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INSTRUCTION MANUAL

Discus netting barrier

DP-S0452

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PRODUCT SUPPORT
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Thank you for choosing POLANIK discus netting barrier type DP-S0452

Safe assembly and use

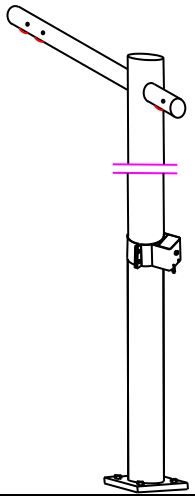
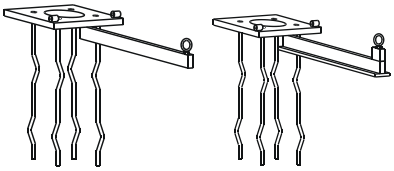
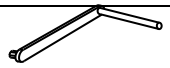
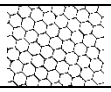
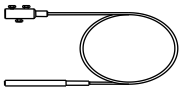
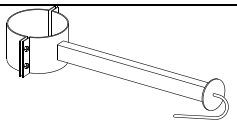
- Before you start to assemble and use the product please read this manual carefully. Polanik Sp. z o. o. shall not be liable for any damages which are the result of the failure to follow this manual.
- Unauthorized copying of this manual, in whole or in part, is prohibited.
- The contents of this manual are subject to change without notice.
- WARNING! The sports equipment produced by Polanik Sp. z o. o. is designed for athletics training and use in sports competitions only. Please pay special attention especially when using throwing implements and other throwing equipment, misuse of athletics equipment and implements can cause serious injury or in extreme cases even death. That is why training and use during sports events have to be always supervised by authorized sports personnel. In no event shall Polanik Sp. z o. o. be liable for any special, incidental, indirect or consequential damages in connection with the purchase or use of POLANIK products or costs over the original cost of the product.
- **Specific warranty terms**:
  1. Discus netting barrier (DP-S0452) is designed to protect the spectators against the discus, which is throwed by the competitors on the throwing field. The execution of that task brings a risk of damages to the construction elements (for example the pillars), as a crumple zone of an automobile is damaged to absorb energy from the impact during an accident to save passengers. The damages caused by the proper discus netting barrier operation, which is stopping improperly thrown discuses and absorbing the impact energy are recognized as a normal wear of the product and are excluded from the warranty. The damages can be removed in course of payable repair or replacement of the discus netting barrier elements.

I. Characteristics of DP-S0452

Discus netting barier is a modern construction made of high quality materials. Main characteristic features of the cage are as follows:

1. Innovative construction:
   - Net is hung in such a way that it does not touch the aluminium structure in any point.
   - The pillars are not linked with each other by means of inflexible elements, that is why they work independently.
   - Application of anchors (instead of popular sockets) eliminates rusting caused by water penetration in the lower parts of the construction and makes easier pillars installation.
2. High durability:
   - Construction is made of aluminium which is anodized in silver colour.
   - All tube ends are protected with plastic caps. They stop water from getting inside the construction and provide good finish and appearance.
   - Steel elements are hot galvanized or electro-galvanized. All ratchet mechanism casings are additionally coated with powder paint.
3. High quality:
   - Discus netting barrier is equipped with high quality, certified net. Net is strained and fastened at the bottom by means of steel cable and hooks.
4. Easy operating:
   - Discus netting barrier can be assembled and disassembled without using a crane or an extension arm. Assembly (or disassembly) takes approximately 3 hours done by 3÷4 people.
   - Each pillar is equipped with the self-blocking mechanism of lifting and lowering the net by means of crank.

