18239	12179	22579
	b	1753	1147	2187	1147
	c	1610	1004	2044	1004
	d	2272	1666	2706	1666
	e	11830	17890	11830	22230
	f	11972	18032	11972	22372

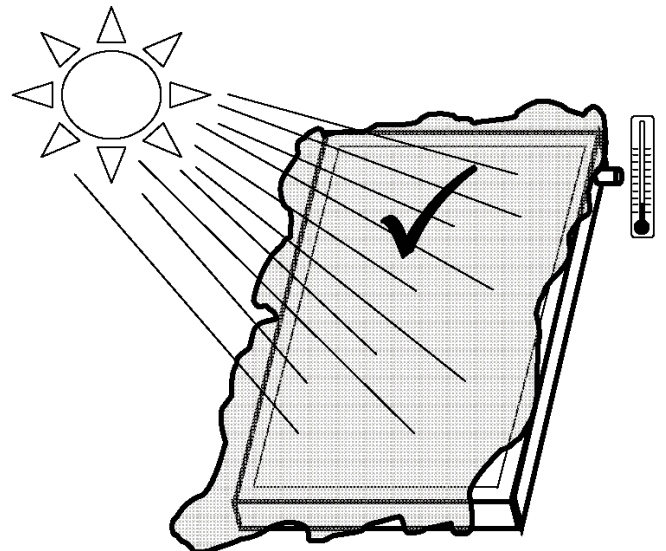
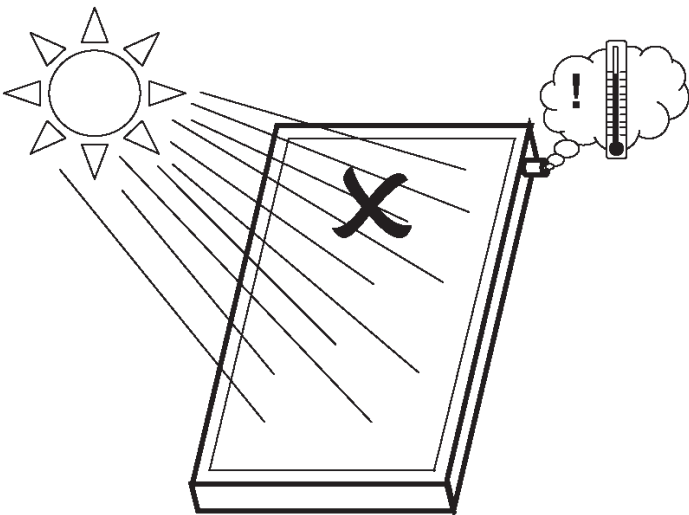
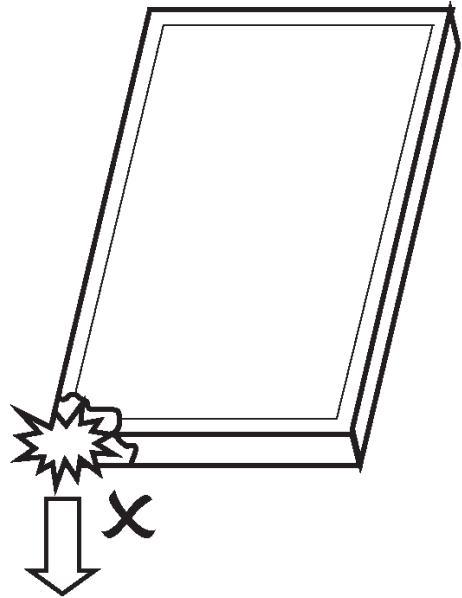
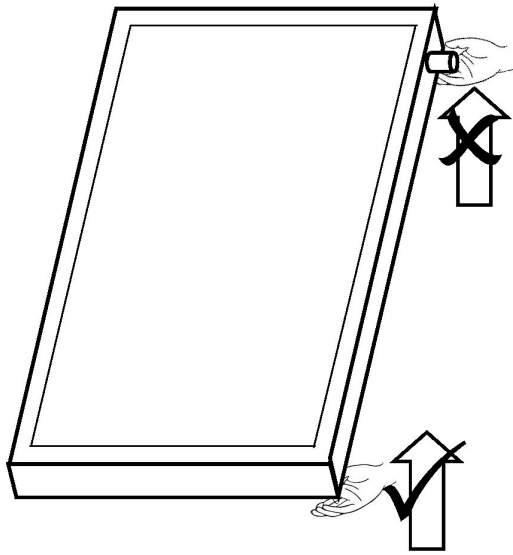
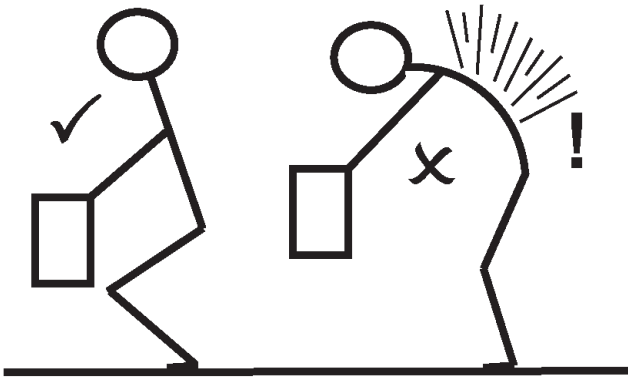


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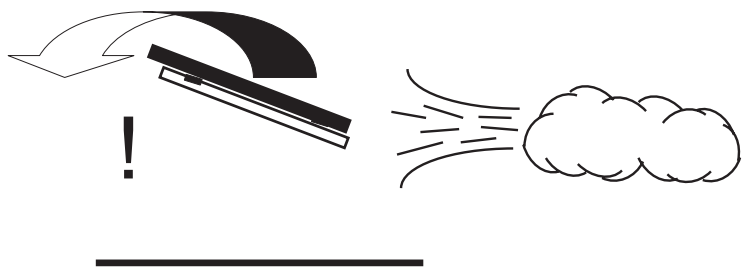
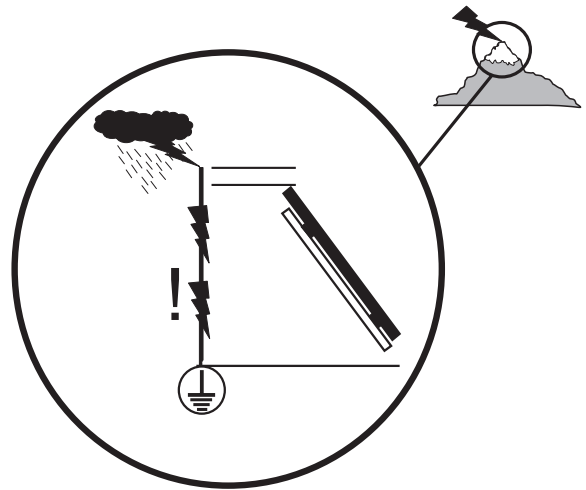
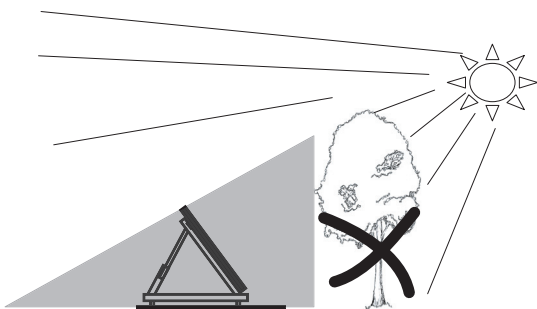
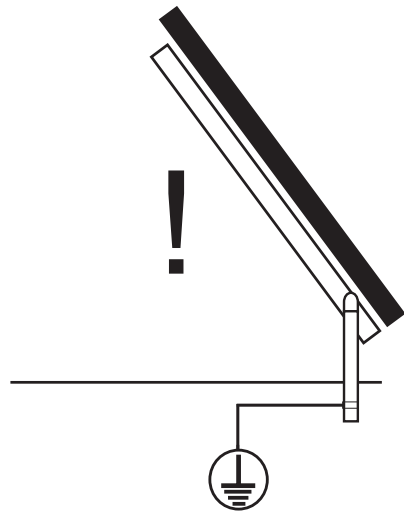
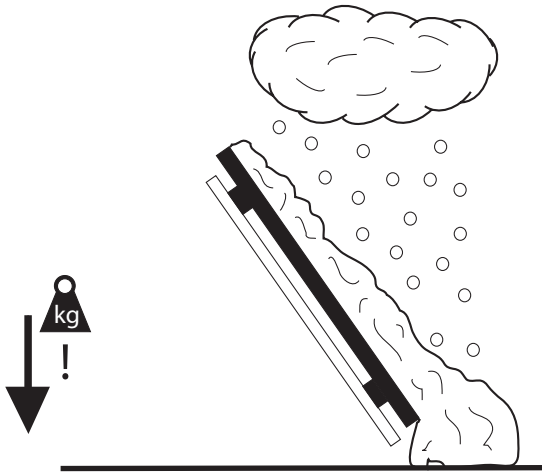
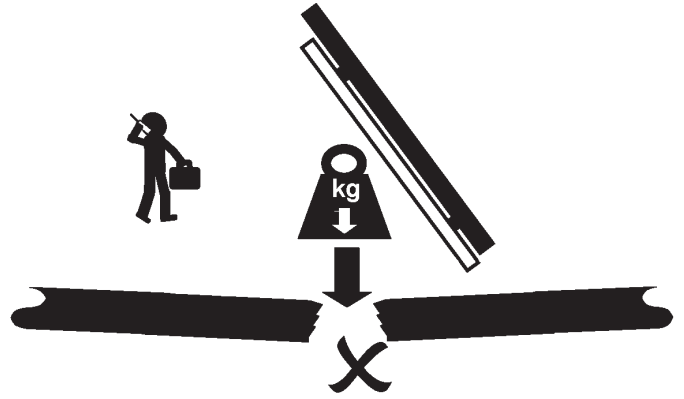
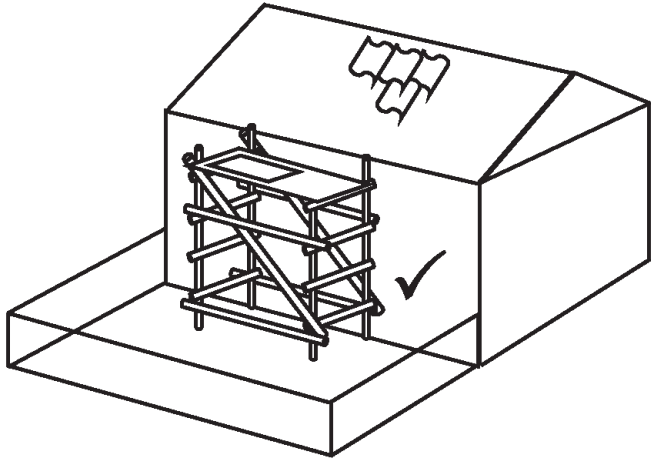
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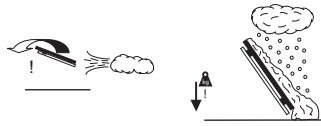




