

BL140 barriers

assembly and installation manual

Read this manual carefully before performance of work

The BL140 barrier is delivered partially assembled and is assembled by the customer from the following elements: finite posts, connecting posts, section elements, fixing pipes, screws, post caps, self-tapping anchors.

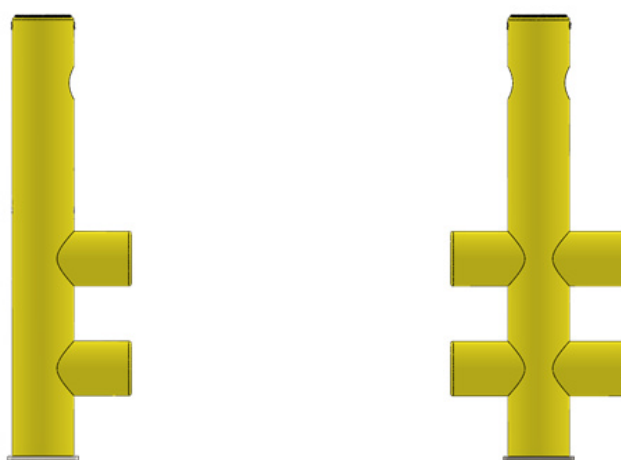


Figure 1. Finite and connecting posts



Figure 2. Section elements

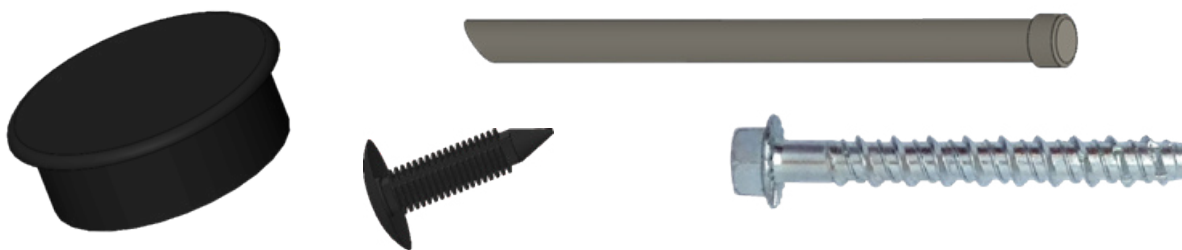


Figure 3. Auxiliary components of the barrier (list from left to right):
post cap, screw, fixing pipe, self-tapping anchor

The post caps and fixings are delivered loose, as access to the inside of the posts is required during assembly.

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The algorithm for assembling BL140 (01) barrier elements is as follows:

1. Insert the yellow and black section elements into the finite post (Fig. 4). The axes of the through circular 20 mm holes in the black pipe of the upper section element both here and later on must be placed vertically. The installation of the upper section element into the post must be carried out so that the circles of through 20 mm holes in the black pipe of the section are located tangentially to the inner surface of the pipe of the post (shown in Fig. 5). Attention must be paid to the fact that in the black pipe of the section from the side of the end that should enter inside the finite post, the distance from the end to the 20 mm diameter mounting hole is greater than from the side that enters inside the connecting post.

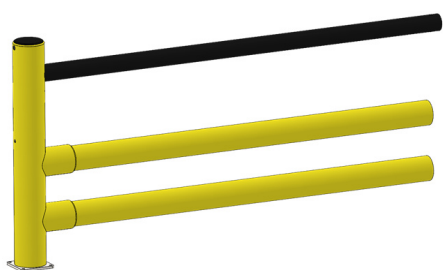


Figure 4. Installation of section elements into the finite post

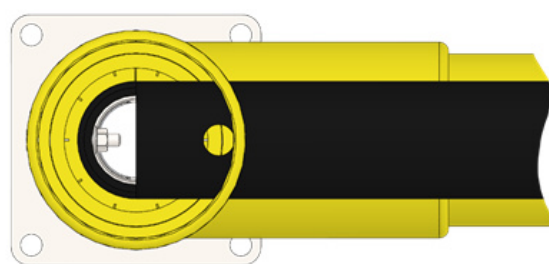


Figure 5. The proper arrangement of the end of the upper section element inside the finite post (top view)

Fix the upper section element inside the finite post with a fixing pipe through a 20 mm hole (Fig. 6).

