

INSTALLATION MANUAL FOR PRODUCTS OF THE Q STALYO MIX-PRO SYSTEM

1. Tips before installation

- 1.1. The Q STALYO MIX-PRO system consists of Q STALYO PRO steel gutter sections, connected with rectangular downspouts (70x80mm) made of PVC.
- 1.2. In the gutter system, the slope of the gutter towards the front drip is achieved thanks to specially designed brackets.
- 1.3. Installation of the Q STALYO PRO gutter system should be performed prior to roofing.
- 1.4. Due to the symmetrical cross-section of the gutter, the recommended height of the fascia board is max. 17 cm.
- 1.5. The system should not be installed at temperatures below 5 °C.
- 1.6. Due to the stamped tips, the actual gutter length is 35 mm less than the nominal dimension.
- 1.7. All components of the system should be stored in original collective packaging until installation.
- 1.8. Components should be stored in a dry place. Plastic wrap should be removed from the gutters no later than 3 months after the date of purchase.
- 1.9. Gutters should be cut with a hacksaw or sheet metal shears - do not use any high-speed tools!
- 1.10. It is forbidden to use aggressive adhesives and/or acetic acid silicones. The manufacturer recommends using Soudal Colozinc adhesive to seal the joints.
- 1.11. Setting the gutters in line with the roof plane - the edge of the roof should be 2-3 cm above the outer gutter drip (**Fig. 1**).
- 1.12. In order to protect the gutter system against snow sliding down the roof, it is necessary to install snow retaining systems (snow fences, snow guards, etc.).

* When the hidden gutter brackets are used, gutters can be placed in brackets after roofing.