i

5.0 Health and Safety





i

6.0 Snow and Wind Load

EN1991-1-3:2003

- Standard - Snow Loading

SOL 200/200H/250/250H

- Design limit snow load on the ground = 2.8kN/m²



NOTE: This limit may be reduced for installations where abutments create additional risks of drifting or falling snow.

EN1991-1-4:2005

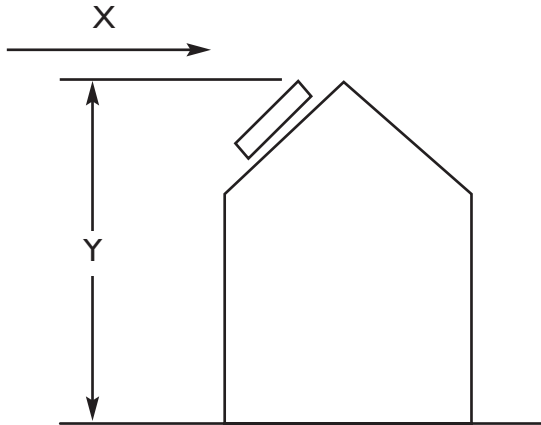
- Standard - Wind Loading

X - Basic wind speed (V_{b, o}) in m/s

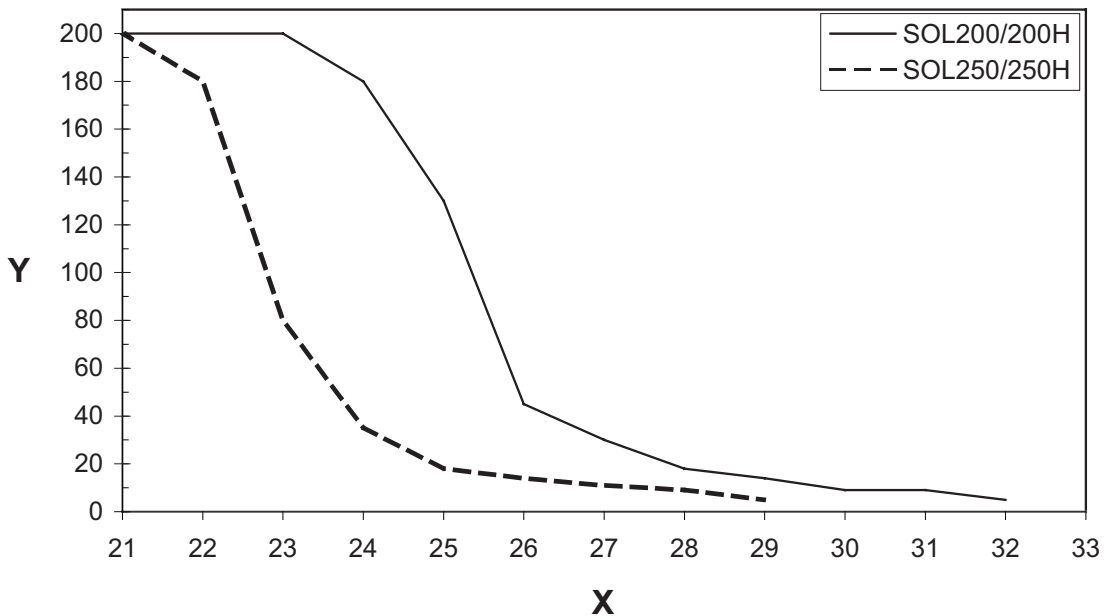
Y - Maximum height above ground for installation (m)



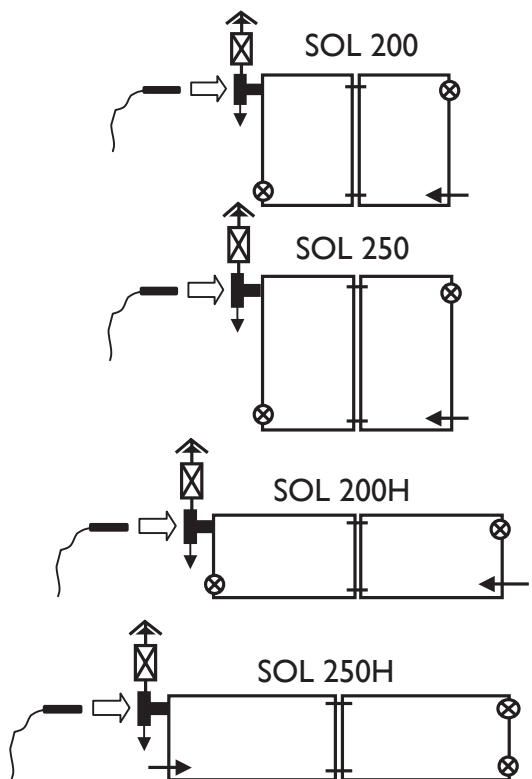
WARNING: The maximum wind load to be borne by the mounting structure depends on the height and geographical area of the site among other factors. This structure must be installed in accordance with the provisions of the EN1991 standard. Consult a structural engineer if in doubt.



**Limit for in-roof installation for given site basic wind speed
(For c_o=1)**



$n < 5$



- Tee Piece



- Valve



- Plug



- Air Vent (Optional)

