



Assembly instructions

2023 | Rainwater systems

Plannja gutters, downpipes and accessories

Assembly instructions

Rainwater systems



Plannja 

In order for the dealer to make you an offer for a construction package for your roof, he will require some information and measurements. Prepare your visit to the dealer by measuring your roof. Use the template below or fill in the information on the dealer's website (only certain dealers).

<p>This is my type of roof: <input type="checkbox"/></p> <p>Saddleback roof, roof sides 1+2 <input type="checkbox"/> Single-pitch roof, roof side 1: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>
<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>
<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>	<p>This is my type of roof: <input type="checkbox"/></p>

● = Always downpipe

⊙ = Downpipe if eaves > 10 metres, otherwise every 10 metres.

NOTE! All dimensions in mm.

We recommend a visit to Calculate My Roof at

<http://beraknamittak.plannja.se>

You can get help there with a price estimate for a complete roof including rainwater system and all the accessories to suit the dimensions of your roof.

Roofing Sheet Construction Package:

1. Select the correct roof type above.

2. Fill in the measurements required for your roof type.

The alphabetical designations in the roof drawings show the measurements you need to take and fill in below.

A _____ mm B _____ mm C _____ mm D _____ mm E _____ mm

F _____ mm G _____ mm H _____ mm I _____ mm J _____ mm

K _____ mm L _____ mm M _____ mm N _____ mm

Rainwater System Construction Package:

Measure house height and eaves and note below.

House height: _____ Specify distance top edge of gutter to lower edge of outlet (mm).

Eaves: _____ Distance from gutter to wall (mm).

Roof Safety Construction Package

Decide on the roof safety products needed and set a cross beside each one.

☐ Roof ladder ☐ Snow guard ☐ Roof walkway ☐ Ridge rail

☐ Roof ladder ☐ Foot boards ☐ Handrail

PREPARATION



PREPARATION

For information on making preparations for our various products, please visit our website at www.plannja.com



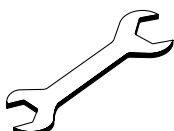
WORK SAFETY

Always follow applicable work safety legislation.



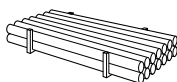
LABOUR

Plannja's rainwater system products are easy to install, often by only one person. When installing extra long gutters and pipes, two people may be preferable.



TOOLS

Tools are required for rainwater system assembly. In most cases, no special tools are necessary for installing Plannja Rainwater System, just a power driver, rubber mallet, a screwdriver, hacksaw, ruler, plumb line and a bending tool for gutter brackets. A bending tool for gutter brackets can be rented from your local hardware store. Never use a grinding disc. Sheet metal coatings can be damaged by swarf from the disc.



TRANSPORT, STORAGE AND HANDLING

As far as possible, store products indoors. When storing products outdoors, incline them so that any water runs off.



WARRANTY

Current warranty terms are available on our website at www.plannja.com

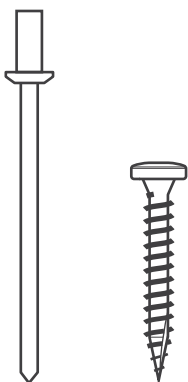


TECHNICAL INFORMATION



INSTALLATION SCREWS / POP RIVETS

Gutter brackets are fastened using 4.8×35 stainless steel gutter bracket screws. Downpipe parts are fastened using POP rivets AD 56 4.0 mm or equivalent, or screws.



Part number
312102
4.0 mm

Part number 312201
312201
4.8×35



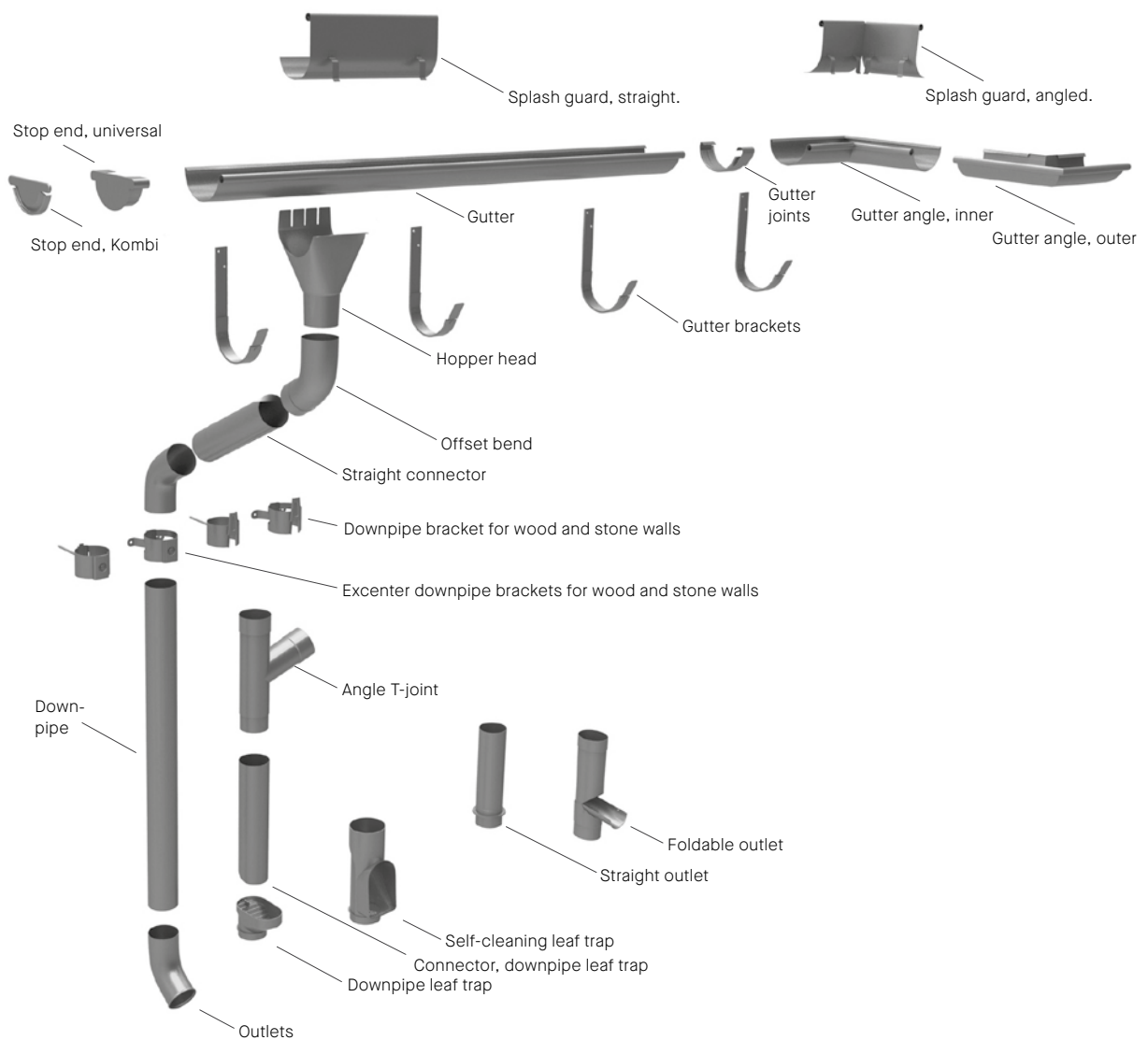
RECYCLING

Take care to remove sheet clippings and screws from the roof, gutters and the ground on completion of assembly. The materials are 100 per cent recyclable and can be disposed of at recycling stations.