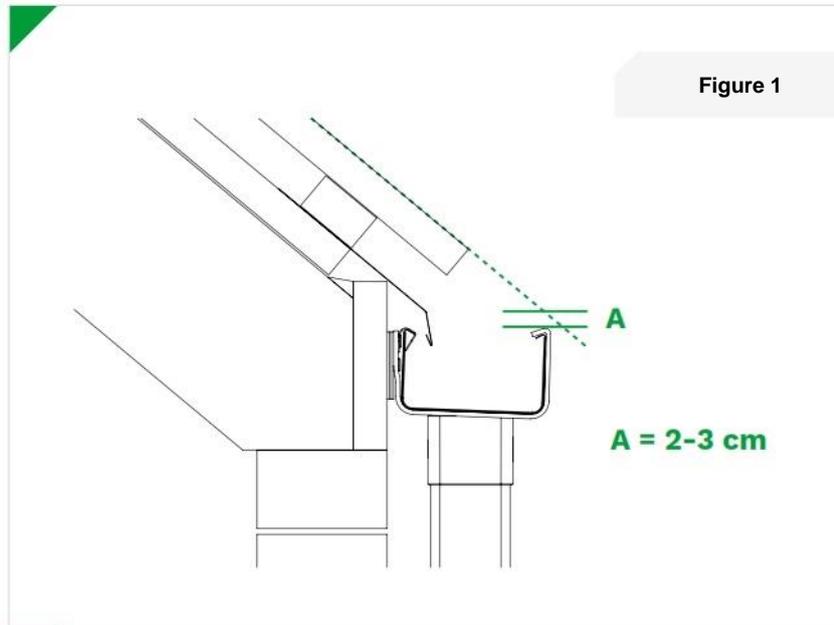


Figure 1

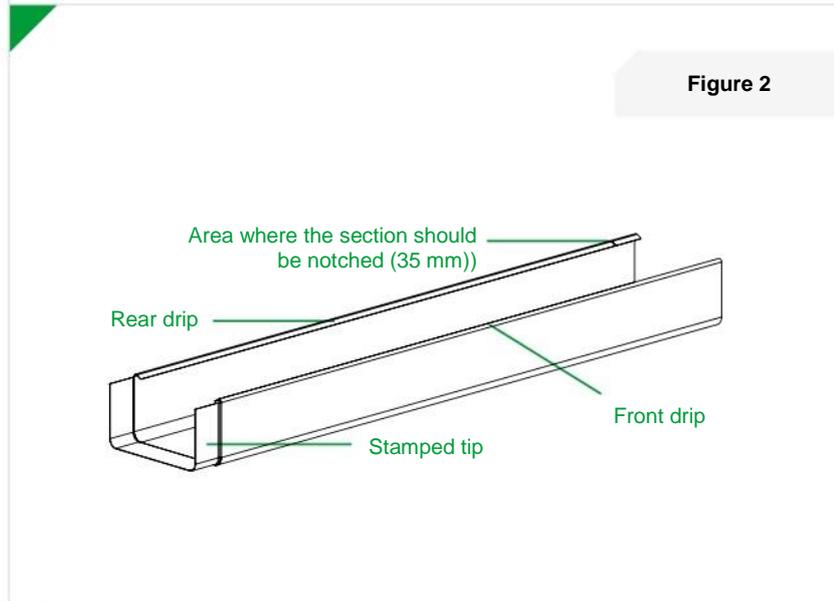


Figure 2



Q Stalyo gutters should be installed using the patented jointless system **Qnnect** - the 35 mm stamped tip at one end of each gutter enables the gutters to be joined by overlapping, using a sealing adhesive (**Fig. 2**).

* An expansion coupler should be used when the joined length of gutters is longer than **16 running meters**.

2. Gutter installation

- 2.1 When planning the rainwater outlet location, remember that it must be the lowest point of the entire gutter system.
- 2.2 The bracket spacing recommended by the manufacturer is max 55 cm. (**Fig. 3**).

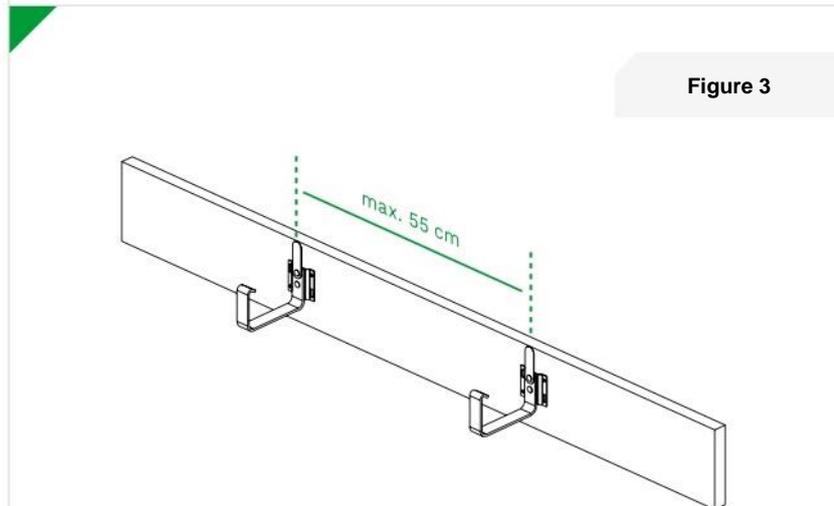


Figure 3

- 2.3 At the expansion coupler, the corner and the end cap, the adjacent brackets should be installed no further than 15 cm from the joint (Fig. 4).
- 2.4 The manufacturer recommends installing the brackets in the areas where the gutters joints are located (Fig. 5). Otherwise, the brackets should be installed no further than 15 cm from the glued joints (Fig. 6)
- 2.5 The recommended fall of the gutter towards the outlet is 2-3 mm for 1 running meter of the gutter (Fig. 7).

* Instead of flat gutter brackets, you can use Q STALYO PRO hidden gutter brackets (Fig. 8). It is not recommended to install the hidden gutter brackets at the gutter joint.