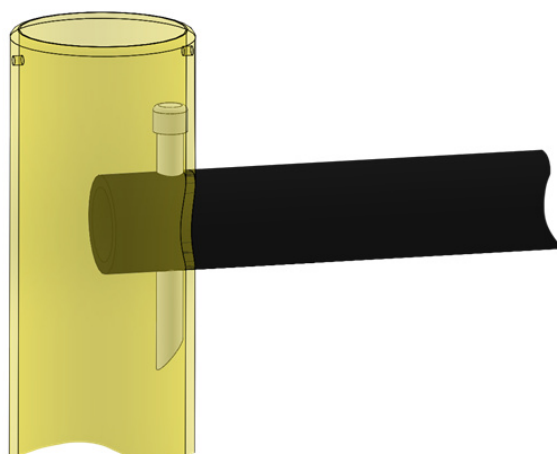


Figure 6. Fixation of the upper section element in the finite post.

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2. Insert the opposite sides of the section elements into the through holes of the connecting post. Provided that the contour of the 20 mm mounting hole is located tangentially to the inner wall of the pipe inside the post.

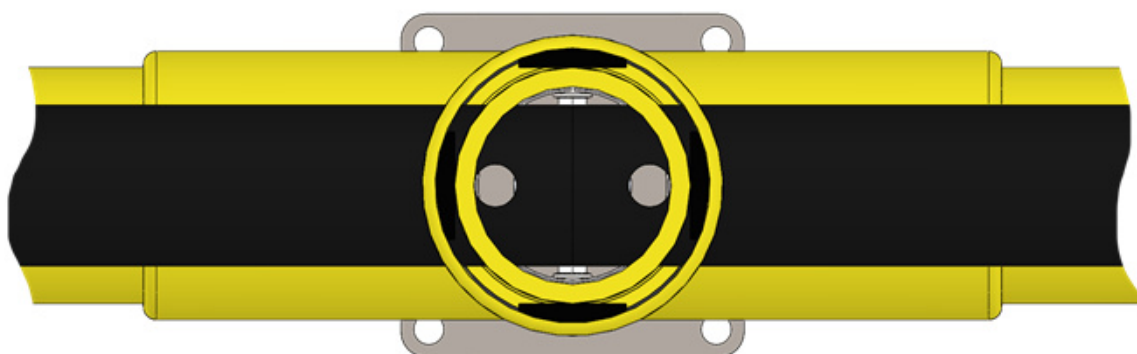


Figure 7. The proper arrangement of two adjacent sections inside connecting post (top view).

Insert the elements of the next section into the opposite holes of this post. In the case of the proper mutual arrangement of the elements of adjacent sections inside the connecting post, the view should be as in fig. 7.

Next, it is necessary to fix the upper elements of the adjacent sections inside the connecting post with two fixing pipes through 20 mm holes.

Paragraph No.2 should be repeated depending on the number of BL140 barrier sections in the area to be protected.

3. Assemble the closing section of the BL140 barrier in accordance with paragraph No.1. This section must be connected to the last connecting post in the manner described in paragraph No.2.

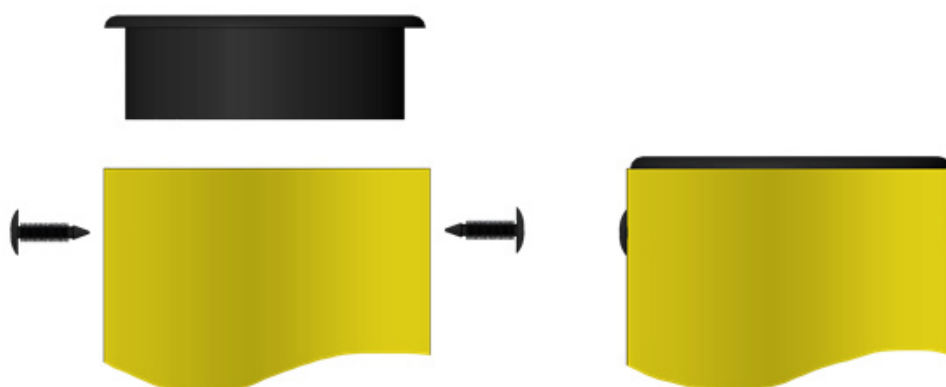


Figure 8. Installation and fixation of post caps



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4. Cover the tops of the posts with caps. After installing the caps, they must be fixed with screws (2 screws per cap). For this reason, drill 7 mm holes with a drill in the plane of the barrier symmetry in the post at a distance of 20-25 mm from the top of the yellow pipe of the post, and hammer the screws into them (the axes of these holes must be oriented in the same direction as the section elements, see Fig. 8).