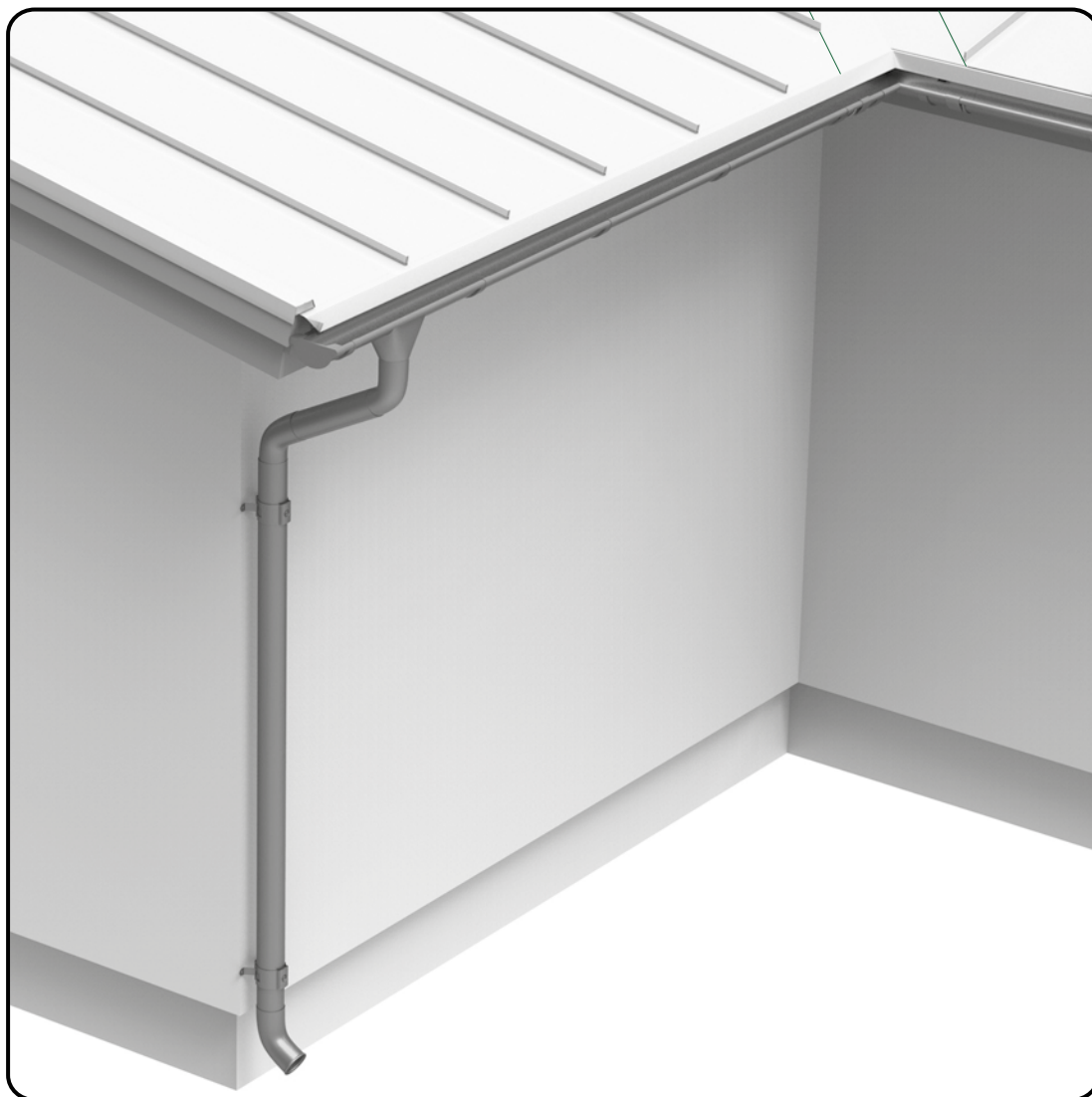
PRODUCT OVERVIEW

Components



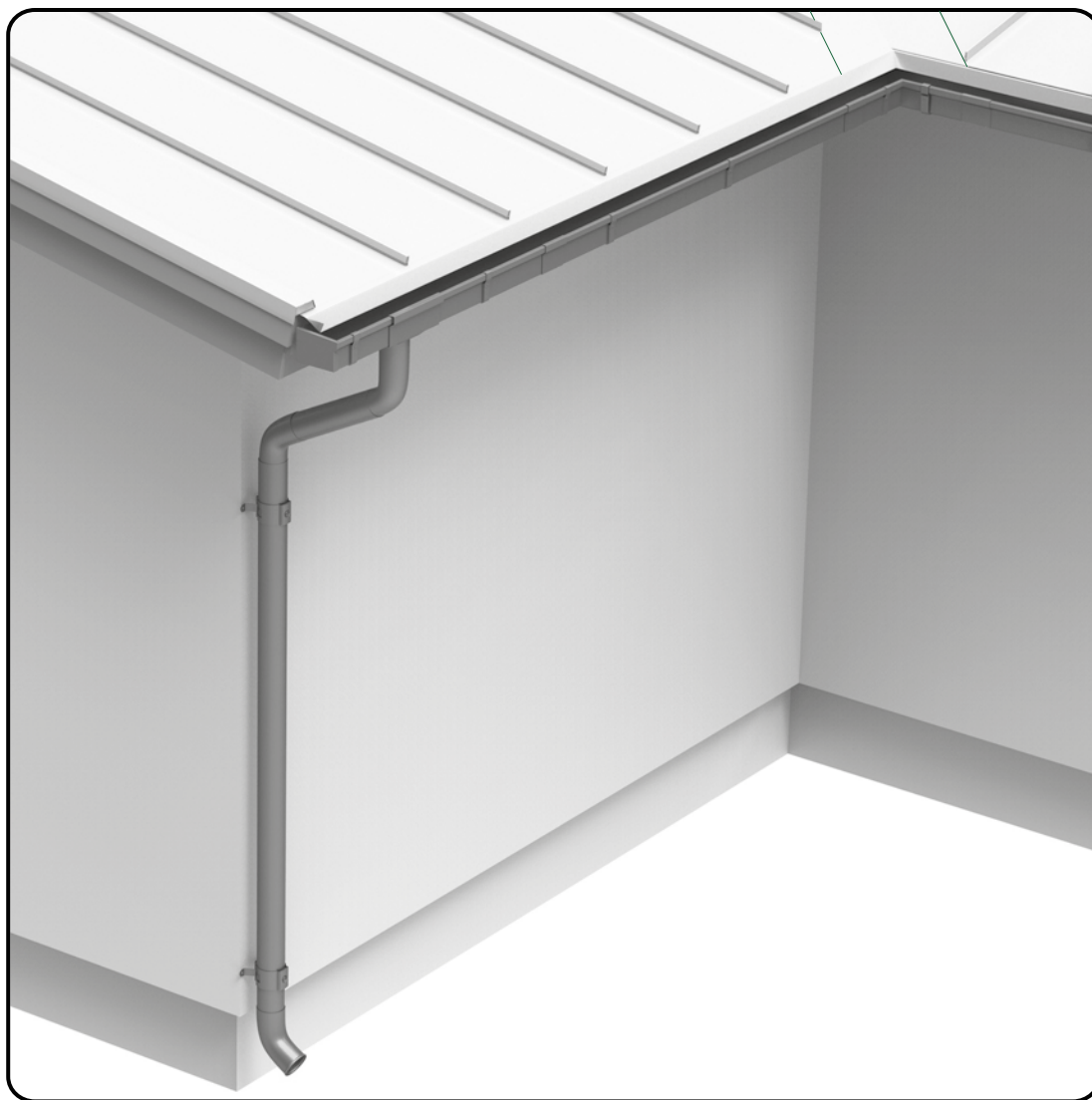
PRODUCT OVERVIEW

Standard system

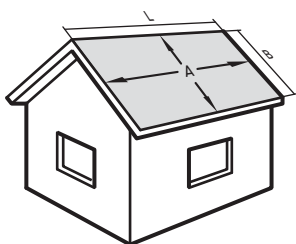


PRODUCT OVERVIEW

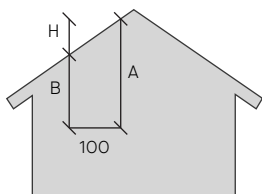
Square



DIMENSIONING



EXAMPLE
L=10 m B=9m A=90m²



Calculating pitch. Use the table on the right to calculate pitch, or use a smartphone app for the calculation.

Begin by measuring the roof to determine the dimensions and the number of downpipes.

Dimensioning gutters and downpipes. Measure the length and breadth of each half of the roof. If the area is smaller than 75 m², use gutters with a width of 100 mm and downpipes with a diameter of 75 or 90 mm.

If the area is 75–125 m², use gutters with a width of 125 mm and pipes with a diameter of 90 mm. For even larger areas, use gutters with a width of 150 mm and pipes with a diameter of 100 mm.