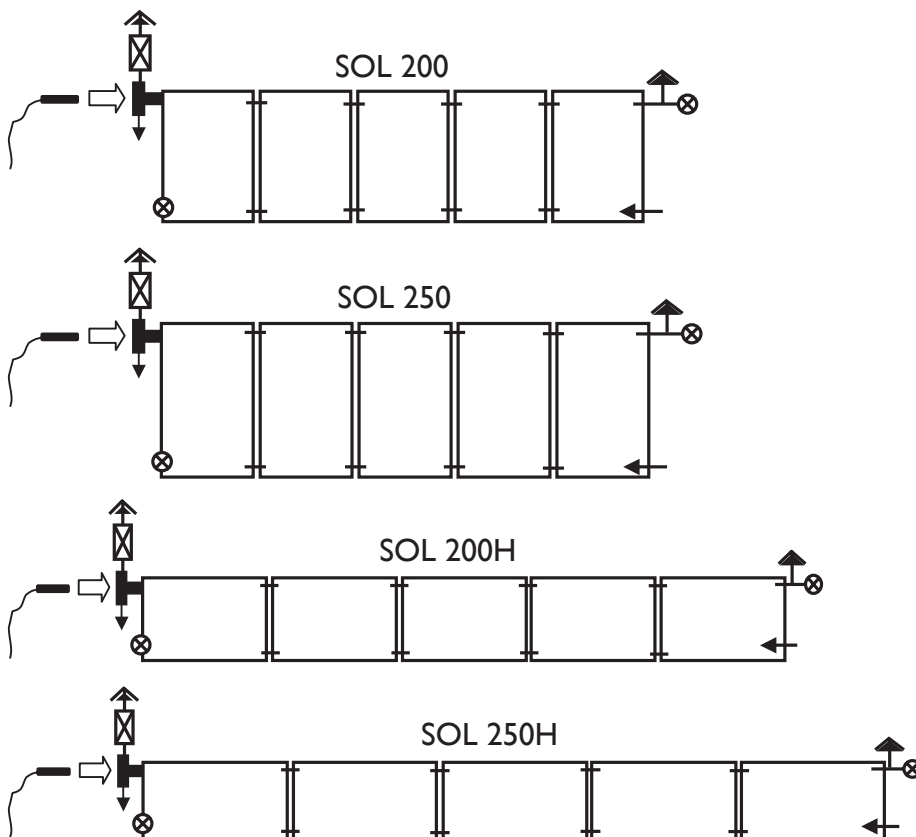


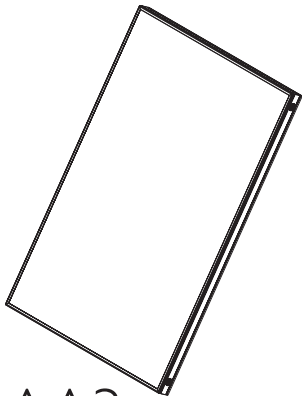
- Flow



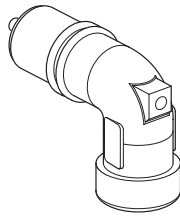
- Sensor

$n \geq 5$

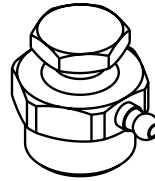




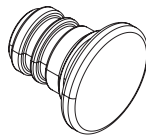
AA3



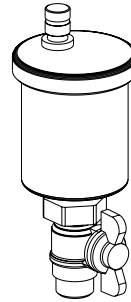
BB3



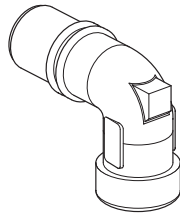
JJ3



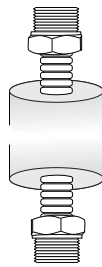
CC3



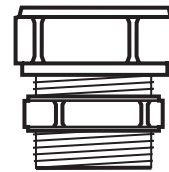
GG3



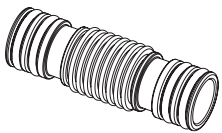
EE3



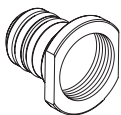
KK3



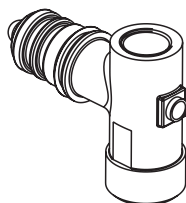
NN3



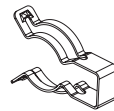
DD3



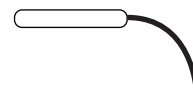
FF3



MM3



HH3



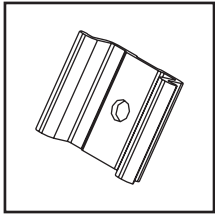
LL3

AA3	- Collector
BB3	- Sensor Elbow
CC3	- End Cap
DD3	- Joining Piece
EE3	- Elbow
FF3	- Plug for Manual Air Vent
GG3	- Tee Piece
HH3	- Clip
JJ3	- Manual Vent (Optional)
KK3	- Auto Air Vent (Optional)
LL3	- Sensor
MM3	- 2m Pipe Kit
NN3	- Straight Connector with fittings

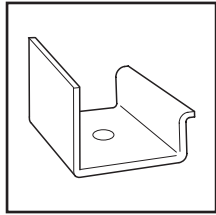


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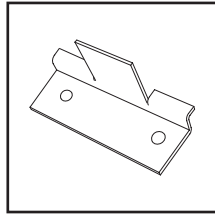
8.0 Kit Contents and Components



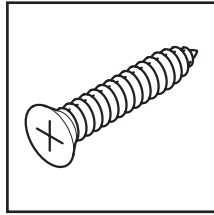
AA



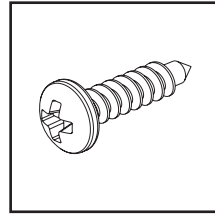
BB



CC



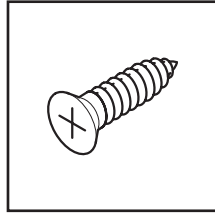
RR



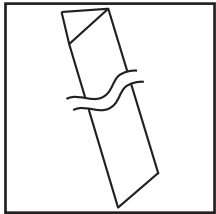
UU



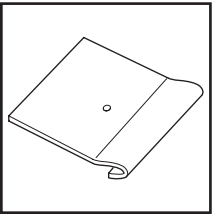
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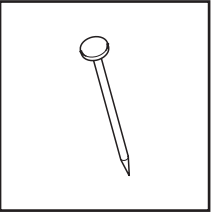
SS



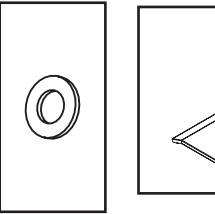
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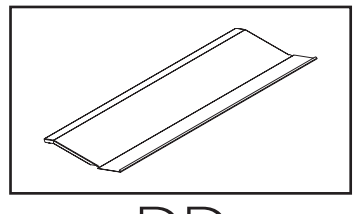
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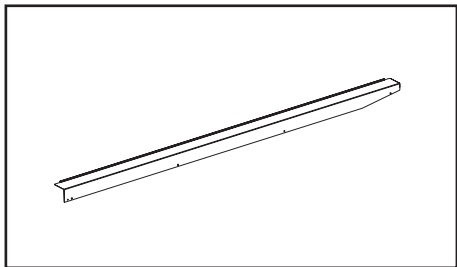
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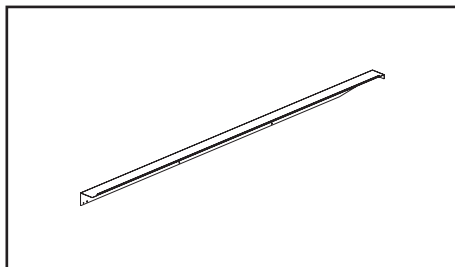
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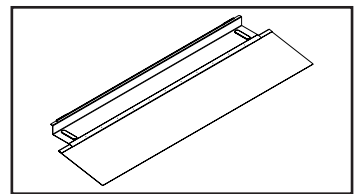
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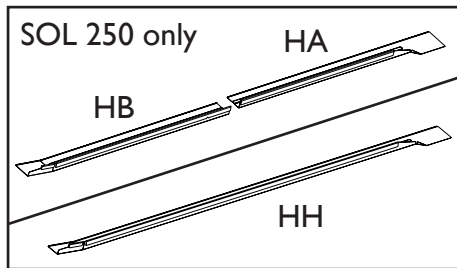
LL



KK



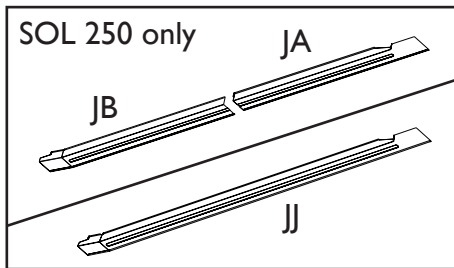
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HA

HB

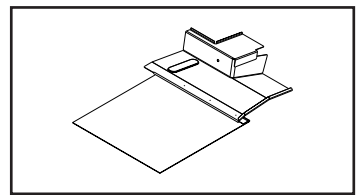
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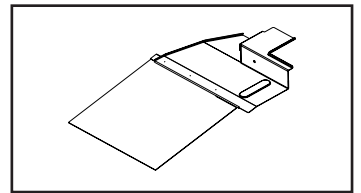
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JB

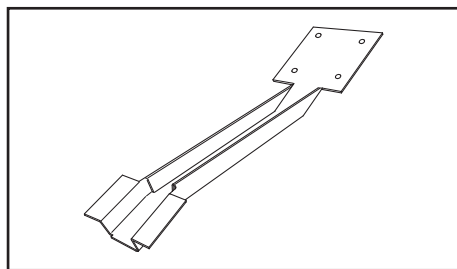
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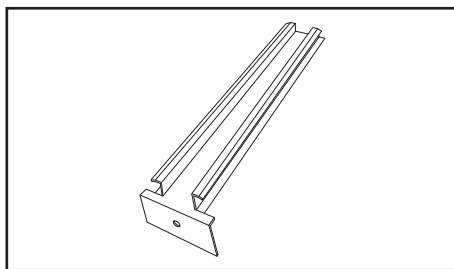
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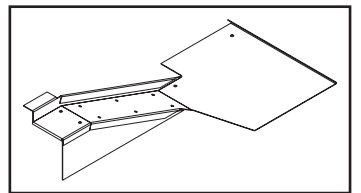
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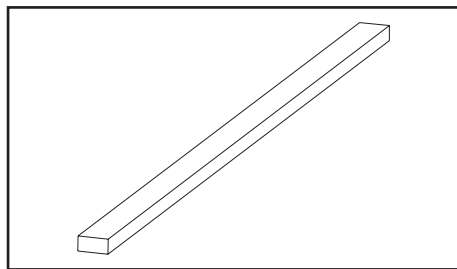
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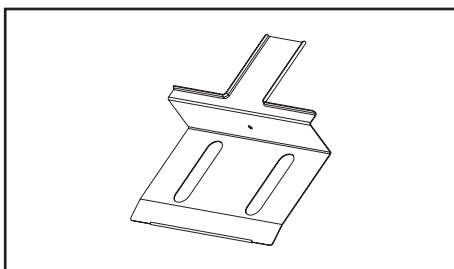
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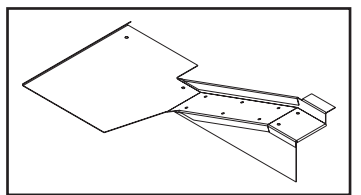
FF