II. Parts (part sets) list

Item	Part/set description	Q-ty Pcs.	Material	Draw. no.	Part/set sketch
1	Pillar (length approx.7 m)	14	Anodized aluminium and electro-galvanized steel		
2	Anchors (12 pcs.) + extreme anchor (with reinforced arm - 2 pcs.) + screw M 20x50 (36 pcs) + washer 20 (36 pcs) + screw with eyelet M 10x40 (7 pcs)	12+2	Electro-galvanized steel		
3	Hinge axle ∅ 11 x 350	1	Electro-galvanized steel		
4	Crank	2	Electro-galvanized steel		
5	Net with rim white rope	1	Polypropylene		
6	Bottom net tension cable +nut M 16 (1 pc) + washer 16 (1 pc)	1	Electro-galvanized steel		
7	Net hooks	100	Electro-galvanized steel		
8	Side arm + screw M 8x25 (16 pcs) + nut M 8 (16 pcs) + washer 8 (16 pcs)	4	Electro-galvanized steel, powder painted		
9	Horizontal stay rope length approx. 1,6 m	14			

III. General assembly description.

We ship the discus netting barrier to a customer in partially assembled units. Extension arm with rollers and ratchet mechanism is already installed in each cage pillar (item 1). The product construction consists of 12 pillars 7 m high (item 1). Pillars are fastened to anchors (item 2), which are embedded in concrete according to the plan of the foundation blocks – drawing no. 3. Installed pillars constitute the main structure of the cage which is ready for affixing the net and hoisting it.

IV. Anchors – placing in concrete

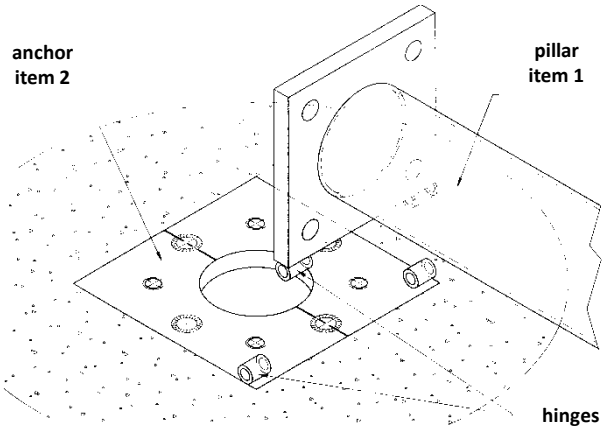
Attention! All anchors (item 2, drawing no. 1, 2, 3) must be embedded in the foundation blocks in such a way that their upper surfaces are exactly horizontal, then pillars will be precisely in vertical position. During the embedding process please make sure that the screws situated in the upper plates of the anchors (item 2, drawing no. 1, 2 i 3) are fully screwed down and their threads are well protected by rubber sleeves. If concrete plasters the threads of the screws it will be impossible to install the pillars. The extreme anchors (item 2, drawing no. 1, image 1) have got special reinforced arms for installing the bottom net tension cable (item 6). All supplied anchors are ready for embedding (screws are fully screwed down and their threads coated with rubber sleeves).

ATTENTION! It's essential to use the B20 class concrete or higher class concrete to make the anchors emdedded. After installing each of the anchors in the concrete it's absolutely necessary to blend the concrete to prevent making empty spaces between concrete and anchor's bar. During concrete congealing the foundation of the anchors require intensiva moisturing (during first week twice per day, during second week – once per day). It's necessary to wait at least 3 weeks before getting started installing the pillars and assemblig other elements of the discus netting barier construction.

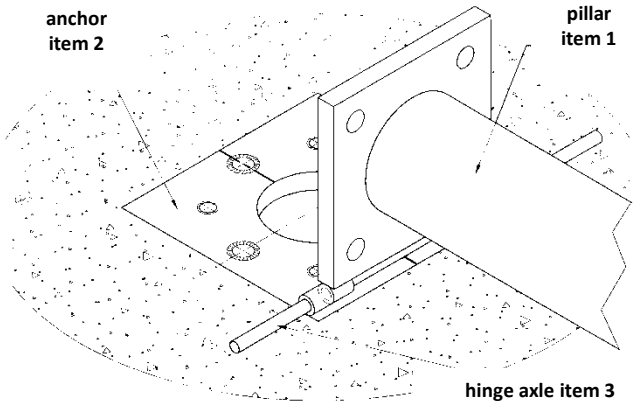
V. Pillars installation

WARNING: failure to follow the sequence of these assembly operations could result in serious accident or damages to the cage construction.