Gutters Plannja table

Roof area m ² max	> 75	>125	>200	>275	
Select gutter	100	125	150	R125	Rectangular*
* Give rectangular gutters a cross-sectional area equivalent to that of a semi-circular gutter for the same roof surface area.					
Downpipe					
Roof area in m ²	> 80	>125	>180	>230	<300
Select downpipe	75	90	100	110	120

Dimension A minus dimension B gives H, which is the height difference for calculating roof pitch. See table.

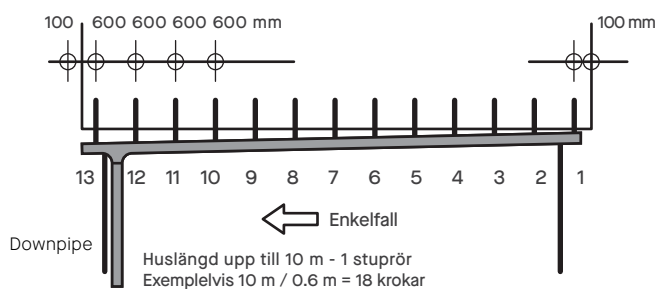
Rise in cm (≈)	Pitch	Rise in cm (≈)	Pitch
25	14	75	37
30	17	70	30
36	20	84	40
40	22	90	42
45	24	100	45
49	26	104	46
53	28	111	48
58	30	119	48
62	32	133	53
67	34	143	55
73	36	173	60



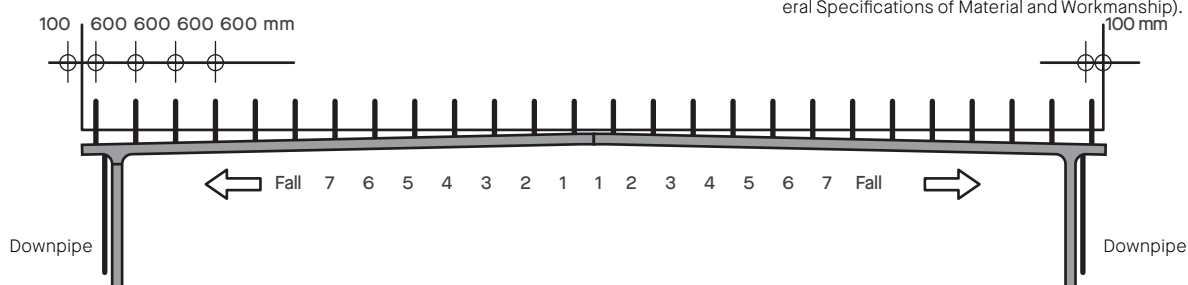
DIMENSIONING

Calculating slope and the number of gutter brackets

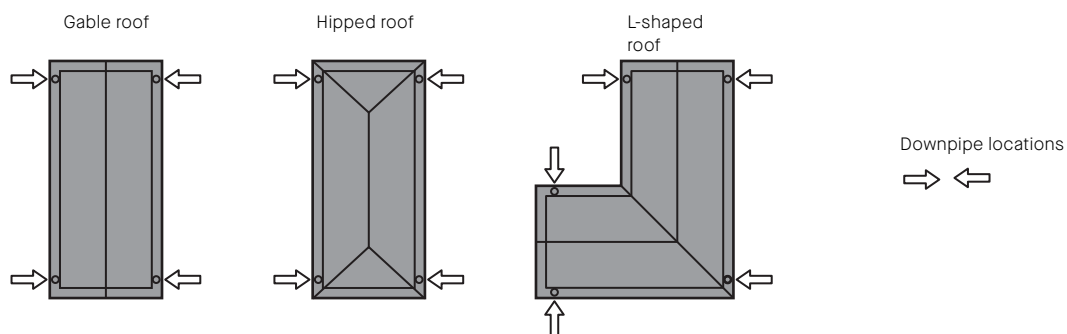
For lengths up to 10 metres, one slope is enough. Brackets that need bending must be distributed as illustrated and numbered 1, 2, 3 and so forth. The first and last bracket must be installed 10 cm from the edge of the roof.



Lengths above 10 metres require slopes in both directions and two downpipes. Brackets that need bending must be distributed as illustrated and numbered 1-1, 2-2, 3-3 and so forth. Brackets numbered 1 must be installed about 30 cm from the centre and the last brackets around 10 cm from the respective roof edges.



For lengths over 15 meters (steel) and 10 meters (copper and aluminium) where the gutter's contraction/expansion movement cannot be sufficiently absorbed, it may be necessary to fit expansion joints as per AMA Hus (Swedish General Specifications of Material and Workmanship).



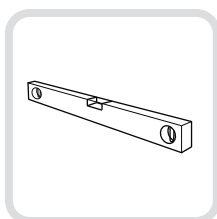
Location of downpipes

Buildings with hipped roofs should always be fitted with two downpipes per long side and a gutter with a width of 125 mm. Locate the downpipes on L-shaped houses as illustrated. Use gutters that are appropriate for the roof surface area.

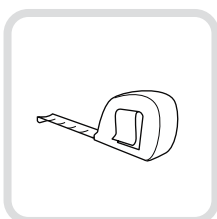


TOOLS

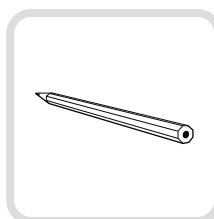
The following tools will make work easier when installing Plannja Rainwater System. Some tools are only necessary in exceptional cases.



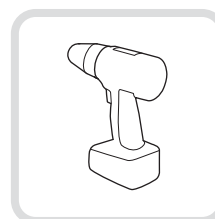
SPIRIT LEVEL
For checking gutter slope and installing downpipes



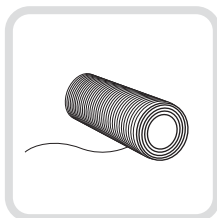
TAPE MEASURE



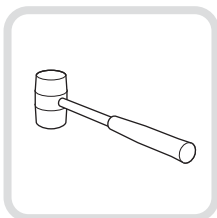
PENCIL



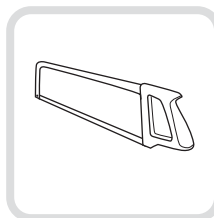
POWER DRIVER
A good power driver makes driving screws and drilling easier.



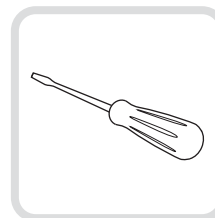
LINE
For marking bracket locations and plumbing downpipe brackets.



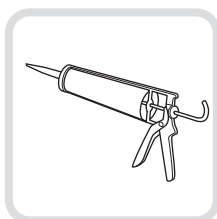
RUBBER Mallet
A rubber mallet will not damage sheet coatings.



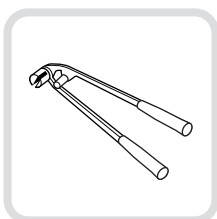
HACKSAW
For cutting pipes and gutters.



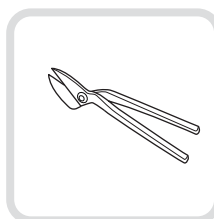
SCREWDRIVER
Slotted screwdriver, Phillips screwdriver



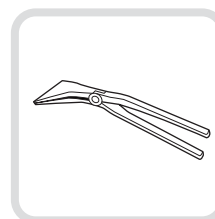
Sealant
For sealing e.g. gutter stop ends. Use Plannja sealant 350435 1 or equivalent.



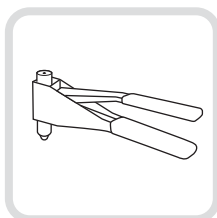
BENDING TOOL FOR GUTTER BRACKETS
Bends single brackets to the desired angle. Available for hire or purchase.



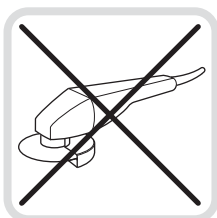
METAL SHEARS
Metal shears can be an advantage in some circumstances, but are not essential for assembly.



SEAMING TONGS
Seaming tongs can be an advantage in some circumstances, but are not essential for assembly.



POP RIVET TOOL
If you use rivets instead of screws. Necessary for joining Square gutters.



GRINDING DISC
Remember never to use an angle grinder/grinding disc as heat and sparks will damage sheet metal coatings.