QQ



ZZ



EE

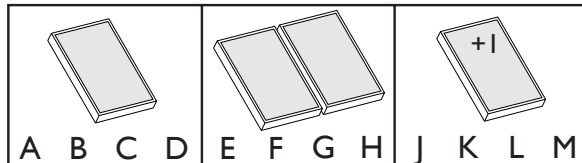
A	- One SOL200 Portrait Collector Kit
B	- One SOL250 Portrait Collector Kit
C	- One SOL200H Landscape Collector Kit
D	- One SOL250H Landscape Collector Kit
E	- Two SOL200 Portrait Collector Kit
F	- Two SOL250 Portrait Collector Kit
G	- Two SOL200H Landscape Collector Kit
H	- Two SOL250H Landscape Collector Kit
J	- SOL200 + I Extension Portrait Kit
K	- SOL250 + I Extension Portrait Kit
L	- SOL200H + I Extension Landscape Kit
M	- SOL250H + I Extension Landscape Kit



i

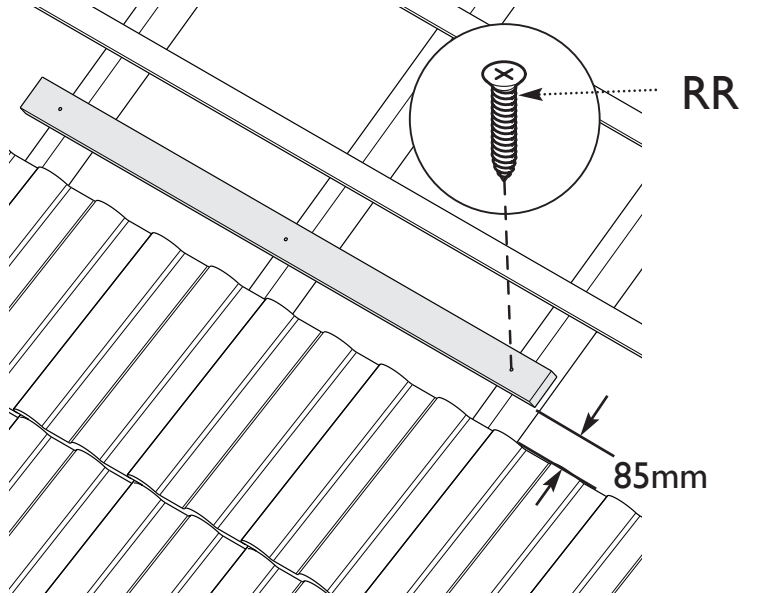
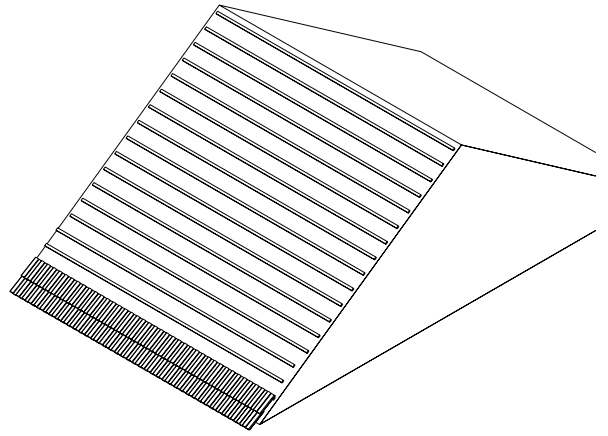
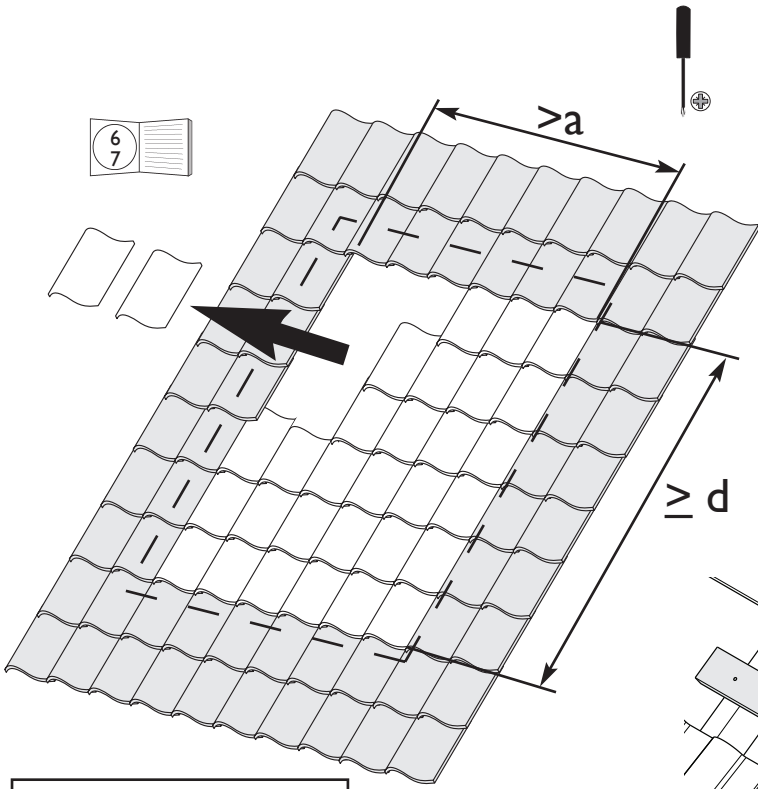
8.0 Kit Contents and Components

AA	- Intermediate Clamp
BB	- Side Clamp
CC	- Bottom Bracket
DD	- Top Panel Portrait SOL200/250 - Top Panel Landscape SOL200H - Top Panel Landscape SOL250H
EE	- Top Corner L/H
FF	- Top Corner R/H
GG	- Top Infill Section
HH	- Side Lower L/H Portrait SOL200 - Side Lower L/H Landscape SOL200H/250H
HA/HB	- Side Lower L/H Portrait SOL250
JJ	- Side Lower R/H Portrait SOL200 - Side Lower R/H Landscape SOL200H/250H
JA/JB	- Side Lower R/H Portrait SOL250
KK	- Side Cover L/H Portrait SOL200 - Side Cover L/H Portrait SOL250 - Side Cover L/H Landscape SOL200H/250H
LL	- Side Cover R/H Portrait SOL200 - Side Cover R/H Portrait SOL250 - Side Cover R/H Landscape SOL200H/250H
MM	- Middle Infill Section Portrait SOL200 - Middle Infill Section Portrait SOL250 - Middle Infill Section Landscape SOL200H/250H
NN	- Bottom Section Portrait SOL200/250 - Bottom Section Landscape SOL200H - Bottom Section Landscape SOL250H
OO	- Bottom Corner L/H
PP	- Bottom Corner R/H
QQ	- Batten 25 x 75 x 1200 (mm) SOL200/250 - Batten 25 x 75 x 1800 (mm) SOL200H - Batten 25 x 75 x 2200 (mm) SOL250H
RR	- Wood Screw (75mm)
SS	- Wood Screw (25mm)
TT	- Coloured Waterproof Washer
UU	- Coloured Self Drilling Screw
VV	- Nail
WW	- Flashing Kit Foam (2m)
XX	- Side Flashing Fixing Tab
YY	- Instructions
ZZ	- Bottom Infill Piece



	A	B	C	D	E	F	G	H	J	K	L	M
AA	-	-	-	-	3	3	3	3	3	3	3	3
BB	6	6	6	6	6	6	6	6	-	-	-	-
CC	2	2	2	2	3	3	3	3				
DD					2	2	2	2				
EE									-	-	-	-
FF									-	-	-	-
GG	-	-	-	-								
HH		-				-			-	-	-	-
HA	-		-	-	-		-	-	-	-	-	-
HB	-		-	-	-		-	-	-	-	-	-
JJ		-				-			-	-	-	-
JA	-		-	-	-		-	-	-	-	-	-
JB	-		-	-	-		-	-	-	-	-	-
KK									-	-	-	-
LL									-	-	-	-
MM	-	-	-	-								
NN					2	2	2	2				
OO									-	-	-	-
PP									-	-	-	-
QQ	5	5	5	10	10	10	10	20	5	5	5	10
RR	15	15	15	20	30	30	30	40	10	10	10	20
SS	16	16	16	16	24	24	24	24	8	8	8	8
TT	14	14	14	14	19	19	19	19	5	5	5	5
UU	14	14	14	14	19	19	19	19	5	5	5	5
VV	8	8	8	8	8	8	8	8	-	-	-	-
WW	4	4	3	4	4	5	4	5				2
XX	8	8	8	8	8	8	8	8	-	-	-	-
YY									-	-	-	-
ZZ	-	-	-	-								
CC3	2	2	2	2	2	2	2	2	-	-	-	-
DD3	-	-	-	-	2	2	2	2	2	2	2	2
EE3									-	-	-	-
FF3									-	-	-	-
GG3									-	-	-	-
HH3	4	4	4	4	4	4	4	4	-	-	-	-