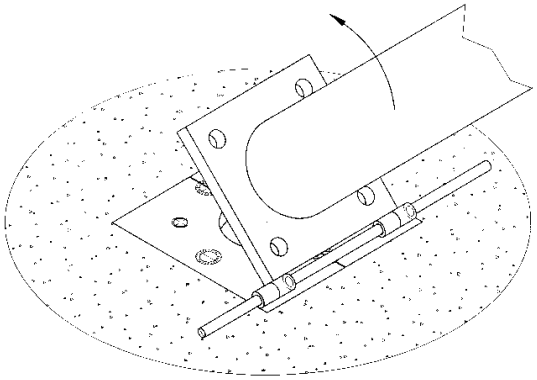
The installation of pillars (item 1) on anchors (item 2) is done in the following way: we unpack delivered pillars, then we remove blocking screws (M 8x16) from the ratchet mechanisms and loosen steel lines, next the lines should be unwound a little and their ends ought to be temporarily fastened to pillars at the level of ratchet mechanisms (drawing no. 1), after that pillars should be installed one by one according to the sequence shown on the next page. Before you put the pillars that are linked to the extreme anchors (item 2, drawing no. 3 and 5, image 1) in their upright position, side arms (item 8) should be fastened to them. Two side arms (item 8) must be installed on each extreme pillar, one side arm at the height of approx. 2,2 m and the other one at the height of approx. 4. The heights are marked on each extreme pillar with blue label bands.



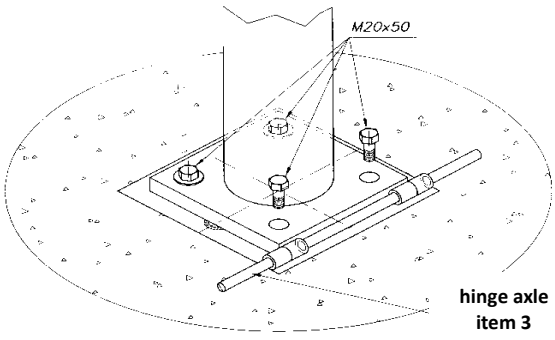
Stage one
Position the pillar in the anchor hinges.



Stage two
Slide hinge axle (item 3) into the anchor hinges.



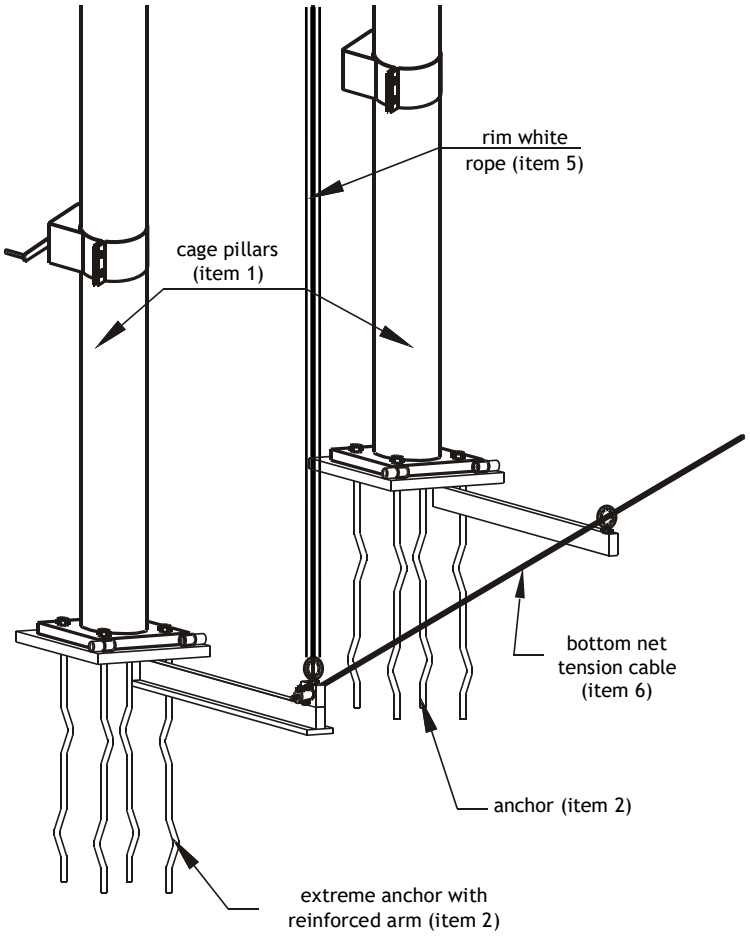
Stage three
Lift the pillar to vertical position.