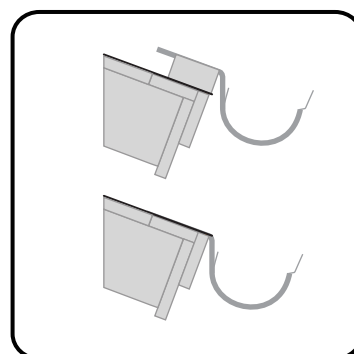
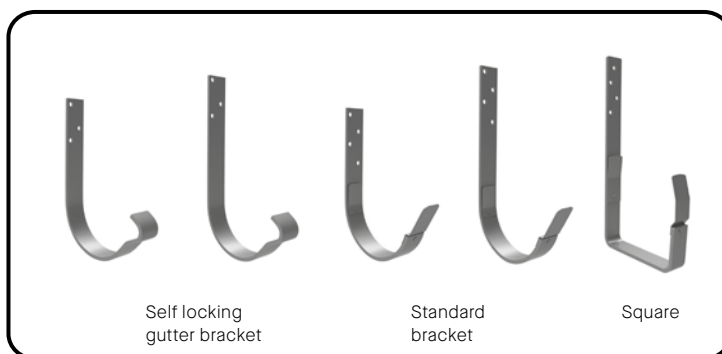


GUTTER BRACKETS

Model overview / guide

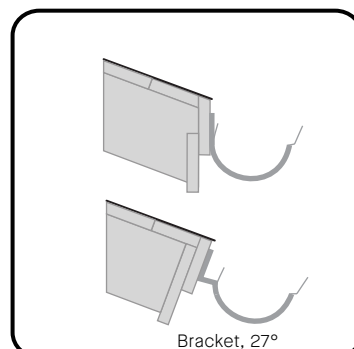
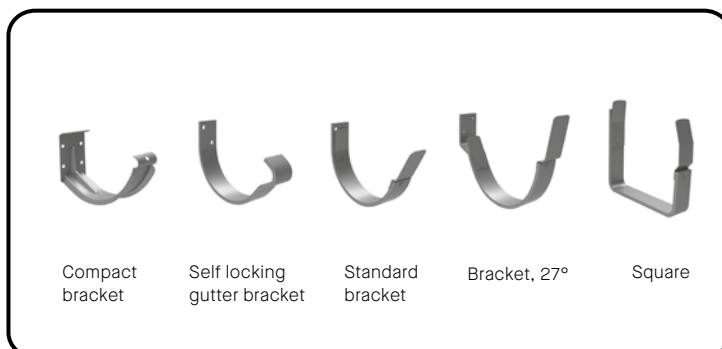
A Brackets for bending

Bent to suit roof pitch; fastened to roof decking or batten



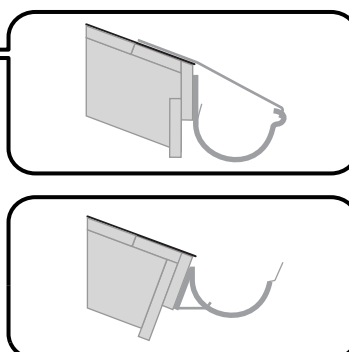
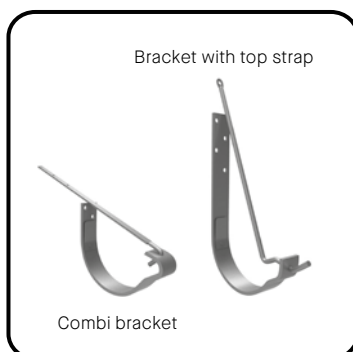
B Short brackets

Brackets that are screwed into the existing fascia board; the 27° bracket is suitable for fascia boards with a 27° pitch.



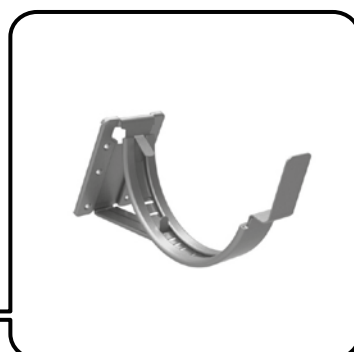
C Bracket with top strap

For extra large snow loads



C Adjustable bracket

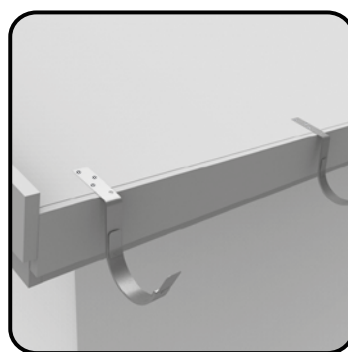
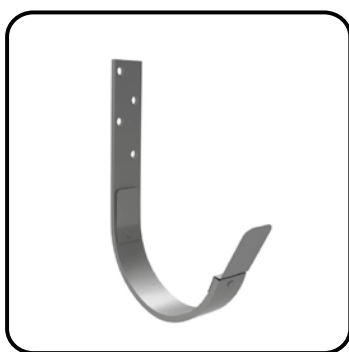
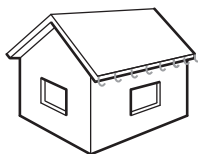
Between 0-45° for fascia boards with varying gradient.



1a

GUTTERBRACKETS

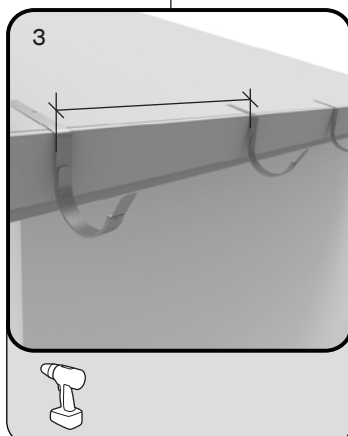
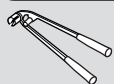
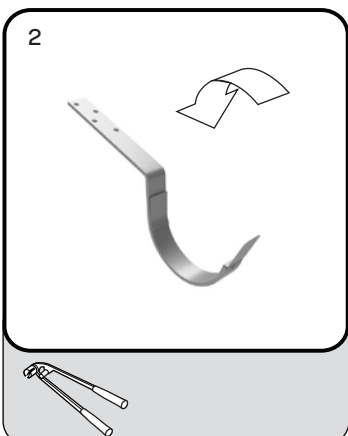
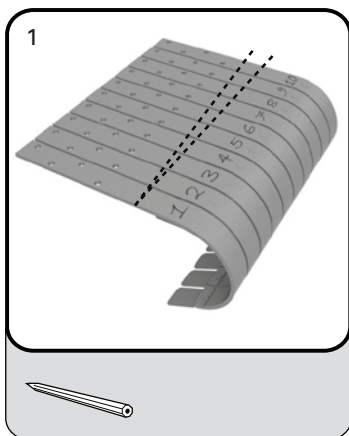
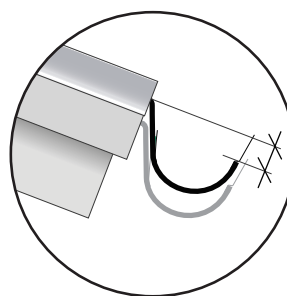
Brackets for bending



Bent brackets can be installed either on the lowest batten or on the roof decking.

Place the numbered brackets together and mark the baseline on the first and last brackets. Mark out and draw a line between the baseline and the slope marking; the slope incline must be at least 2.5 mm/meter, but 5–7 mm is necessary for a degree of self cleaning. Bend the brackets to suit roof pitch (refer to the section on dimensioning) using the bending tool for gutter brackets, then install the bracket on the lowest batten or the roof decking using gutter bracket screws.

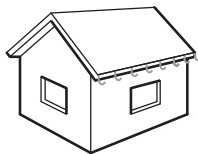
Install the brackets such that the gutter is clear of any snowslip.