Figure 4

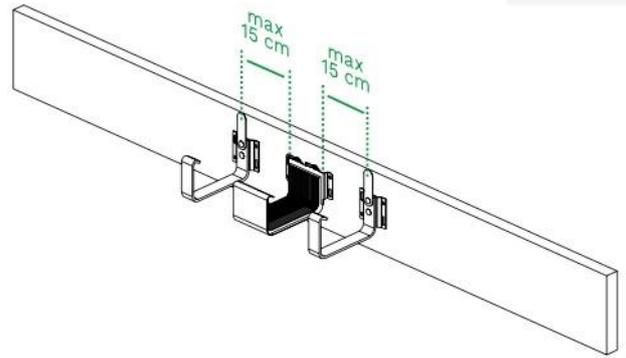


Figure 5

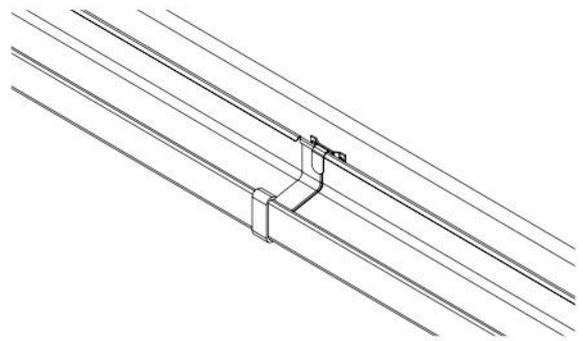


Figure 6

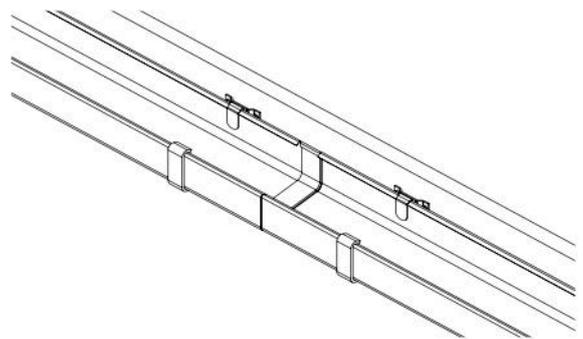


Figure 7

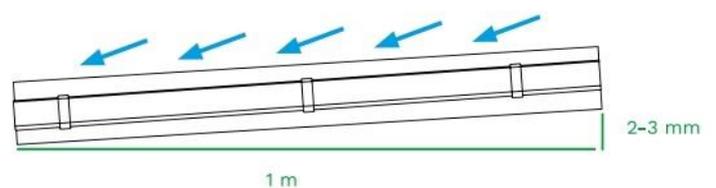
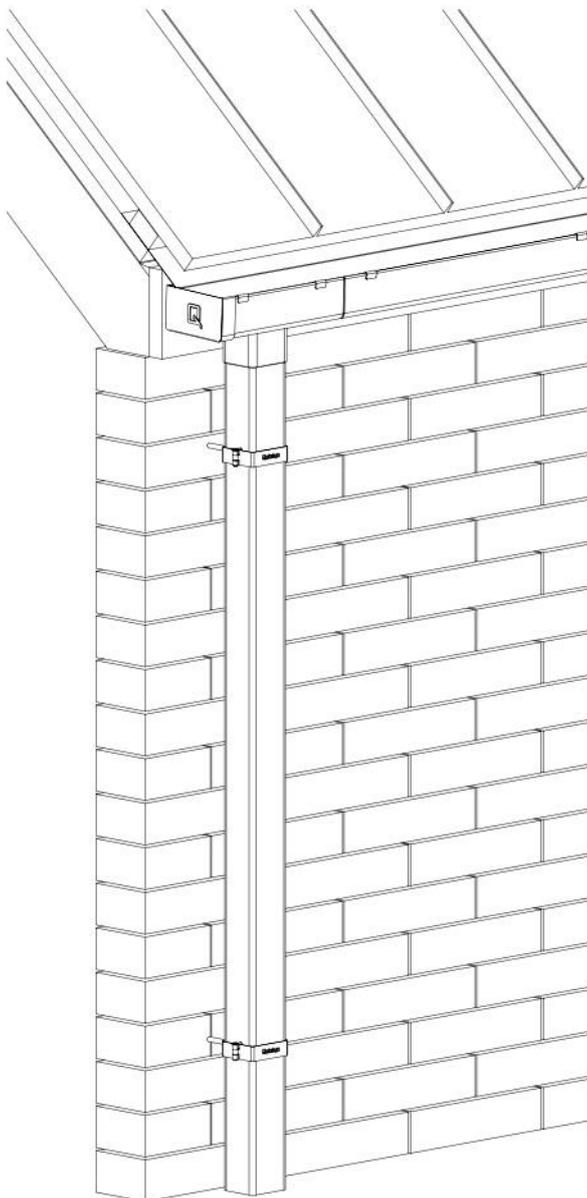