Installation of caps can be carried out both at the intermediate and at the final stage of the barrier assembling.

5. After assembly, the barrier must be fixed to the foundation with self-tapping anchors, which are supplied as component parts. To mark the holes, it is recommended to use the holes in the metal supports of the barrier as templates. After marking, before drilling the floor of the foundation, put the supports aside. Drilling should be performed with a 10 mm drill bit to a depth of at least 100 mm (Fig. 8.1). If larger diameter drill bits are used, the anchor will lose its efficiency during the barrier service. Drilling products must be removed from the holes in the foundation (Fig. 8.2). Install the barrier posts in loco and tighten the anchors. The properly installed self-tapping anchor will screw in tightly, so it is recommended to use an impact wrench with a flexible shaft (Fig. 8.3 and 8.4). The impact wrench for screwing the self-tapping anchors which are supplied as component parts must provide a torque of 950 Nm and higher.

After the installation of the first post, the second and next posts must be installed by tensioning (pulling the upper part of the post) to ensure maximum rigidity of the sections.

If a **BL140** barrier with such a large number of sections is used to protect the area that it is difficult to install it after the complete assembly of the product, it is necessary to fix the posts on the foundation at intermediate stages of assembly. In any case, it should be taken into account that the long length of the multi-section barrier will lead to the errors accumulation in the geometrical arrangement of the section elements, due to which the actual length of protection may deviate from the value specified in the project. Therefore, to ensure the possibility of the best positioning of the barrier in relation to the objects to be protected, it is necessary to install the product after its assembly when applicable.

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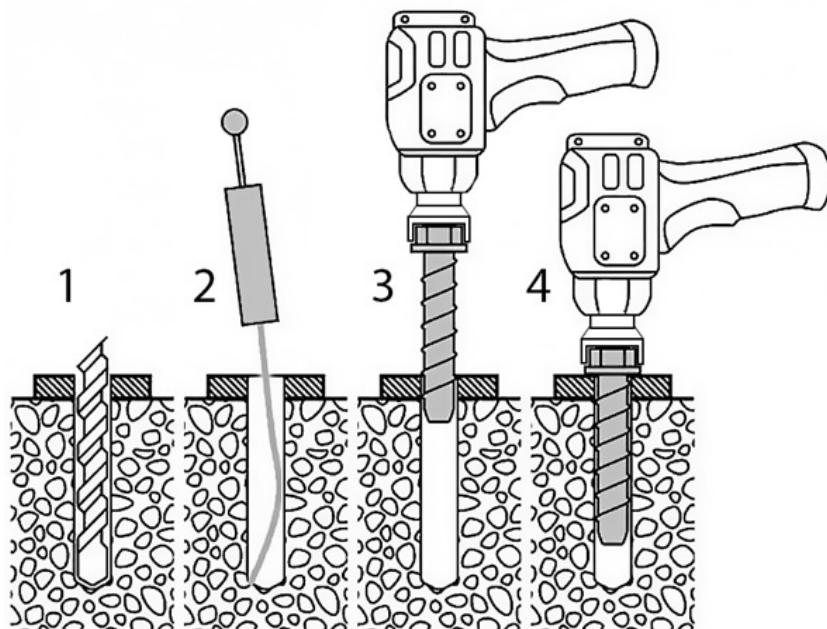


Figure 8. Barrier fixing

The single-section BL140 barrier is assembled in the same manner. To assemble it, you need to fulfill paragraphs No.1, 4 and 5.

To ensure the top efficiency of flexible protection with BL140 barriers, they must be installed with the interval between the posts and the protected objects not less than 120-140mm.