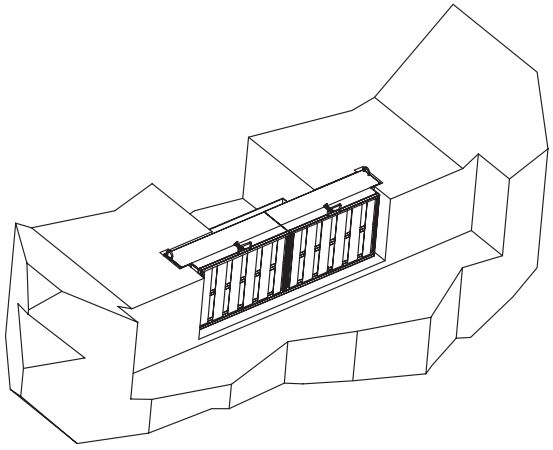
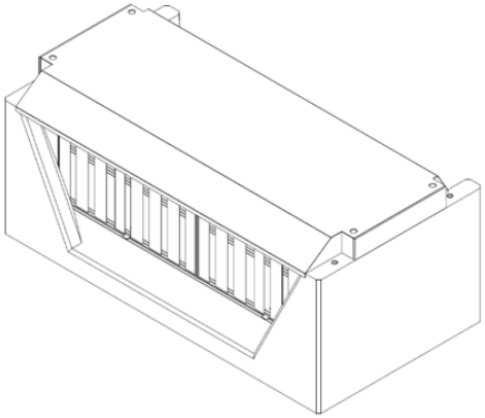
PURECO
THE PURE ECO

ENVIA® TRP AND ENVIA® BOX

DRFIT-TRAP AND LIGHT LIQUID SEPARATOR EQUIPMENT INSTALLABLE IN OPEN-SURFACE WATER-COURSES AND DITCHES

GENERAL INSTALLATION INSTRUCTIONS





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1. Work pit (ENVIA® TRP equipment)

A workpit with a square footprint must be made, by a slope or by strutting, depending on soil stability. Taking into consideration the stability and the supporting solutions of the workpit, the purpose is to make the smallest possible workpit necessary for receiving the prefabricated reinforced concrete receiver unit, in order to ensure that the axis of the crane's erection point (king axis) should not be too far from the installation axis, but still it should not jeopardize safe working.

If, according to the soil mechanical expert's opinion, the ground is hard enough, the lower part of the workpit can have vertical sides, and it is enough to make a slope only at the upper part.

The size of the workpit (sole dimensions): the outer contour dimensions of the receiver reinforced concrete unit + about 60 cm at each side to allow for lifting the equipment in, and for compacting.

The construction works of the workpit itself, as well as the works performed inside the workpit must be in compliance with the relevant health and safety provisions.

The points at which the crane supports itself on the ground shall be outside the breaking area around the workpit; if it is not possible, the workpit must be supported; the extra loads must be taken into account when establishing the dimensions of the supports (without anchoring or strutting, the workpit must not be loaded by the crane within the breaking area).

Depth of workpit: the installation depth of the receiver reinforced concrete unit plus the thickness of the layer of the receiver level.

The construction of the receiver level depends also on the soil-mechanical properties of the installation site; care must be taken to make proper foundation, taking into consideration the water pressure swelling in front of the equipment.

The receiver reinforced concrete unit sits onto the top of a concrete wall that closes down the drift-trap box being in front of the equipment, therefore the closing wall must be made to be able to bear loads to the required depth.

It is not allowed to place the receiver reinforced concrete unit directly into the workpit (onto the natural soil); if the workpit is excavated before the installation works take place, it must be covered if possible (to protect it against storm waters); it must be cordoned off in accordance with the specifications, as well as it must be illuminated under special installation circumstances (busy traffic).

The workpit must be protected against spontaneous waters coming from the upstream side during construction; such waters must be led away by-passing the workpit.

Should the completed soling get contaminated (falling earth, slurry, snow, etc.), it must be cleaned before the receiver reinforced concrete units are installed to avoid unwanted sinking in the future.

If it is necessary to remove water, we recommend the following method (if the water removal is possible through open water keeping): an enlarged workpit with a sump necessary for pumping.

In the case of open water keeping, care must be taken continuously to avoid hydraulic soil breakages, with special view to dynamic exposures during crane-use.

When the soil is susceptible to collapsing or breaking, either a closed row of planks or a sheet wall piling must be applied for strutting the workpit.

When the groundwater level is too high, or when an open water keeping is not applicable, the water must be removed from the soil by vacuum wells.