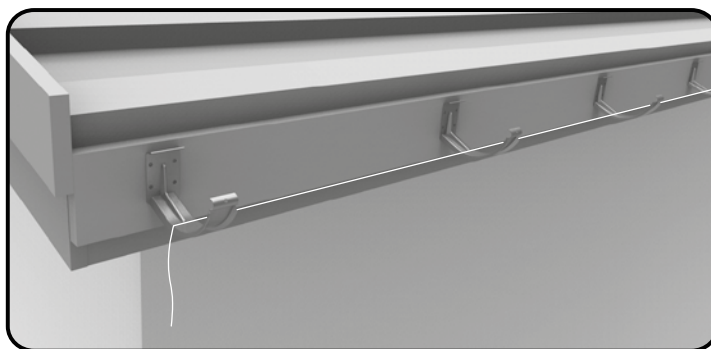
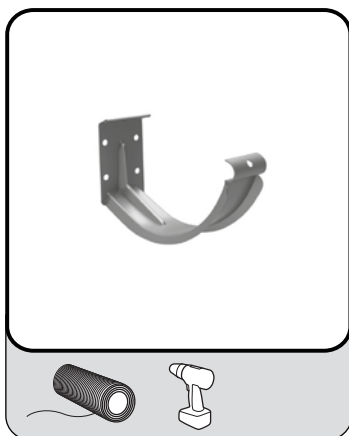
1b

GUTTER BRACKETS

Short brackets



Install the first and last brackets to achieve the right slope. The slope must be at least 2.5 mm/metre, but 5–7 mm is necessary for a degree of self cleaning. Run a line between the highest and lowest bracket and then install the brackets directly onto the fascia board using gutter bracket screws.

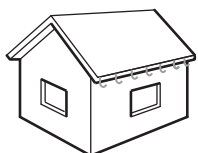


The illustrations show a compact bracket; the same method applies for all brackets installed on the fascia board.

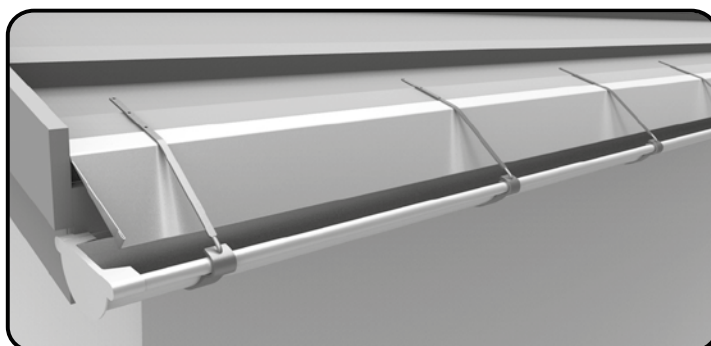
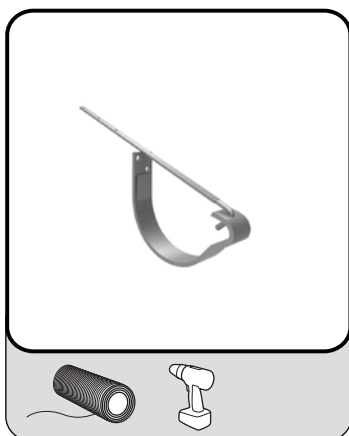
1c

GUTTER BRACKETS

Bracket with top strap



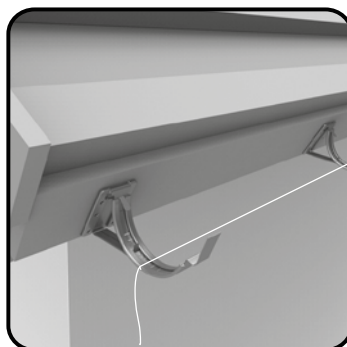
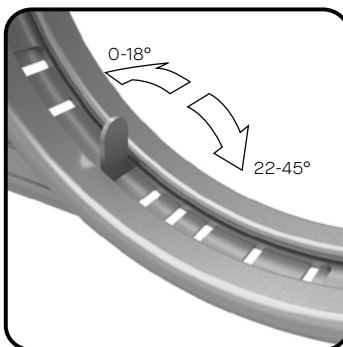
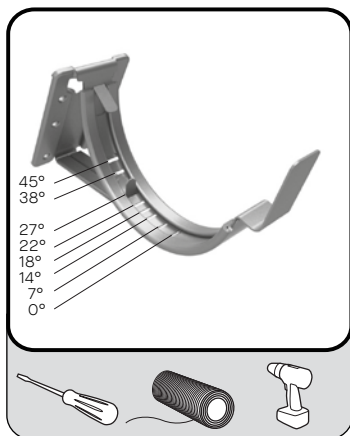
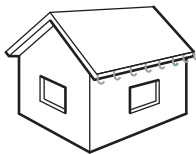
Install the bracket as per 1 a or 1 b. Once the gutter is in position, fit the top straps and screw them to battens.



1d

GUTTER BRACKETS

Adjustable bracket



Measure the eaves angle and attach the bracket in the right position; press the lock tab down securely using a screwdriver. At eaves angles of 0–18°, bend the lock tab backwards and at 22–45°, forwards. Check that the angle is correct by holding the bracket against the fascia board and comparing with a plumb line. Then adjust the remaining brackets to the same setting as the first. Install the first and last brackets to achieve the right slope. The slope must be at least 2.5 mm/metre, but 5–7 mm is necessary for a degree of self cleaning. Run a line between the highest and lowest bracket and then install the brackets directly onto the fascia board using gutter bracket screws.

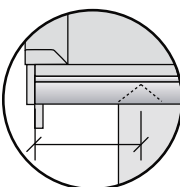
2

GUTTERS

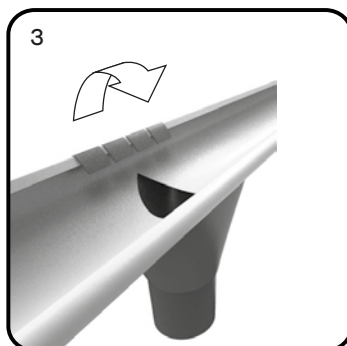
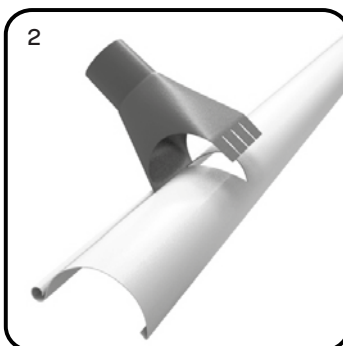
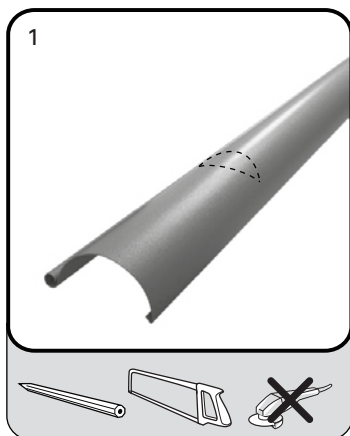
Hopper head



Distance between the bargeboard and the centre of the downpipe.

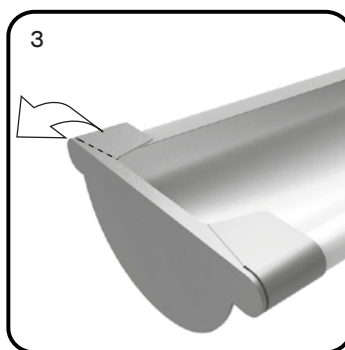
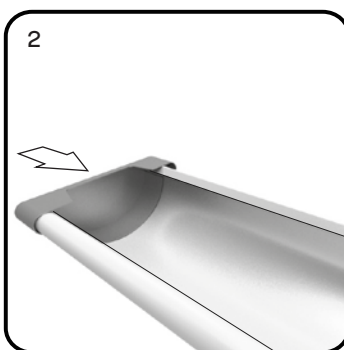
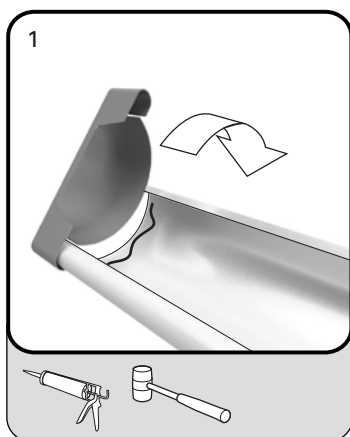


Mark out the hopper head location and then make two angled cuts so that the opening is around 10 centimetres; fold the edges down into the hole to improve drainage. Fit the front edge into the gutter bead and then fix the hopper head by folding the lock tabs over the back edge of the gutter. This is best done before the gutter is in position.