Stage four
While one man is supporting the pillar in upright position, the other person is screwing it to the anchor in the following sequence:
a) screw down two screws (M 20 x 50) opposite the anchor hinges,
b) then screw down two remaining screws (M 20 x 50) next to the anchor hinges,
c) remove hinge axle (item 3).

VI. Net hoisting

The installed pillars constitute the main construction which is ready for installing and hoisting the net. Firstly bottom net tension cable (item 6) ought to be threaded through the eyelets which are located in the arms of anchors (item 2), see the diagram below. Cable regulating screw will help us to strain it.



When we complete these preliminary works, the net should be laid along to the discus netting barrier line. Then we begin with attaching it to the steel ropes of the pillars by means of special catches. One end of each steel rope is fixed permanently to the bobbin of the ratchet mechanism and the other one, which has been temporarily fastened to the pillar, should be now untied and attached to the net. That operation is repeated at each of 14 pillar. After linking the net with steel lines of the pillars, we can hoist the net. The lifting of the net should be executed successively by approx. 2 m at each pillar and ought to be continued up to the maximum height except the extreme pillars, at which a space of approximately 20 cm before the maximum height must be left. **Do not lift the steel ropes of the pillars without the net – it may not be possible to lower them without the appropriate load.**

Next we put the net edge under the bottom net tension cable (item 6), strain the net and fix its edge to the meshes with supplied net hooks (item 7).

Then we lift the net at the extreme pillars all the way to the maximum height using the crank mechanism. Now the side edges of the hoisted net have to be tightened. In order to do that, we put the ends of the rim white rope (item 5) through the eyelets of extreme anchors (item 2). The ends of the rope should be strained and tied up. After that we hook the rim net rope on the side arms (item8) that have been installed earlier. **That way the net surface will not touch the aluminium elements of the construction in any point - it is extremely important for correct impact absorption and pillars' life.**

In order to provide proper net position (during strong winds the net may deflect from the required projection like a sail) horizontal stay ropes 1,6 m long (item 9) are supplied. The net is tied to each pillar (except for the extreme pillars) at 2m from the ground. **Please make sure that the rope loops around the pillars are loose enough to provide easy sliding. That allows you to lower the net smoothly to its idle position – max. 1/3 of its height, which is recommended for breaks in competitions or training periods, and especially during strong winds.**

VII. Final adjusting

The ratchet mechanisms of the pillars should be blocked with screws (M 8 x 20) or padlocks. That secures the net against accidental loosening. The discus netting barrier is ready for use provided that the above operation is completed.