9.0 Installation of the Collector

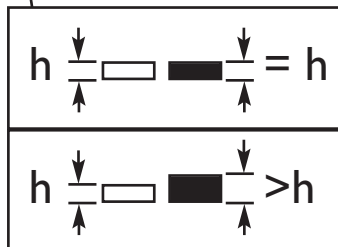
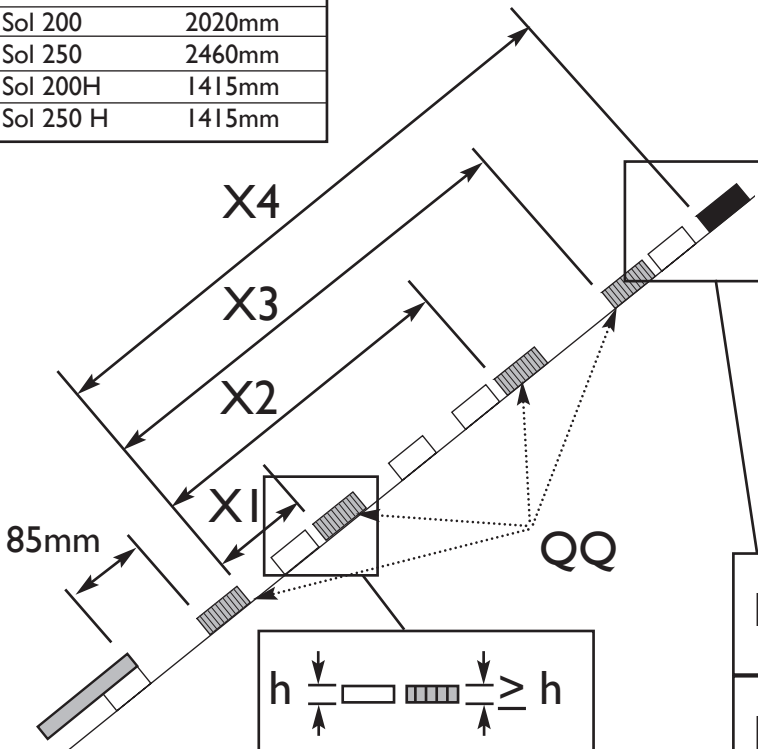
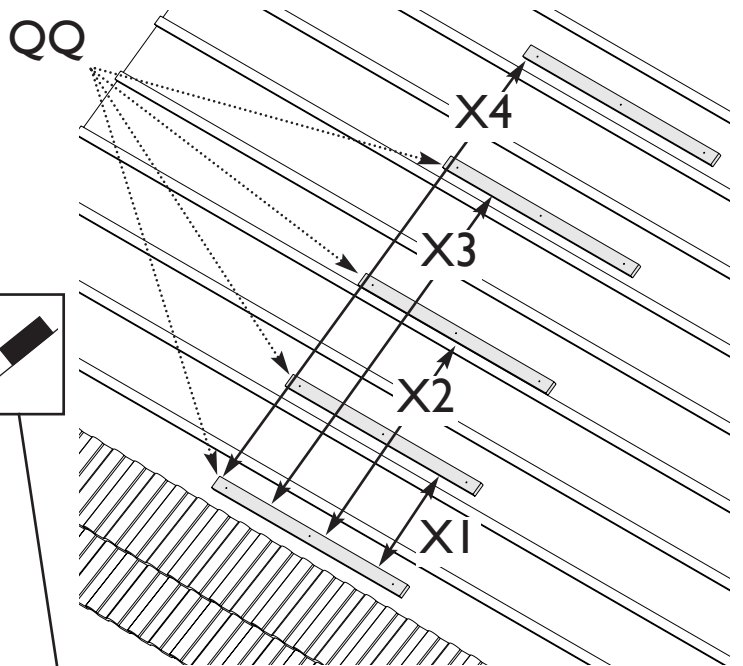


X1 =	
Sol 200	435mm
Sol 250	560mm
Sol 200H	260mm
Sol 250 H	260mm

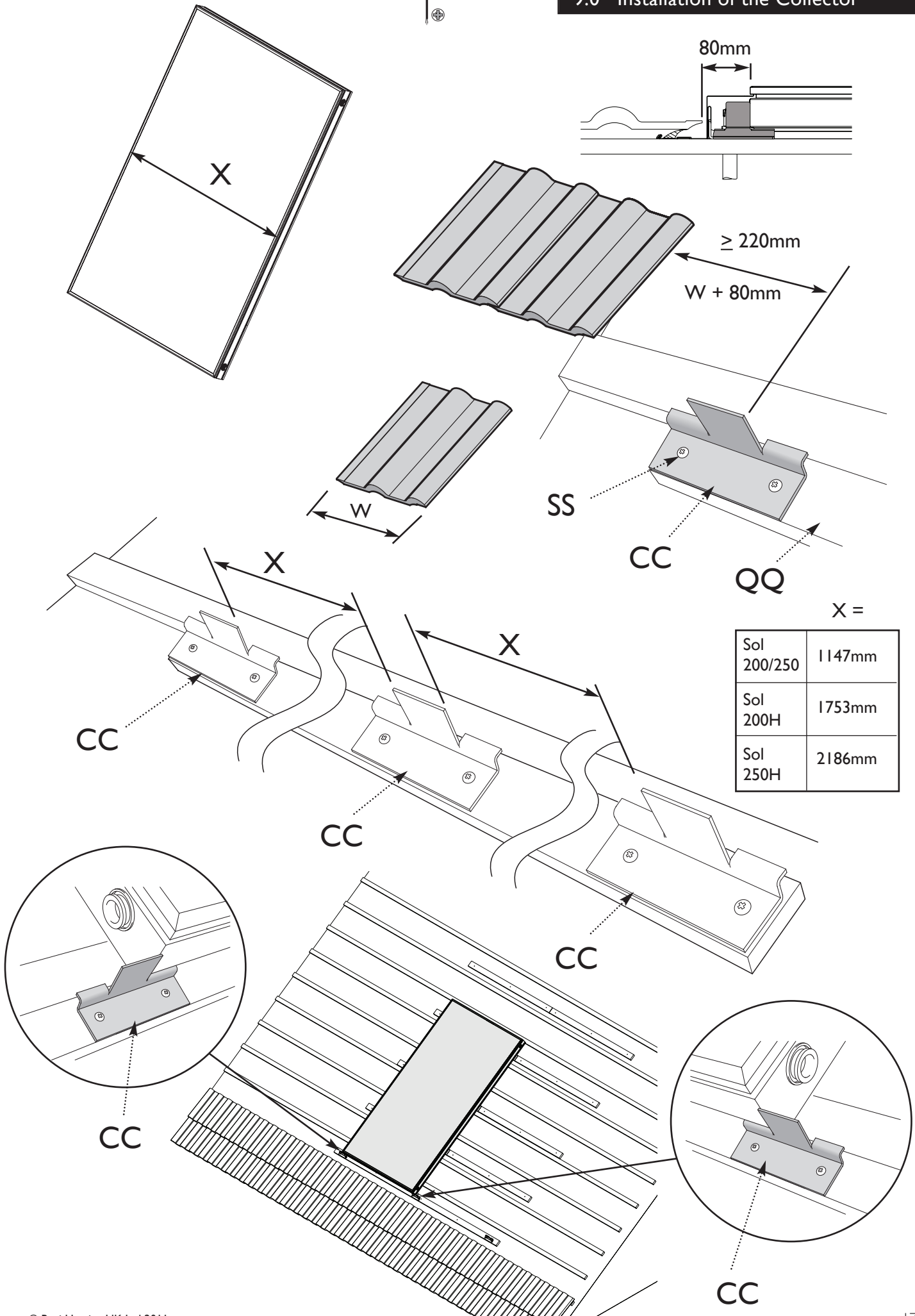
X2 =	
Sol 200	935mm
Sol 250	1185mm
Sol 200H	585mm
Sol 250 H	585mm

X3 =	
Sol 200	1435mm
Sol 250	1810mm
Sol 200H	910mm
Sol 250 H	910mm

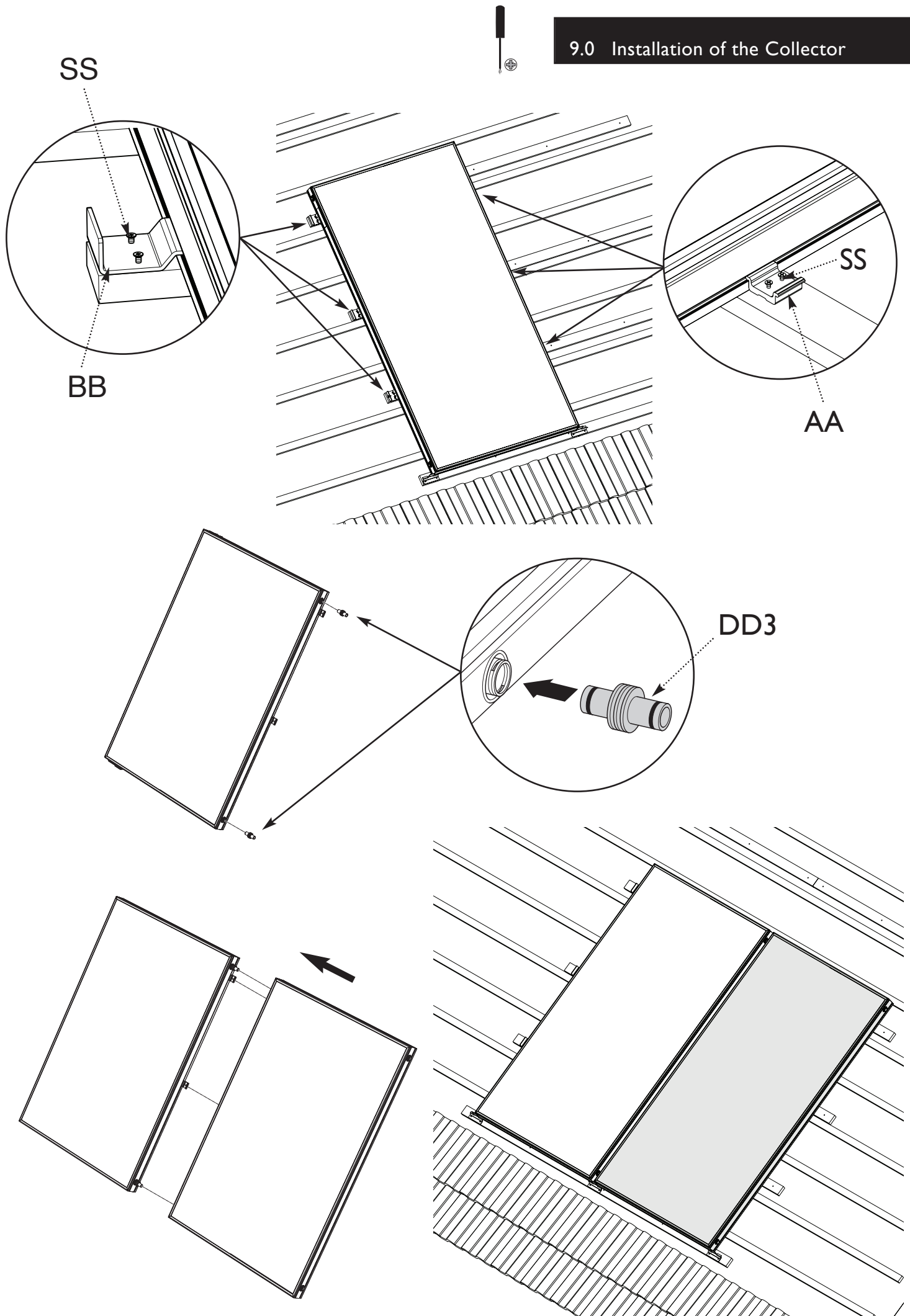
X4 =	
Sol 200	2020mm
Sol 250	2460mm
Sol 200H	1415mm
Sol 250 H	1415mm