3a**GUTTERS**

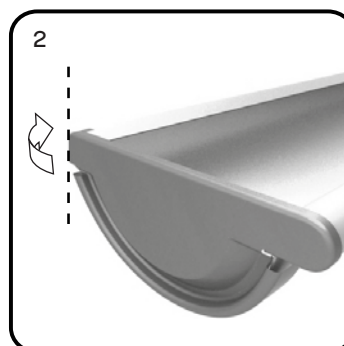
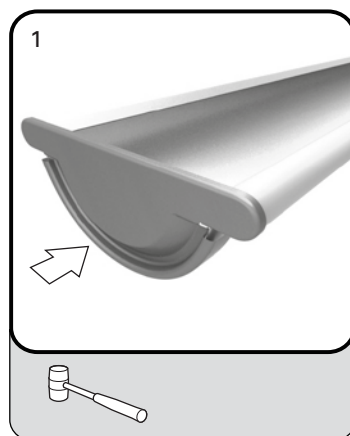
Stop end, universal



The rear tab can also be removed before the stop end is installed.

3b**GUTTERS**

Stop end, Kombi



Install the Kombi stop end by pushing it onto the gutter. Secure the stop end by tapping the gutter edge in as illustrated in figure 2. Finish off by folding the stop end's free tip in with thumb pressure (see fig.).

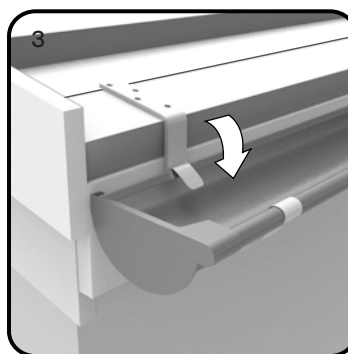
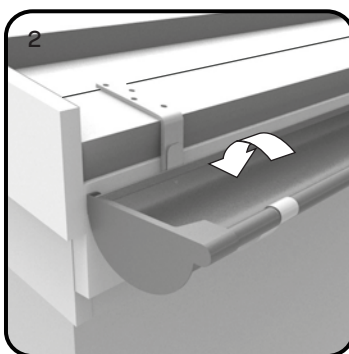
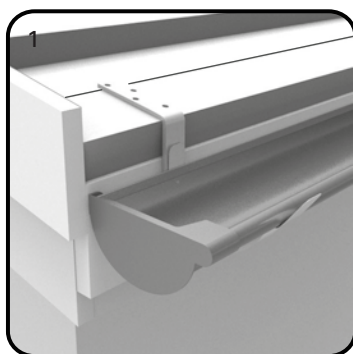


4

GUTTERS

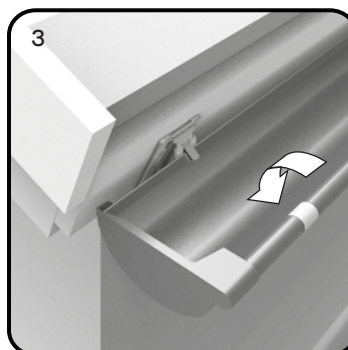
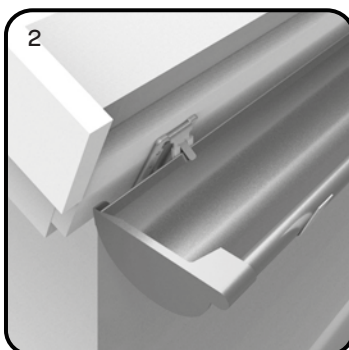
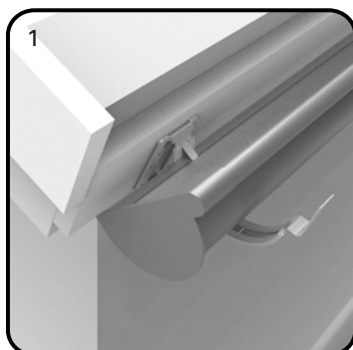
Installing gutters

There are three different procedures for attaching gutters depending on the brackets selected.



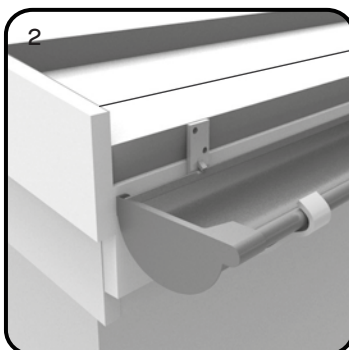
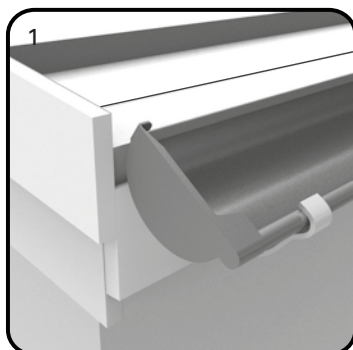
A Standard bracket

Press the gutter down into the front of the bracket and fold over the front lock tab, then press the back of the gutter down and lock it with the rear tab.



B Adjustable bracket

Press the gutter under the bracket's rear lock tab; press down the front of the gutter and fold over the bracket's front tab.



C Self locking gutter bracket

Lay the front edge of the gutter in the rounded outer part of the bracket and then press down the rear edge to secure it with the bracket's lock tab.



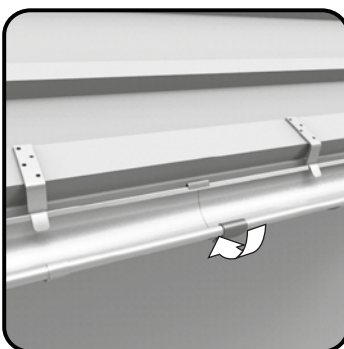
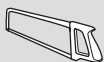
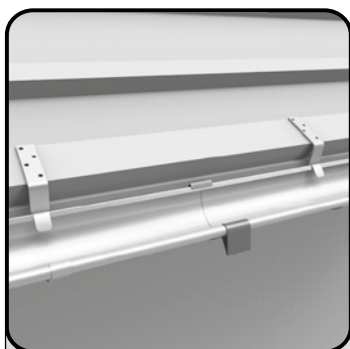
5a

GUTTERS

Joining gutters



Cut gutters to the correct length with a hacksaw and hang them in the brackets. Join gutters using gutter joints. First fit the gutters together and hook the gutter joint around the back edge of the gutter, then around the front edge. Then lock the joint with the palm of the hand against the gutter.

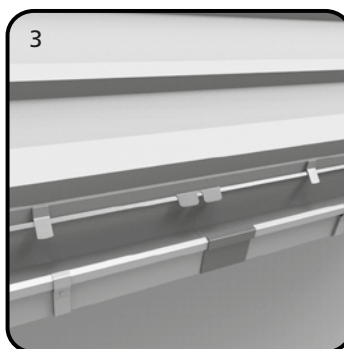
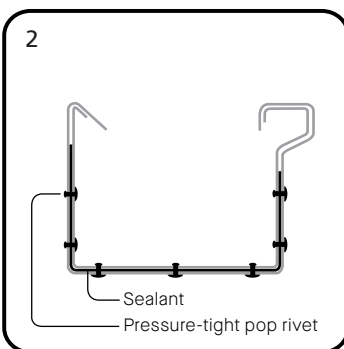
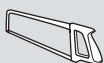
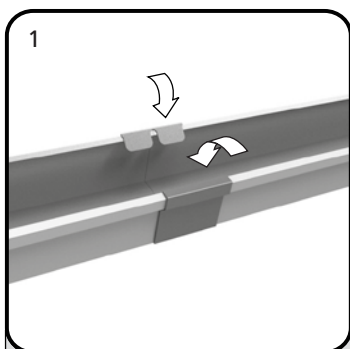


5b

GUTTERS

Joining SQUARE gutters

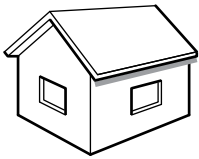
Join gutters using gutter joints. Apply sealant to the inside of the gutter joint, then put the gutters in place and fold over the lock tabs. Then drill out the gutter through the joint's pre-stamped holes and pop rivet them together.