2. Putting the equipment to its place (ENVIA® TRP equipment)

- The prefabricated reinforced concrete receiver unit should be placed into the workpit by a crane, which should be selected by taking into consideration the place of the crane's sole, the weight of the unit to be lifted, and the required load-bearing capacity.
- A table can be used for selecting the best crane, however the best solution is to survey the site in advance.
- The ground conditions necessary to support the crane properly must be ensured.
- Access to the workpit must be provided through the construction of a road with the required load-breaking capacity, taking into consideration also the fact that the reinforced concrete units are transported by lorries used normally on public roads.
- If the employer assigns the task of transportation to the manufacturer, self-loading vehicles will be used in that case (also for smaller equipment, so the transport vehicle must be able to stand directly near the workpit).(This must be settled in advance in each case, otherwise the manufacturer/deliverer should not be obliged to lift the pieces into the workpit!).
- A rope with the required load-bearing capacity should be used for placing the reinforced concrete receiver unit into the workpit. The hoisting rope should be connected to a balance. It is forbidden to use the rope for lifting when it is in a vertex angle! In opposite cases the cover plate and/or the spacer fixed by adhesive to its side (that makes proper installation possible) may get deformed or damaged.
- The „monocules" or the hoisting hooks must be hooked into the four RD24 hoisting loops that are screwed into the LOWER hoisting sockets until collision; (the hoisting pin – Dübel - is installed in the side of the reinforced concrete unit)
- Upon specific order, the supplier provides a set (4 pcs) of hoisting loops for the installation, which is invoiced to the customer; if several units are installed, these loops are reusable: they should be removed from the already installed reinforced concrete unit, and they can be used for the next one too. If the customer returns the hoisting loops in proper condition after the installation is complete, the supplier will repay 75% of the price it invoiced for the hoisting loops.
- If the ropes are used without a hoisting balance, there is a risk that the receiver reinforced concrete unit and the cover plate break in; the manufacturer refuses to undertake responsibility for damages or accidents caused by such practice.
- The inlet and the outlet side of the reinforced concrete receiver unit is marked accordingly, which should be taken into consideration for its installation. The flow bottom level must be checked before the unit is lifted in, and it must be adjusted to the height of adjacent ditch sections and/or the drift-trap box.
- The reinforced concrete receiver unit and any possibly installed mechanical units must be checked for damages; if damages are found, it must be immediately reported and documented.
- The customer and the constructor shall be obliged to make a statement on the condition of received equipment, when its delivery (handover) takes place
- It is practicable to put the reinforced concrete receiver unit to its place by hoisting to the properly prepared receiver floor in such a way that the contours or at least its axis and corner points are marked in advance on the receiver floor.
- It is forbidden to go down to the workpit before the structure hangs only by 20 to 30 cm above its place.
- Two persons must perform the accurate positioning of the reinforced concrete receiver unit; during the hoisting operation these two people should turn the units to the right position, within the marked points.
- It is practicable to have a third person who watches and guides the positioning operation; the

purpose is to ensure that the axis of the reinforced concrete unit should coincide with the flow axis.

- If the equipment is installed in such a phase of the construction works, when there is a danger that the process equipment gets damaged or overloaded (mud washed in from the refilled earth), we recommend that the process equipment should be installed later into the receiver reinforced concrete unit; the supplier is ready to carry out these operations, against a fee, when the required conditions are available.
- The reinforced concrete receiver unit should be positioned to be horizontal, being in the same plane with the bottom level of the drainage ditch.

3. Connections

- Efforts should be taken to ensure that the equipment is installed in such a manner that – footprintwise – the axes should fall into the same line (the axis of the inlet channel and of the outlet channel, and that of the structure); in the height perspective: the flow bottom levels should be on the same level.
- The connection between the structure and the ditch section should be made so, that it should prevent the leakage of water and, through that, the collapse of the structure's foundation.

4. Backfilling

- After the receiver reinforced concrete units have been lifted in, and adjusted into their place, then the backfilling works may commence.
- Backfilled earth must be compacted in accordance with the designer's provisions based on the installation circumstances, with special view to possible collapses due to posterior solidification.
- When the covering layer is applied, attention must be paid to possible depressions around the reinforced concrete structure; the installed mechanical systems should not get injured, and earth should not enter the structures (for this reason it is practicable to cover the reinforced concrete unit, and the filter box should be installed in the reinforced concrete unit only after the earth works and pavings have been completed.