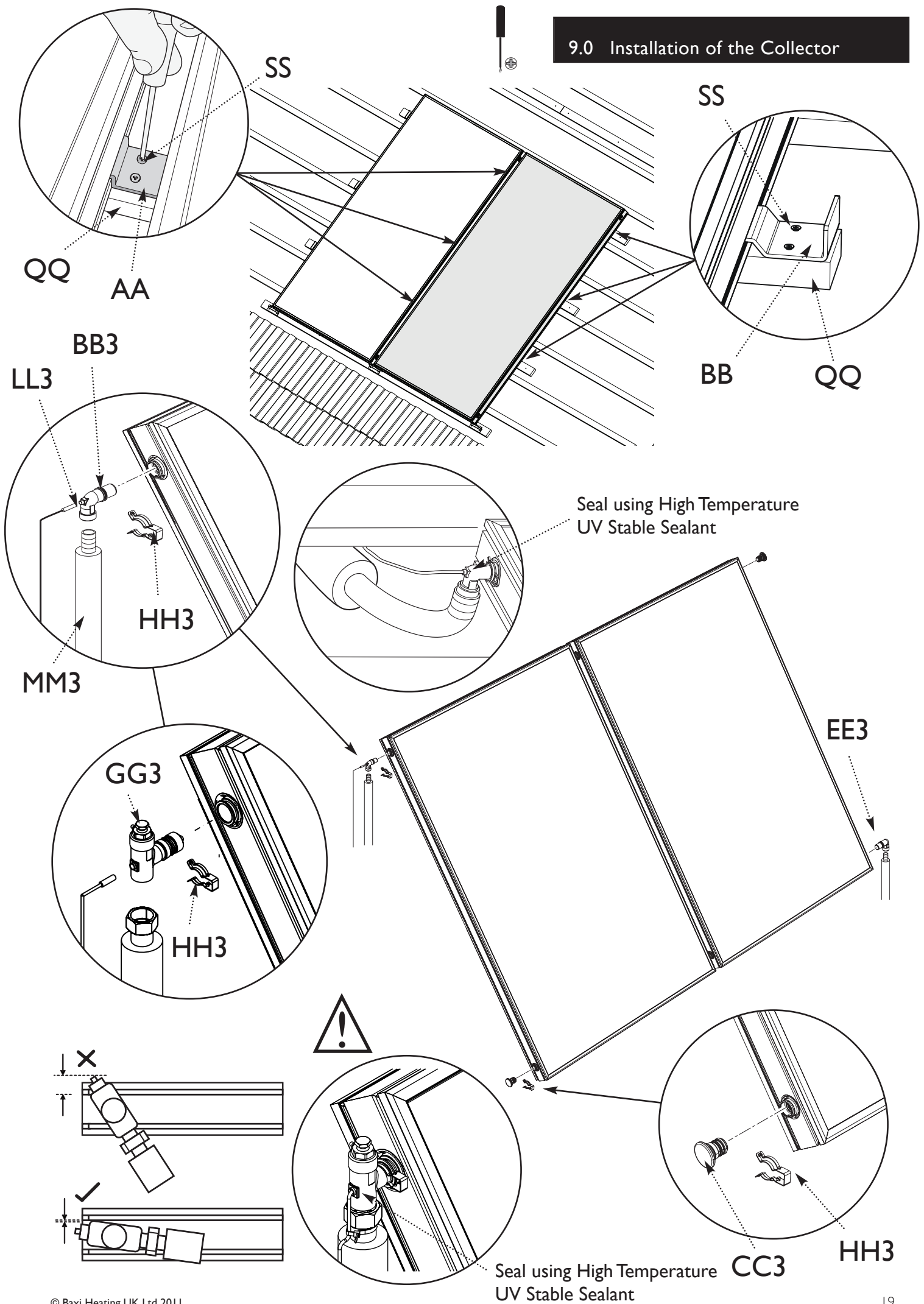
9.0 Installation of the Collector



9.0 Installation of the Collector

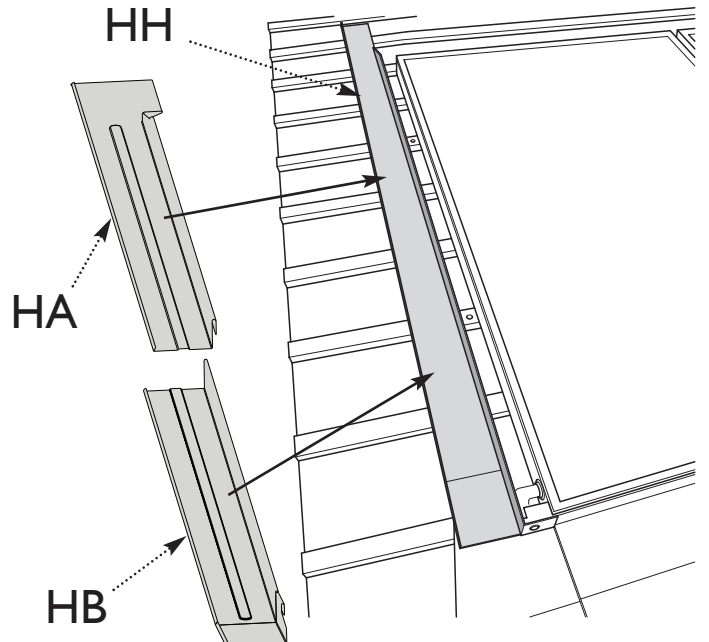
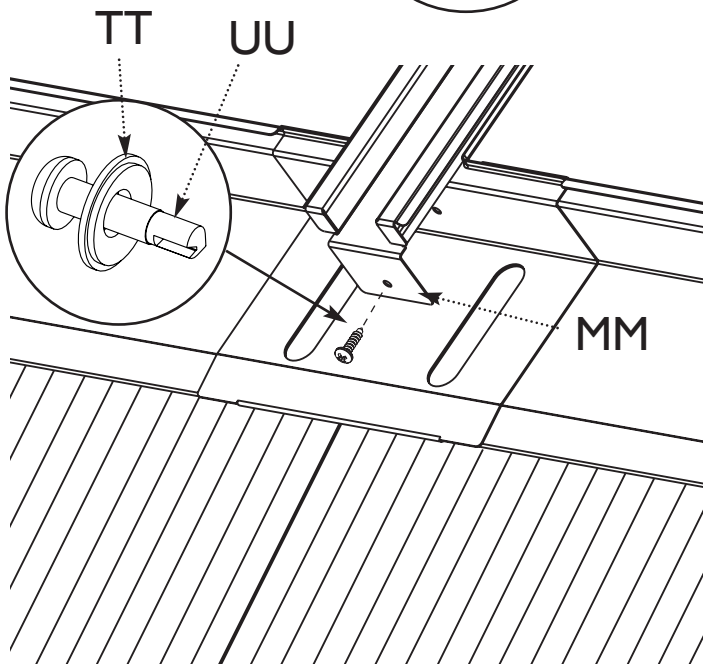
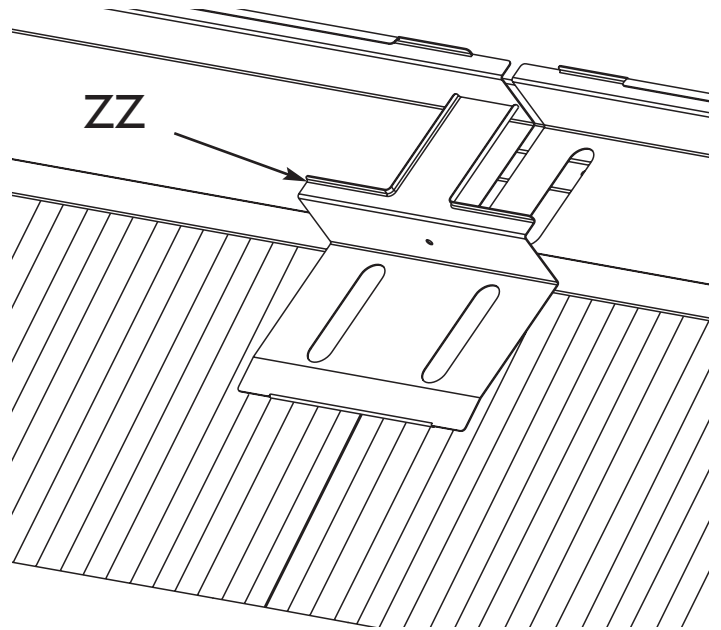
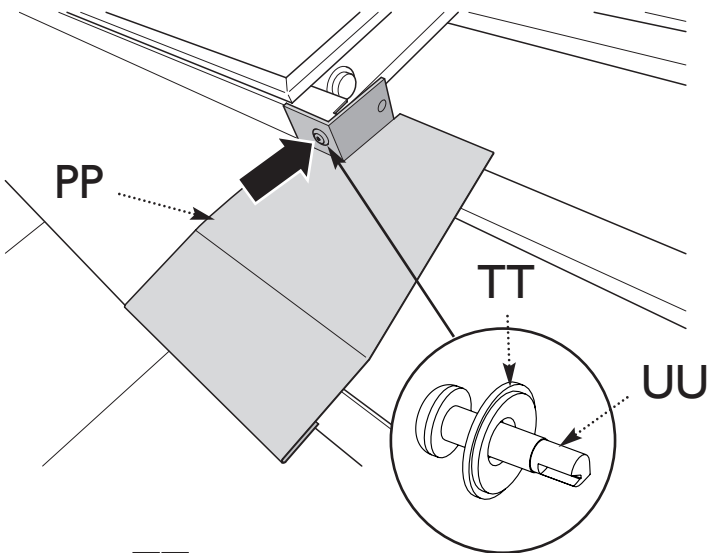
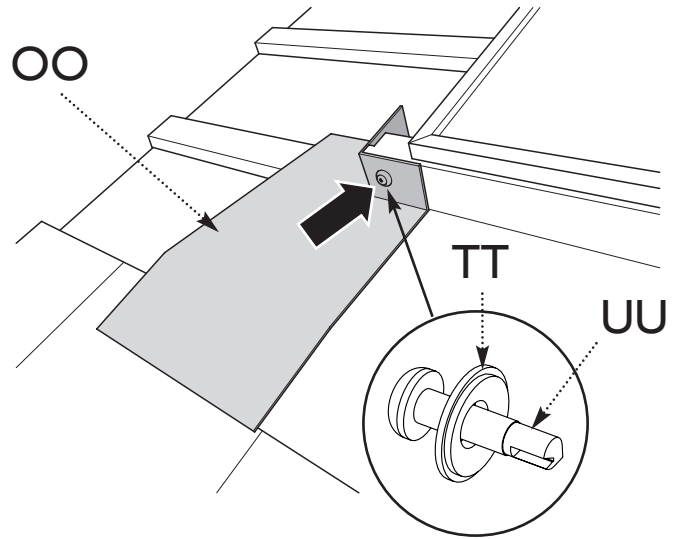
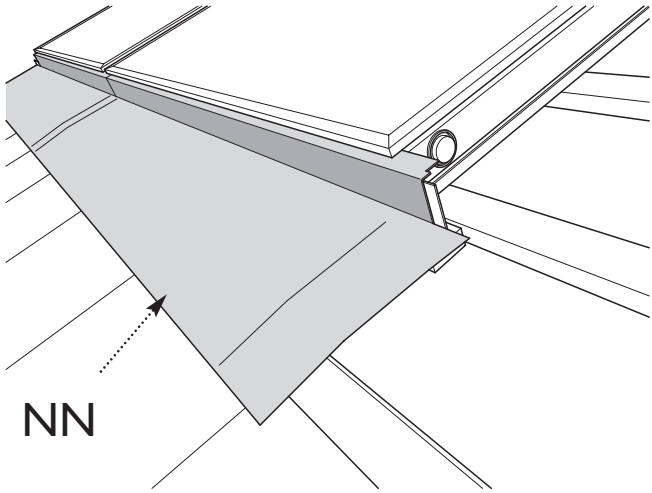