Figure 8



3. Qnnect gutter connection

3.1 Installation on standard gutter brackets and rafter brackets:

- a) Cut off the stamped tip from the first section of the gutter.
- b) Notch and bend the rear gutter drip where the joint is planned (35 mm from the end) (**Fig. 9**) and insert the gutter into the brackets.
- c) Cover the inside surface of the gutter with the sealing adhesive - about 1.5 cm from the end of the gutter (**Fig. 9**)
- d) Insert the second section of the gutter into the gutter installed in the brackets by placing its stamped tip first in the front and then in the rear gutter drip (**Fig. 10-11**).
- e) Bend the previously notched drip over the gutter wall.
- f) Secure the connection with sealing adhesive on the inside surface of the gutter.

Figure 9

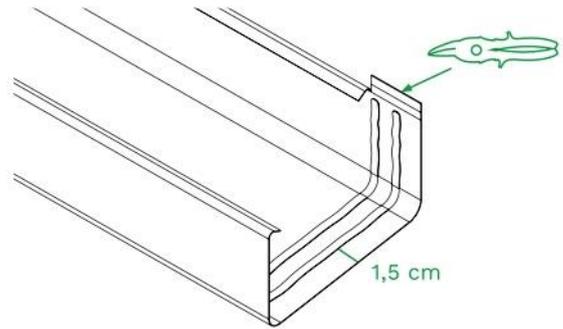


Figure 10

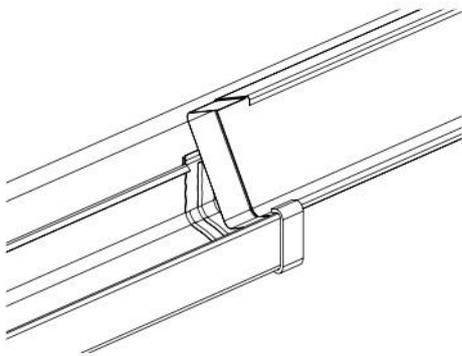
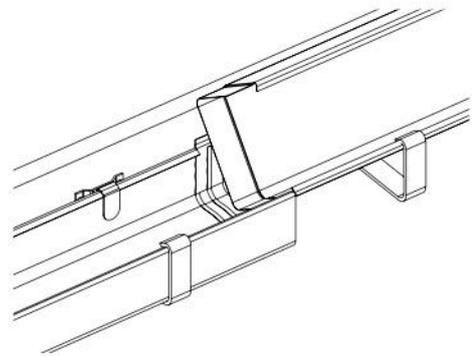


Figure 11



3.2 Alternative mounting - using the hidden gutter brackets:

- a) Cut off the stamped tip from the first section of the gutter.
- b) Insert the first gutter into the brackets (**Fig. 12**).
- c) Bend the front bracket strips so that they adjoin the outer drip of the gutter (**Fig. 13**).
- d) Bend the side strips over the arm of the bracket (**Fig. 14**).
- e) Use pliers to press down the bent side arms of the bracket (**Fig. 15**).
- f) Notch and bend the rear gutter drip at the point of the planned joint (35 mm from the end) (**Fig. 9**).
- g) Cover the inside surface of the gutter with the sealing adhesive - about 1.5 cm from the end of the gutter (**Fig. 9**).