VIII. Maintenance and periodical inspection

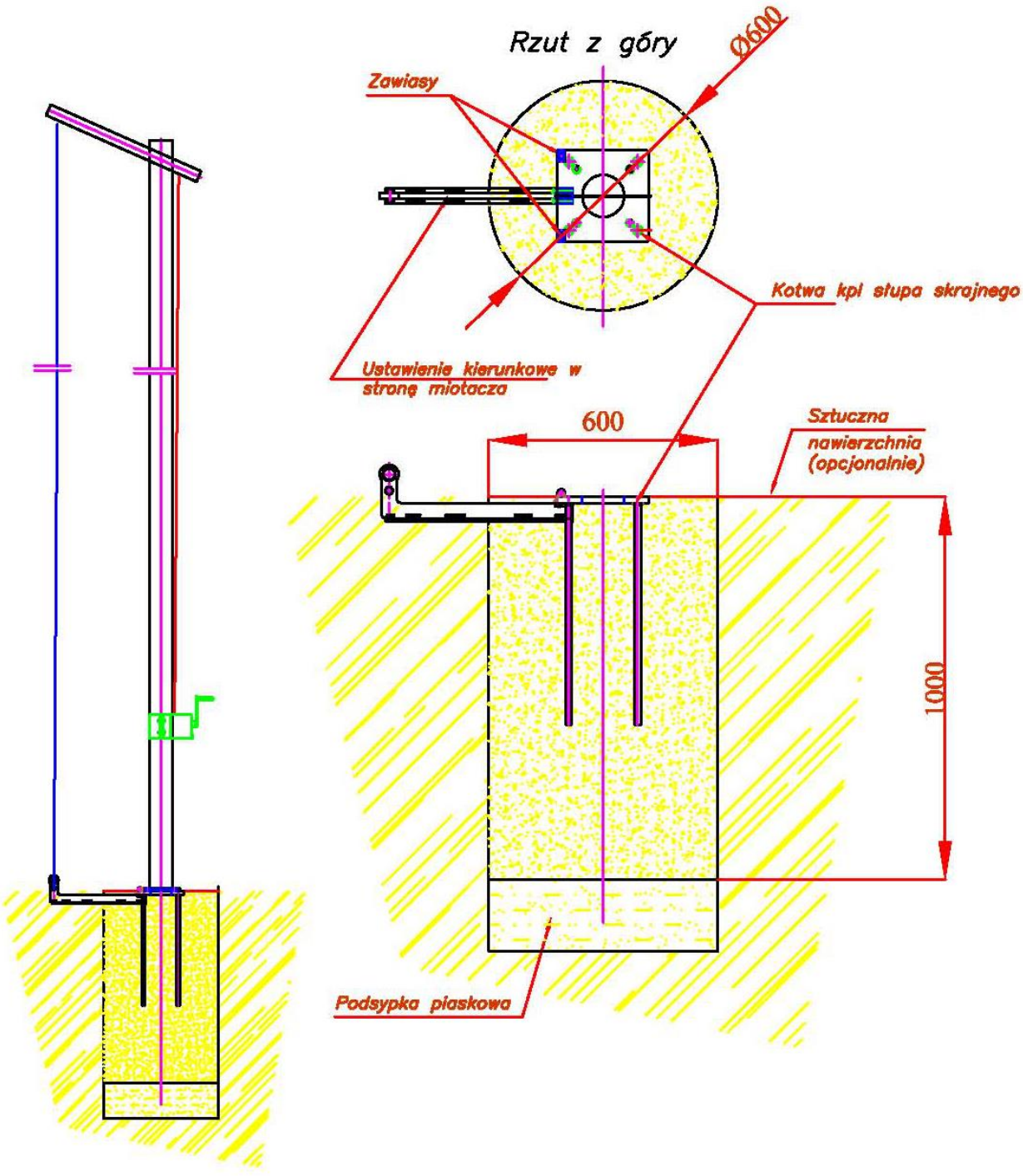
As the producer we have done our best to make the discus netting barrier guarantee maximum safety level, be easily operated and reliable in use. However this product like any other pieces of sports equipment requires periodical inspections and must be used according to the instruction manual and operated by authorized personnel.