9.0 Installation of the Collector

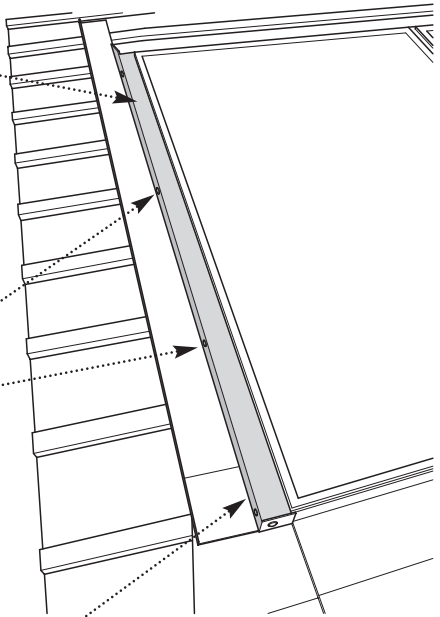
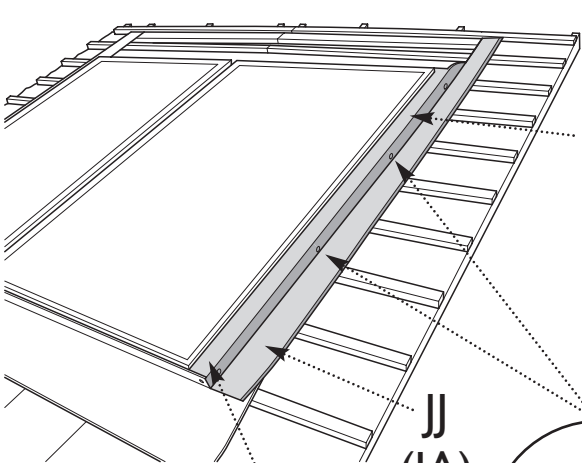
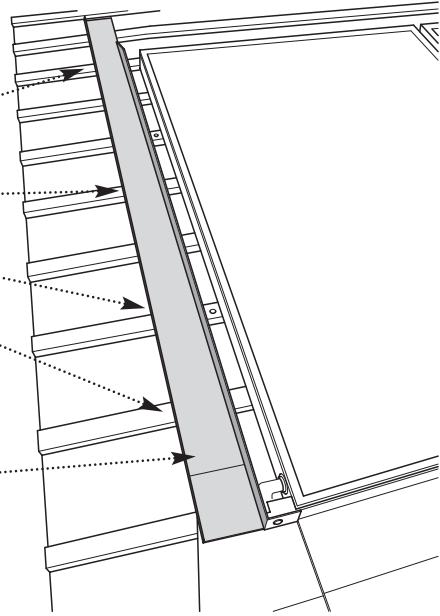
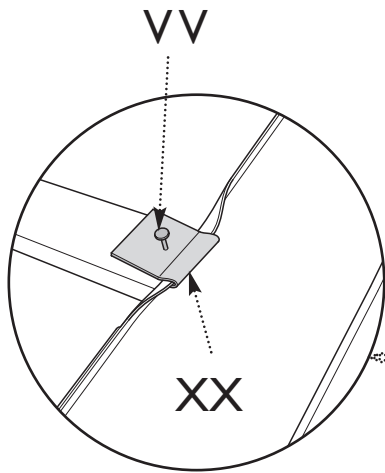




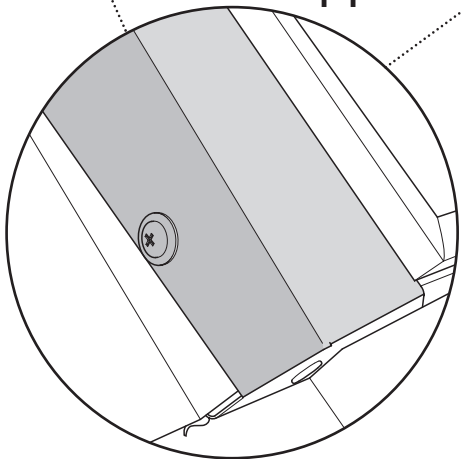
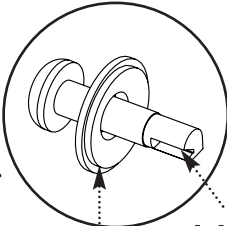
10.0 Fixing the Flashing