Figure 12

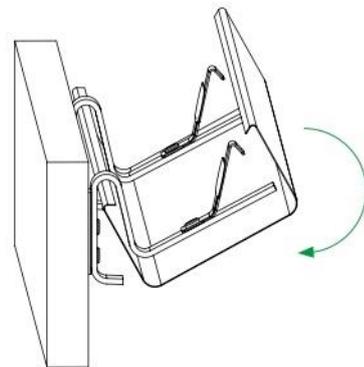


Figure 13

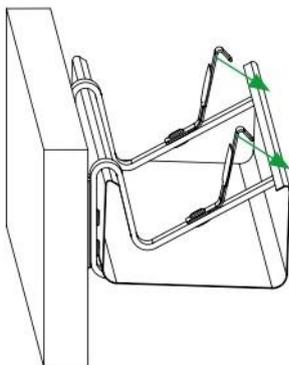


Figure 14

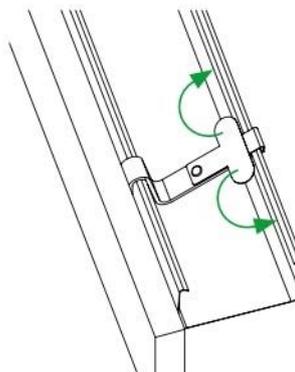
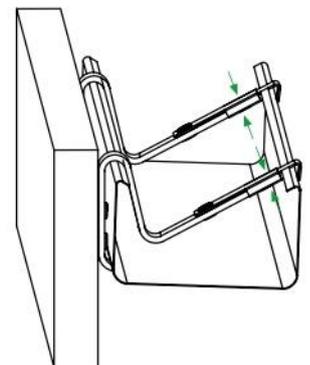


Figure 15



- h) Insert the second gutter into the brackets and slide its stamped tip into the first gutter (Fig. 16).
- i) Bend the notched gutter drip over the gutter wall.
- j) Seal the inner surface of the gutter with the sealing adhesive.
- k) Bend the brackets catches on the other gutter, as shown in Fig. 13-15.

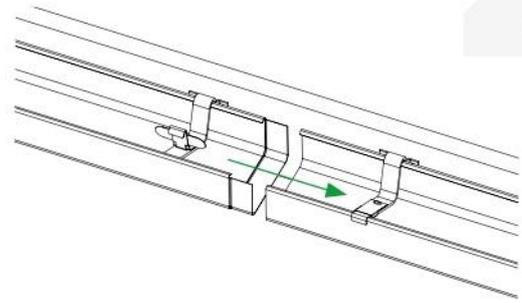


Figure 16

4. Installation of the expansion coupler

- 4.1. If the length of the gutter system exceeds 16 running meters, an expansion coupler should be installed.
Attention - the expansion coupler should not be used when the hidden brackets are used.
- 4.2. Bend the mounting strips of the expansion coupler to the vertical position.
- 4.3. The expansion coupler should be screwed to the fascia board higher than the adjacent brackets (the upper surface of the expansion coupler gasket should be approx. 1-2 mm above the gutter bottom surface) (Fig. 17).
- 4.4. Before mounting the gutters in the expansion coupler, spray the gasket with a lubricant (Fig. 18).
- 4.5. When joining the gutters with the expansion coupler, cut off the stamped tip of the gutter.
- 4.6. The gutters that are placed in the expansion coupler should be 5-10 mm apart.
- 4.7. Once the gutters are installed in the expansion coupler, bend the mounting strips over the back walls of the coupler.

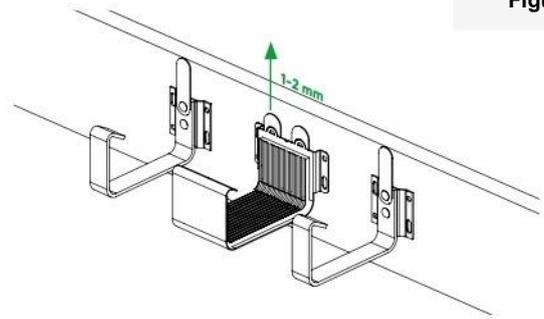


Figure 17

5. Corner installation

The universal corner (internal/external) is equipped with stamped tips, enabling installation with the Qnnect system using sealing adhesive. The universal corners must be assembled prior to roofing. Remember to cut off the gutter stamped tip before joining the gutter with the corner.