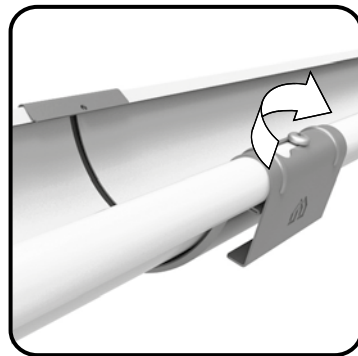
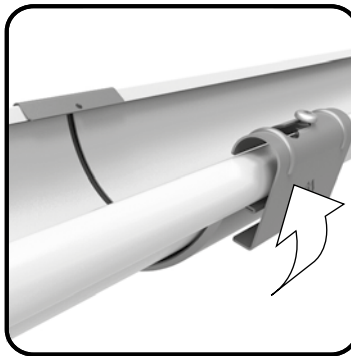
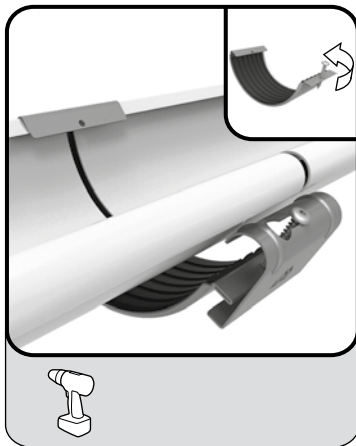
5c

GUTTERS

Joining ALUMINIUM gutters



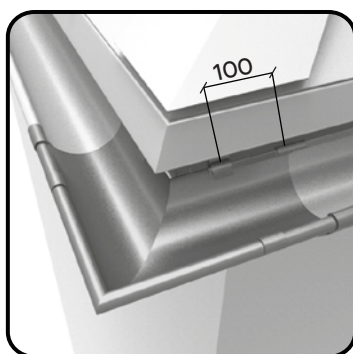
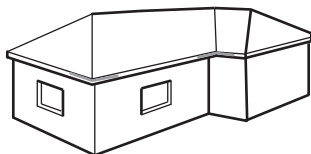
Cut gutters to the correct length with a hacksaw and hang them in the brackets with a clearance of around 7 mm. Undo the screw and hook the gutter joint around the back edge of the gutter. Install the lock fitting and hook it around the front of the gutter; next lock the joint by gently tightening until the joint fits tightly against the gutter.



6

GUTTER ANGLES

Gutter angles are available for inside and outside corners. They are installed in the same way as gutters. Note the location of the brackets.

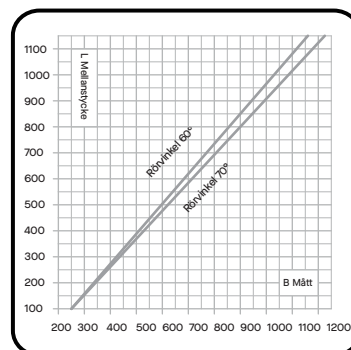
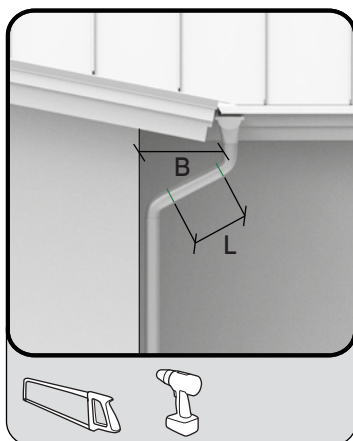


7

DOWNPIPES

Straight connectors and offset bends

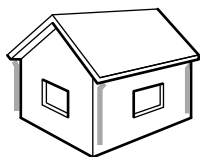
Use the graph below to calculate straight connector length. Note that dimensions are approximate.



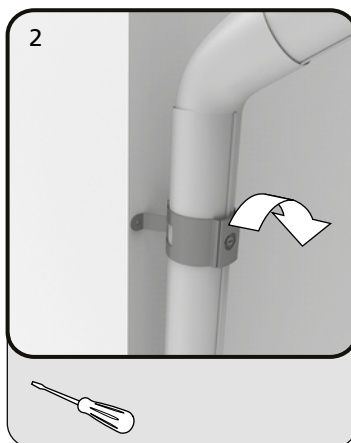
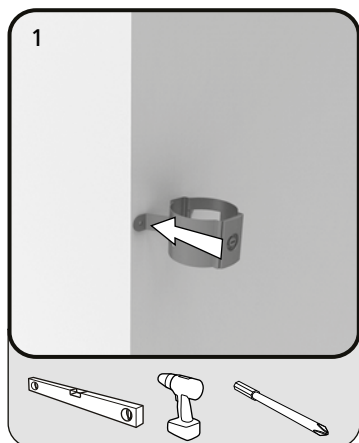
8a

DOWNPIPES

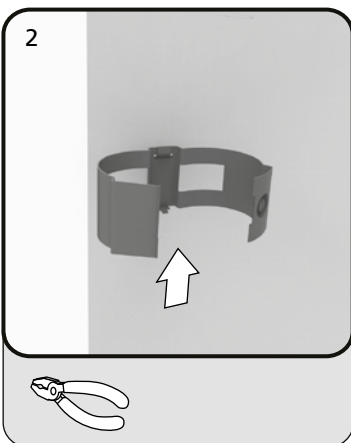
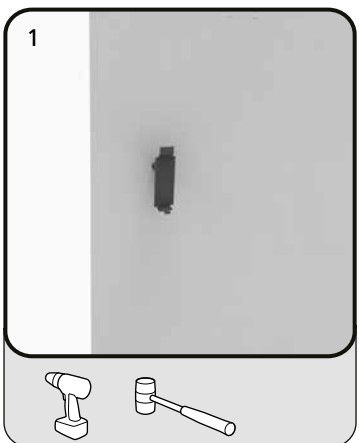
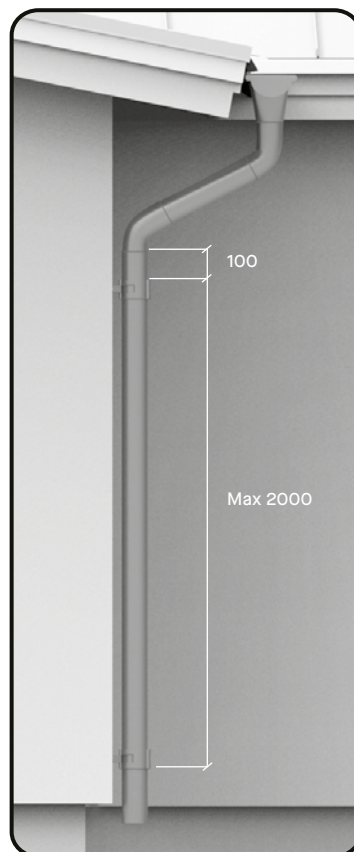
Excenter downpipe bracket and downpipe



Install the downpipe bracket 10 cm below the lower offset bend. Downpipe brackets are available for both stone and wooden walls. The spacing between the downpipe brackets may be max 2 meters; for long lengths and where there is a risk of ice formation, closer spacing may be necessary. Assemble the downpipe and components using pop rivets or screws and connect them to the hopper head. Check that the downpipe is straight and adjust the length as necessary. The downpipe has a longitudinal seam that must face away from the wall.



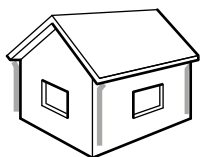
Screw brackets for wooden walls into the wall; use a bit extender and screw on the outside of the bracket. Pre-drill holes in stone and brick walls for the bracket pins. Drill into the mortar, not into the brick. Lock the downpipe bracket by bending the protruding pin on the lower edge of the pin plate. Fit the pipe into the bracket and lock it by turning the lock button a half turn clockwise with a screwdriver. To remove, open the bracket by turning the lock button anti-clockwise.