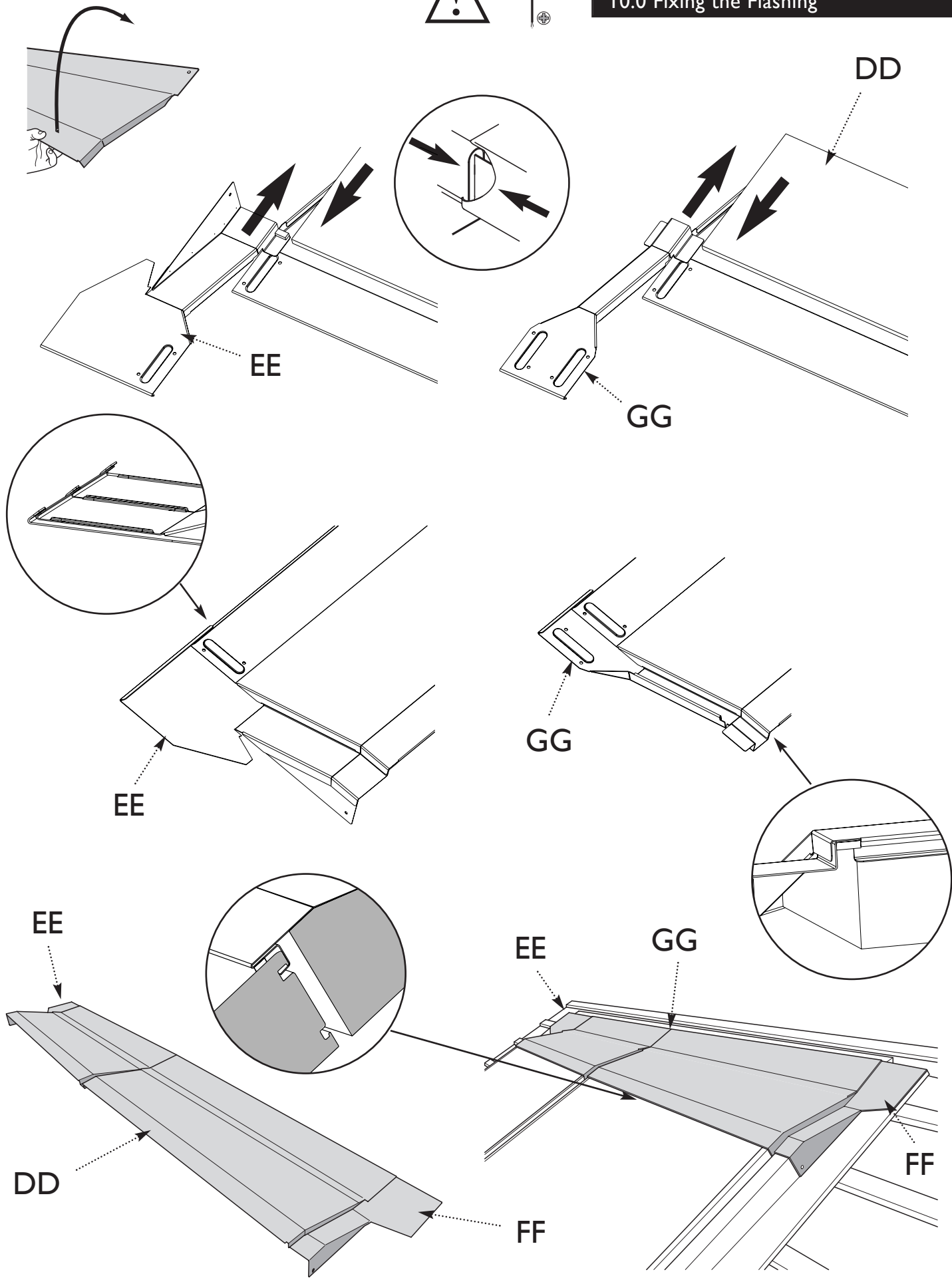
10.0 Fixing the Flashing



JJ
(JA)
(JB)



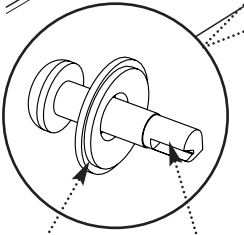
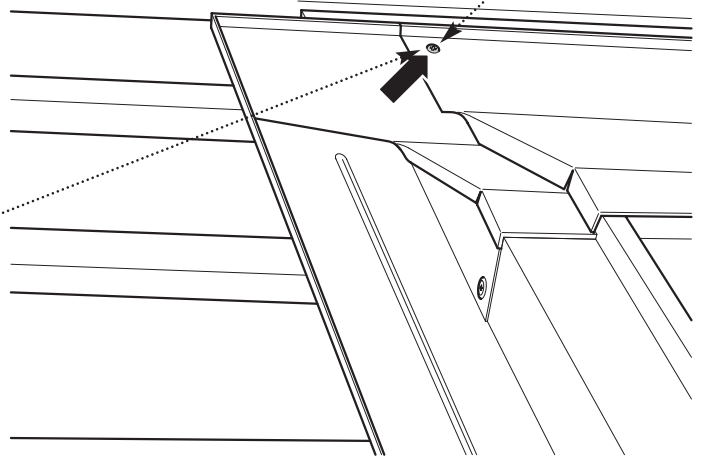
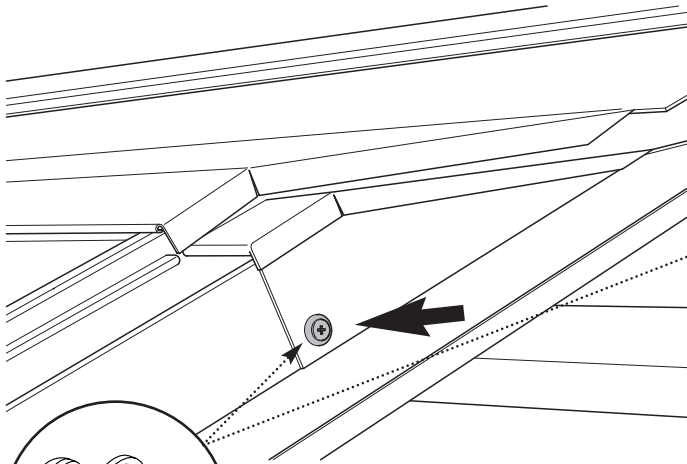
10.0 Fixing the Flashing



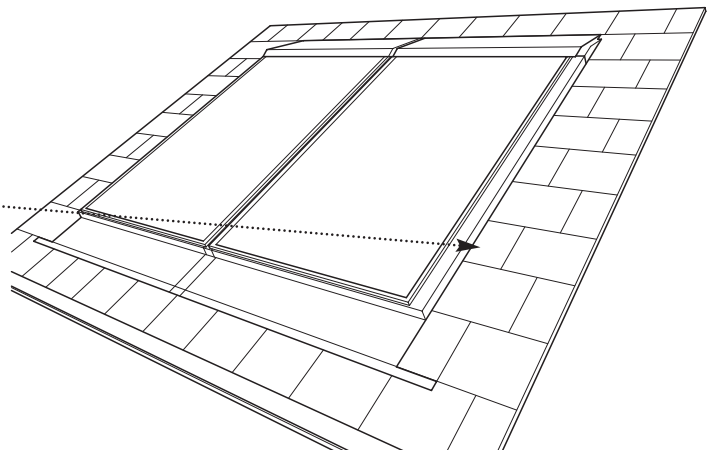
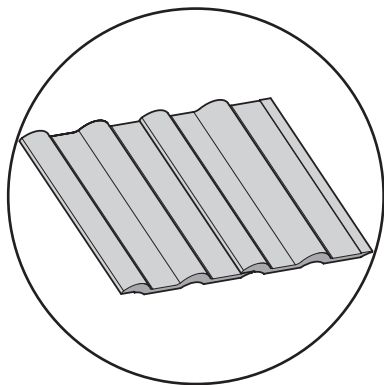
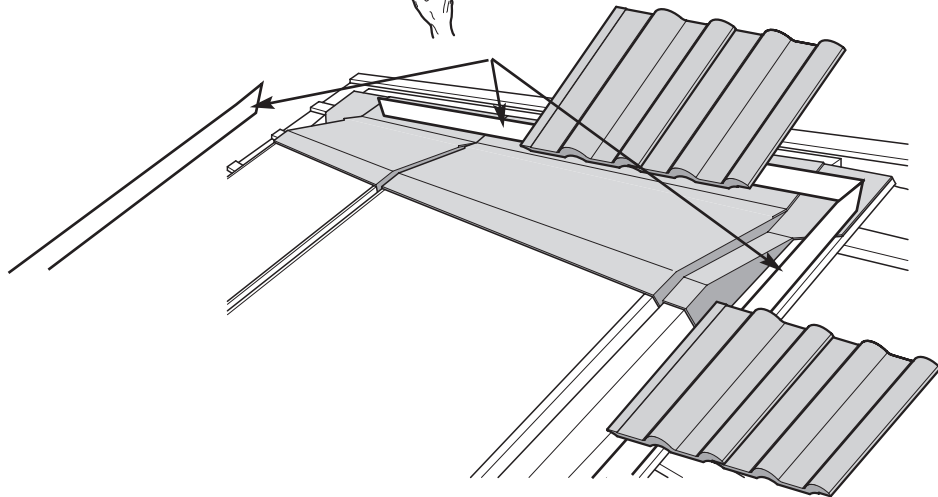
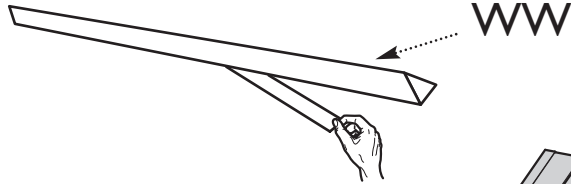


10.0 Fixing the Flashing

TT - UU



TT UU



11.0 Maintenance

It is recommended that the following checks are carried out on an annual basis:

- 1) Check the collector installation for any signs of damage or any build up of debris.
- 2) Check for any corrosion to the collector or the mounting system and repair if necessary.
- 3) Check the tightness of the fasteners. Where fasteners cannot be readily accessed, the overall security of the collector installation may indicate whether problems exist.
- 4) Check the fittings and pipe work for any signs of fluid leakage or damage, including the condition of the pipe insulation, and repair if necessary. Check inside the building for any evidence of leaks.
- 5) Examine the roof tiles around the collector installation for any damage or deterioration, and repair if necessary.
- 6) Check for any foliage growth that may cause shading of the collectors.
- 7) Where applicable, check the condition of any ballast used to secure the system.
- 8) In areas where there may be a build up of dirt on the collector, only non-abrasive cleaning materials and methods should be used to clean the collectors and mounting system components.

All descriptions and illustrations provided in this leaflet have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet. All goods are sold subject to our standard Conditions of Sale which are available on request.

MULTIFIT

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