To keep the cage in good condition, the following maintenance operations and periodical inspections should be executed after every athletic season:

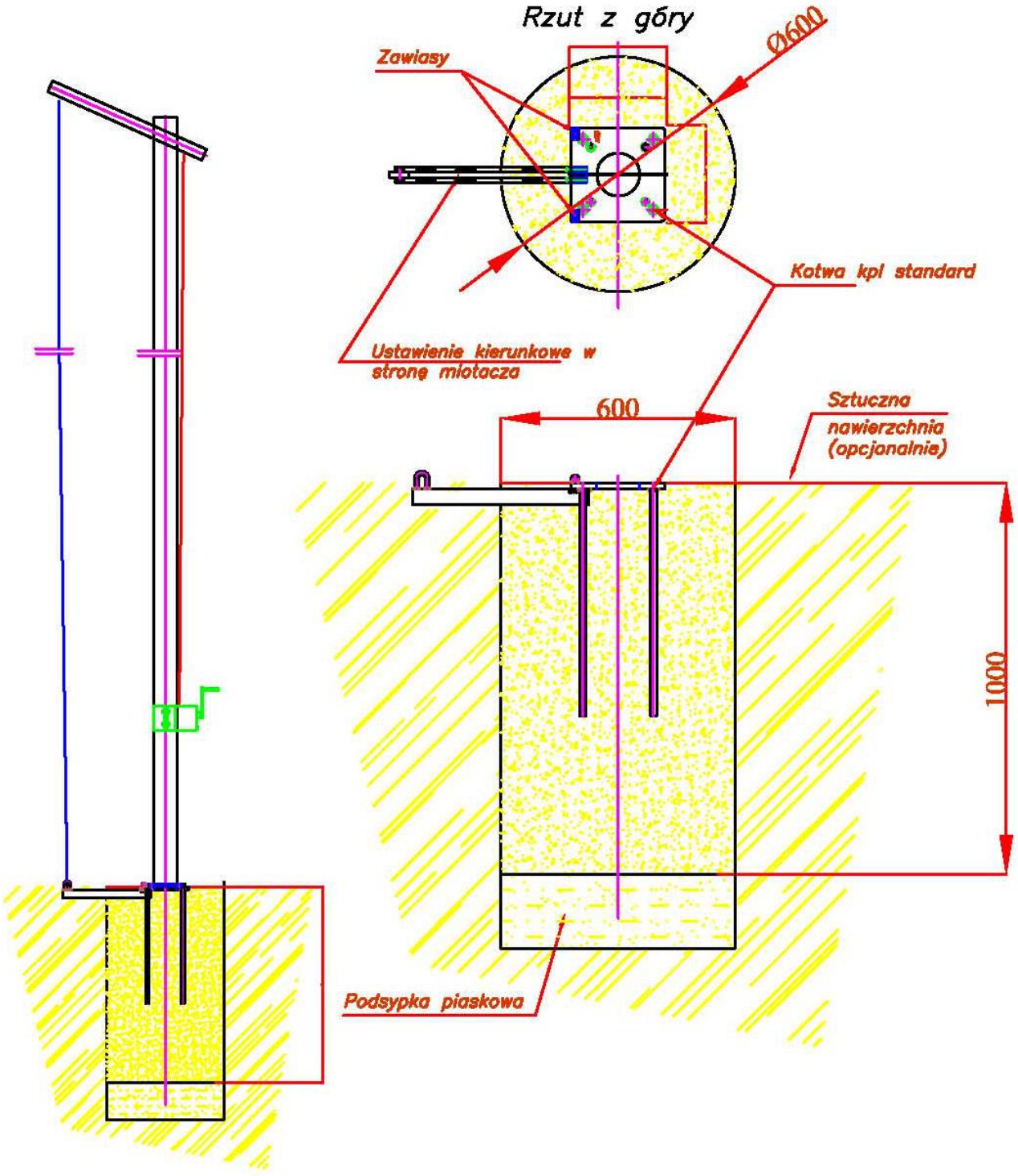
- Check the tensile strength of the net (use the samples) according to the IAAF instructions.
- Clean and grease the steel lines of the cage pillars.
- Remove the cranks. Keep them in safe place for future use.
- Fold the net provided it is dry and tie it. Keep it in safe place.