5. The construction and pavement of watercourse-beds

In front of the equipment an anterior bottom and a paved ditch section should be constructed, which functions as a settlement area and a storage area during the operations.
In the upstream bed section, a drift-trap „box" should be constructed either from prefabricated pavement blocks for ditches and water-course beds, or from a monolythic structure; this box should be installed below the flow bottom level of the ditch, in accordance with the construction drawings and documents.
The water bed must be paved (with bed-paving concrete blocks) inside the swelled upstream area, its length should be at least the length of the drift-trap box, and its height should be the same as the maximum swelled process water level.
The equipment should be concreted (at those sides of the equipment that are in right angles with the flow direction), up to the height of the equipment (including also the cover plate) in such a manner that allows the cover plate to be lifted from the equipment during the operation; the vertical plane of the on-site concreting should not reach above the structure; it should coincide with the outer plane of the styropor plate glued to the cover plate.
When the water quantity is more than the water flow that belongs to the maximum hydraulic permittivity, excess waters tip over the filter box; for this reason at least one row of bed-pavement concrete blocks should be installed at those sides of the prefabricated reinforced concrete receiver unit, which are parallel

with the water flow, in order to protect the slope; on the upstream part: in a length of min. 4 m from the axis of the equipment; on the downstream part: in a length of min. 2 meters.
The narrowed ditch parts, and the backfills (required for the proper installation of the reinforced concrete unit into the ditch section) should also be covered by appropriate paving.
A water-jump occurs on the outlet-side after the weir wall; for this reason the ditch should be paved in at least a 4-m length, up to the height of the maximum swelled process water level.

6. Putting the system into operation

Any contaminating materials that may have entered the structure must be removed in the commissioning process.
Into the cleaned reinforced concrete receiver unit, the filter box (containing the process elements) must be lifted in by a crane in such a manner that the flow-breaker lamellas should face the inlet side.
After the filter(s) are removed, the theft-prevention pins – Dübels - must be installed into the holes that are bored in advance into the side walls of the reinforced concrete unit. Then the filter(s) should be put back to their place.
In the upper part of the side walls of the reinforced concrete receiver unit 4 pins – Dübels - are installed in accordance with the bore holes of the cover plate; the cover plate should be put on its top. Attention! These pins are not suitable for lifting the equipment!
After the theft-preventing cover plate has been put to its place, 4 individually designed bolts must be fixed into these 4 pins by using an individual tool manufactured specifically for this purpose. Attention! This tool must be handed over to the operator in the Handing-over process.
The installed process filter box must be inspected visually. If external injuries are not observed, the equipment is ready to receive water for treatment.

7. Health and safety instructions

The in-detail health, safety, and security provisions pertaining to the time of the construction works must be observed in accordance with the time of the year, the weather, and the installation site, and in accordance with the designer's provisions specified in the design documentation of related works.
Before work is started, the work tools must be checked whether or not they are damaged; Only properly trained personnel should be allowed to perform work, under continuous technical supervision and guidance.
Before the work pit is excavated, information should be collected whether such public utility lines should be accounted for in the area in question, which are not explored properly or whose traceline is not known. Increased attention is required in the environment of power or communication lines being in use (overhead or earth cables) as well as in the vicinity of gas pipelines. If possible, power must be switched off in the lines in question.
General health and safety provisions for the hoisting and handling of loads must be observed when works are performed with cranes.
It is STRICTILY FORBIDDEN to stay inside the hoisting zone of cranes, or under hanging loads. The hoisting operations must be led by a responsible leader or craneman; hoisting of loads may start only when this person indicates so; this is applicable for the performing of any other operations.
It is the craneman or the leader who controls the works who should command (in accord with the signals provided by the person who does the job e.g. the positioning) that the load can be lowered, or the hoisting power should stop or start; when an „empty hook" is lifted, care must be taken to ensure that it should not cause damages (by swinging) to already installed mechanical equipment.

It is FORBIDDEN to stand on the reinforced concrete unit during the process it is lifted in.
Loads should be moved very slowly; the structure's weight is several tons, therefore it has a high inertia.
In the tight space that occurs in the workpit, work must be done very carefully so that the structure should not squeeze anyone to the workpit wall during the positioning process.
It is forbidden to stand or jump on the top of the mechanical parts installed into the reinforced concrete unit, or on the theft-preventing cover plate, and it should not be exposed to any other loads, as this may cause accidents or damages.
Protective gloves and protective helmets must be used when work is performed.

Should you have any questions in connection with the operation of the equipment, please do not hesitate to contact our colleagues at:

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