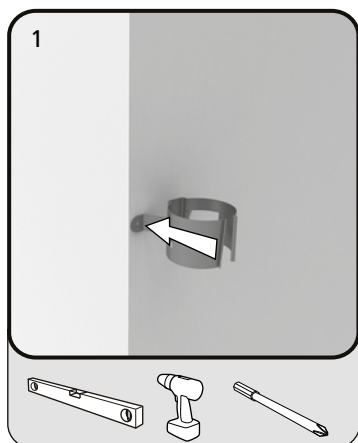
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DOWNPIPES

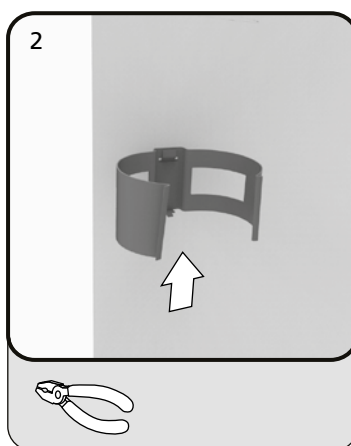
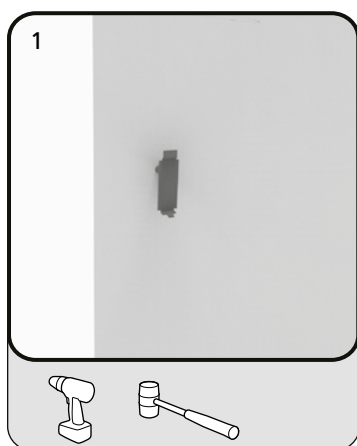
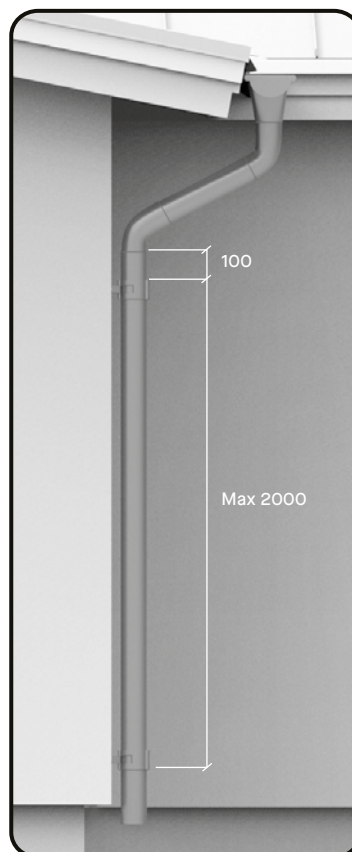
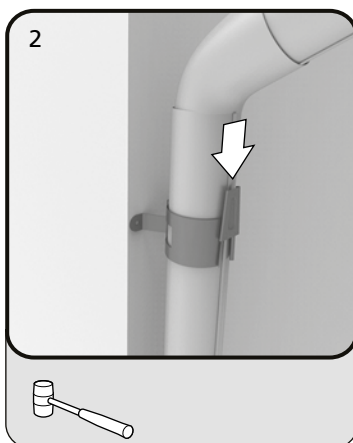
Downpipe bracket and downpipe



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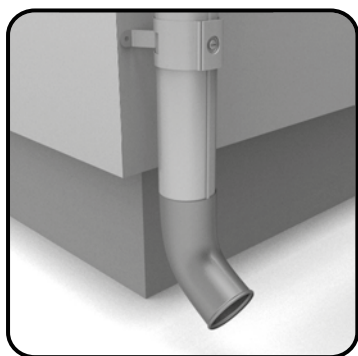
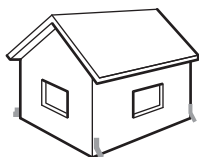


Screw brackets for wooden walls into the wall; use a bit extender and screw on the outside of the bracket. Pre-drill holes in stone walls for the bracket's pins. Drill into the mortar, not into the brick. Lock the downpipe bracket by bending the protruding pin on the lower edge of the pin plate. Fit the pipe into the bracket and lock it by tapping down the wedge.

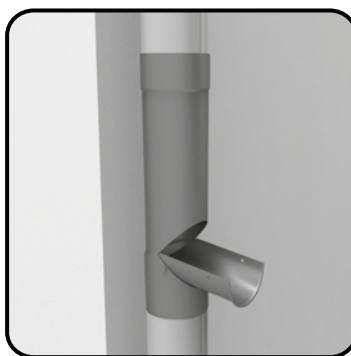


DOWNPIPES

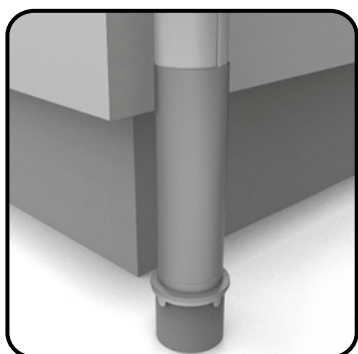
Outlets and surface water connections



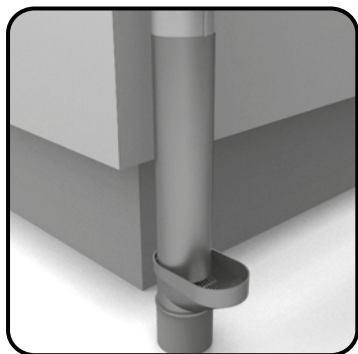
Diverter are installed when the downpipe is not connected to a surface water pipe. Fasten the outlet with screws or pop rivets.



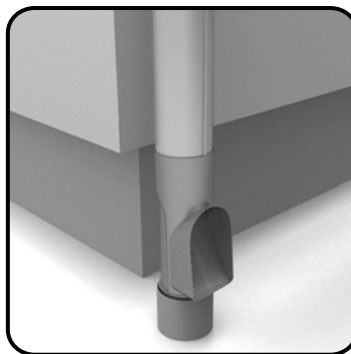
Foldable outlets are fitted to downpipes.



Install the straight outlet between the downpipe and the surface water drain. Can be supplemented with a strainer for street inlet; see illustration on right.



Install the leaf traps and connectors between the downpipe and the surface water drain. Reducers are available for different dimensions of surface water drainage pipes.



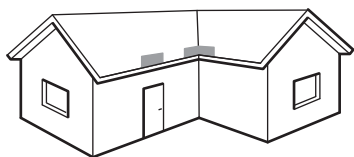
Self-cleaning leaf traps are installed directly between the downpipe and surface water drain. Reducers are available for different dimensions of surface water drainage pipes.



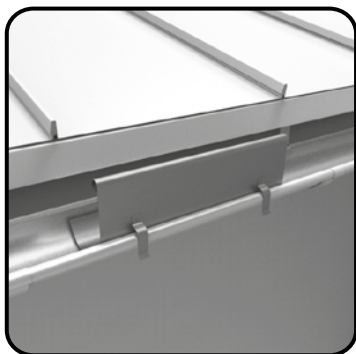
ACCESSORY PRODUCTS

Splash guards

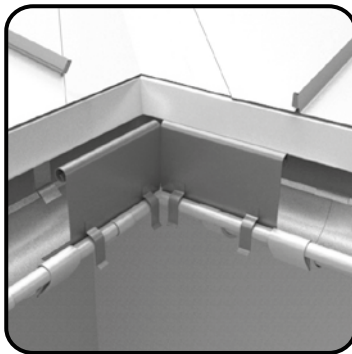
Splash guards prevent water splashing over the gutter. Available in straight and angled designs. Installed using pop rivets or screws.



Splash guard, straight



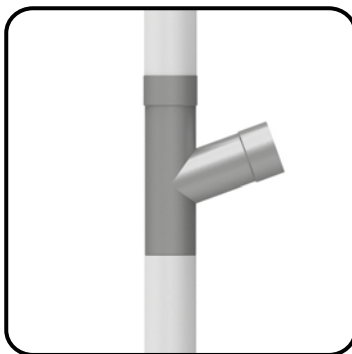
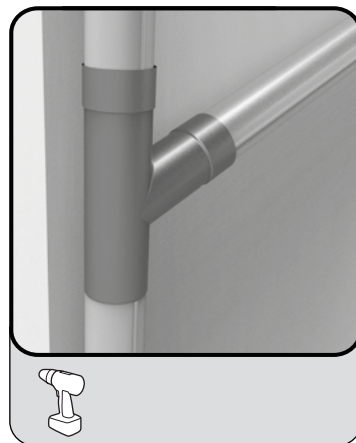
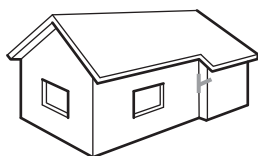
Splash guard, angled



ACCESSORY PRODUCTS

Angle T-joint

Angle T-joints are used for draining multiple roofs through the same downpipe. Installed using pop rivets or screws.





One Plannja telephone number is all you need: +46 10-516 10 00

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Järforsen, Box 143, SE 570 81 Järforsen SWEDEN. Tel +46 10 516 10 00.

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