- The steel lines should be always secured and strained when the net is taken off. It prevents the steel lines from hitting the anodized aluminium surfaces of the pillars.
- **Do not lift the steel lines of the pillars without the net – it may not be possible to lower them if they are not loaded.**
- **During idle periods the net must be absolutely lowered. Lift the net only for using.**
- **In case of strong winds, during which competition throwing events (see the IAAF rules) and training meetings cannot be conducted, the net must be absolutely lowered.**

Even the best technical solutions cannot substitute for common sense. Hammer and discus throwing should be taken place under the supervision of qualified trainers. The producer shall not be liable for any incidents caused by improper product assembly or its misuse.

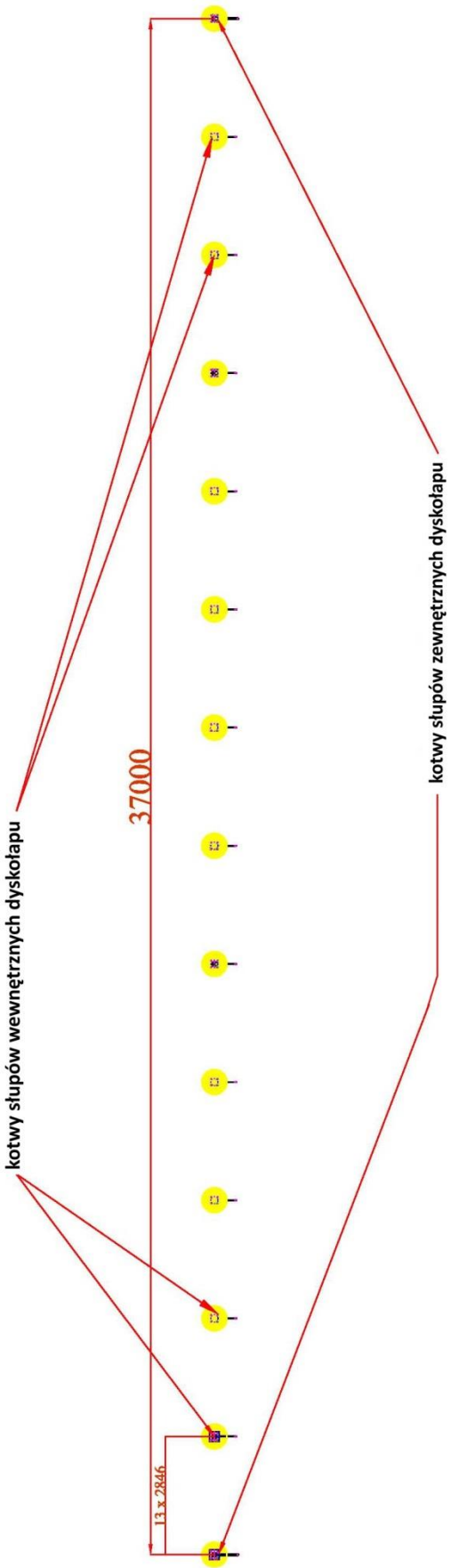


Drawing no. 1
Foundation of the external pillars



Drawing no. 2

Foundation of the internal pillars



Drawing no. 3
Plan of the foundation blocks for discus netting barrier

Extreme anchor with reinforced arm (2 pcs)
Image 1

Internal pillars anchor (7 pcs)
Image 2