- 5.1. Place the brackets at a maximum distance of 15 cm from the corner (Fig. 19).
- 5.2. Place the gutters in the brackets (if the gutter has stamped tips, cut them off).
- 5.3. Make notches on the front and rear gutter drips, at a distance of 35 mm from the gutters ends. Straighten the drips (Fig. 20).
- 5.4. Apply the sealing adhesive to the gutter ends (1.5 cm from the gutter edge).
- 5.5. Slide the corner into the gutters (Fig. 21).
- 5.6. Bend the notched gutter drips over the corner walls (Fig. 22).
- 5.7. Seal the joint from the inside with the sealing adhesive, similarly as in the case of the gutter joint.

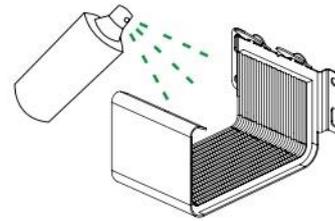


Figure 18

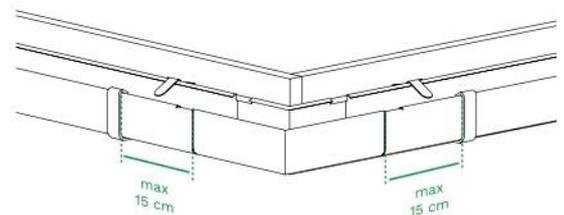


Figure 19

* When installing the system on hidden brackets with roofing installed, the corners should be connected with the gutters through the Qnnect system by sliding the gutter covered with the sealant into the corner stamped tip.

Figure 21

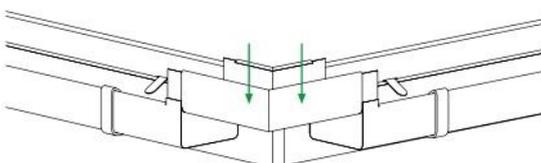
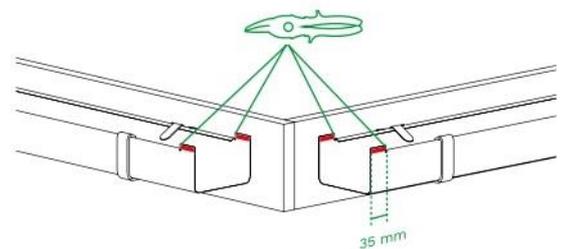


Figure 20



6. End cap installation

- 6.1. PVC end cap:
 - a) The maximum distance from the end cap to the bracket is 15 cm.
 - b) If the last gutter in the gutter line has a stamped tip, cut it off.
 - c) Cover the tip of the gutter with sealing adhesive on the inside surface.
 - d) Slide the end cap into the gutter.
 - e) Seal the joint with sealing adhesive on the inside surface.
 - f) Notch the gutter drips.
 - g) Bend the notched drips over the side walls of the cap (**Fig. 23**)
- 6.2. Optional installation - steel plug:
 - a) The maximum distance from the end cap to the bracket is 15 cm.
 - b) If the gutter has a stamped tip, cut it off.
 - c) Coat the internal surface of the cap with sealing adhesive.
 - d) Slide the end cap onto the gutter.
 - e) You can connect the end cap with the gutter using screws screwed into the mounting holes (**Fig. 24**)
 - f) Seal the joint with sealing adhesive on the inside surface.

7. Installation of the hidden outlet

The manufacturer recommends installation of the standard gutter brackets and rafter brackets in the places where the outlet is connected with the gutters. If this is not possible, the brackets should be located so that two of them support the outlet on both sides of the outlet pipe.

The MIX-PRO outlet has pressed tips and should be connected to the gutters according to the rules applied in the Qnnect system.

- 7.1. Notch and bend the rear gutter drip to the vertical position at the point where the joint is planned (35 mm from the end) (**Fig. 9**) and insert the gutter into the brackets.
- 7.2. Cover the inside surface of the gutter tips with the sealing adhesive - about 1.5 cm from the end of the gutter (**Fig. 9**)
- 7.3. Insert the outlet into the gutter attached to the brackets by placing its stamped section first in the front and then in the rear drip of the gutter (**Fig. 25**).
If the system is installed using the hidden brackets, once the outlet is installed in the brackets, slide the stamped tip of the outlet into the gutter covered with the adhesive (**see: Section 3.2.h**).
- 7.4. Bend the notched drip over the outlet wall.
- 7.5. Secure the joint from the inside with sealing adhesive.
- 7.6. If the roof is equipped with eaves, connect the outlet to the downspout using two elbows and a cut pipe.
- 7.7. If the roof is not equipped with eaves, connect the outlet to the downpipe using a coupler.
- 7.8. The manufacturer recommends reinforcing the outlet-coupler joint or the outlet-elbow joint, e.g. using adhesive.

8. Installation of the system downspouts

- 8.1. Fix a dowel in the façade. The length of the dowel should allow for the thickness of the building thermal insulation.
- 8.2. The highest clamp should be fixed directly under the uppermost elbow or coupler.
- 8.3. The recommended distance between the dowels is 150 cm (**Fig. 26**).
- 8.4. Screw the clamp screws in the dowels.
- 8.5. Put the downpipes in the clamps and connect them with a coupler in such a way as to provide an expansion joint of at least 2 cm.
- 8.6. Twist the clamps on the pipe in such a way as to allow for its thermal expansion.

Figure 22

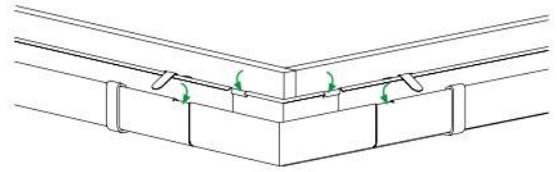


Figure 23

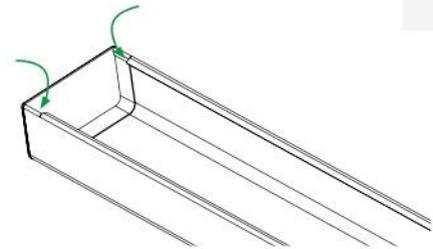


Figure 24

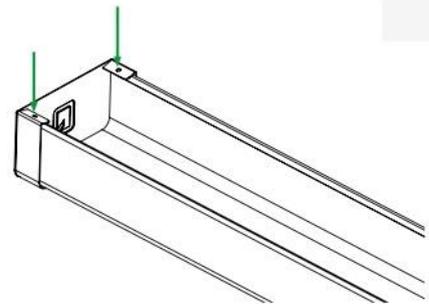


Figure 25

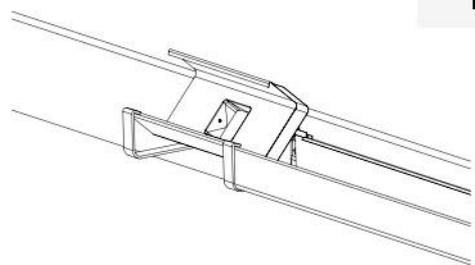
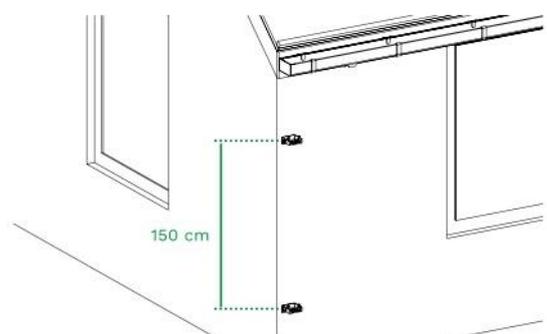


Figure 26



9. Drainage to the sewage system

- 9.1. Install a standard sedimentation tank in the ground, under the downspout. Connect its bottom outlet to a flexible elbow connected to the underground sewer pipe of 110 mm diameter.
- 9.2. Cut the marked hole with dimensions of 80x70 mm in the flap of the universal sedimentation tank.
- 9.3. Insert the downspout into the hole in the flap of the sedimentation tank.
- 9.4. If rainwater is to be drained to the ground, install the elbow on the end of the downspout. The minimum distance between the elbow and the ground is 20 cm.