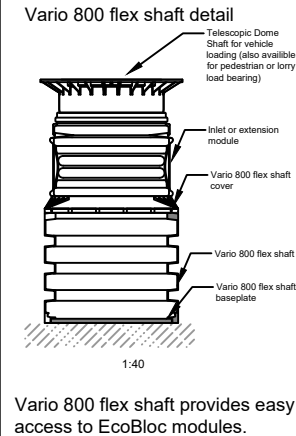
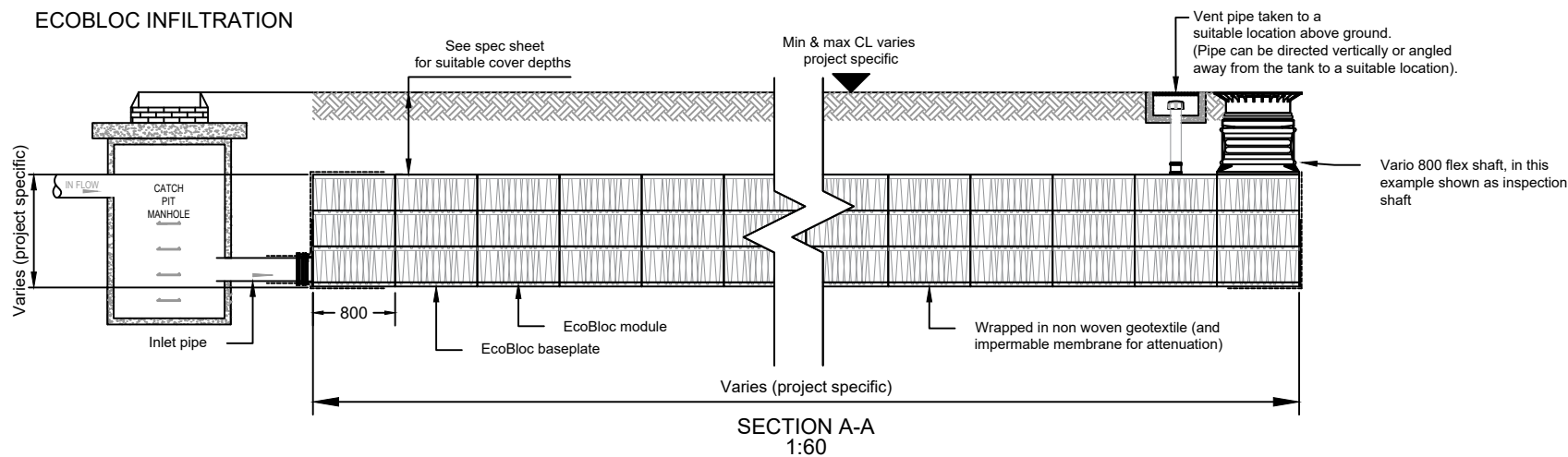


ECOBLOC INFILTRATION



Vario 800 flex shaft provides easy access to EcoBloc modules.

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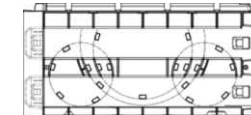
DO NOT SCALE - IF IN DOUBT ASK

Notice: This drawing is issued only as a guideline and is an estimate of the materials required to construct the drainage system, it should not be used for construction purposes. Otto Graf GmbH makes no warranty or guarantee in relation to the suitability of any of the layout details shown on this drawing in relation to a particular scheme.

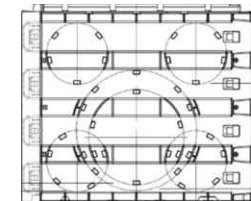
NOTES:

1. All dimensions in mm, unless otherwise stated.
2. All dimensions are nominal and may vary within manufacturing tolerances.
3. All site temporary enabling works by others.
4. Graf products to be installed in strict accordance with Graf recommendations.
5. This drawing is intended for guidance only. Confirmation of the suitability for a particular project should be sought from the consulting engineers prior to final design or commencement of any construction works.

Vario 800 flex shaft type 1



Vario 800 flex shaft type 2

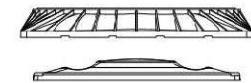


Type 1 Type 2

Dimensions (mm) 800 x 800 x 355 800 x 800 x 660

Weight 13.5kg 24kg

Vario 800 flex shaft base and cover set



P1	PRELIMINARY FOR GUIDANCE	SABU	06.10.25
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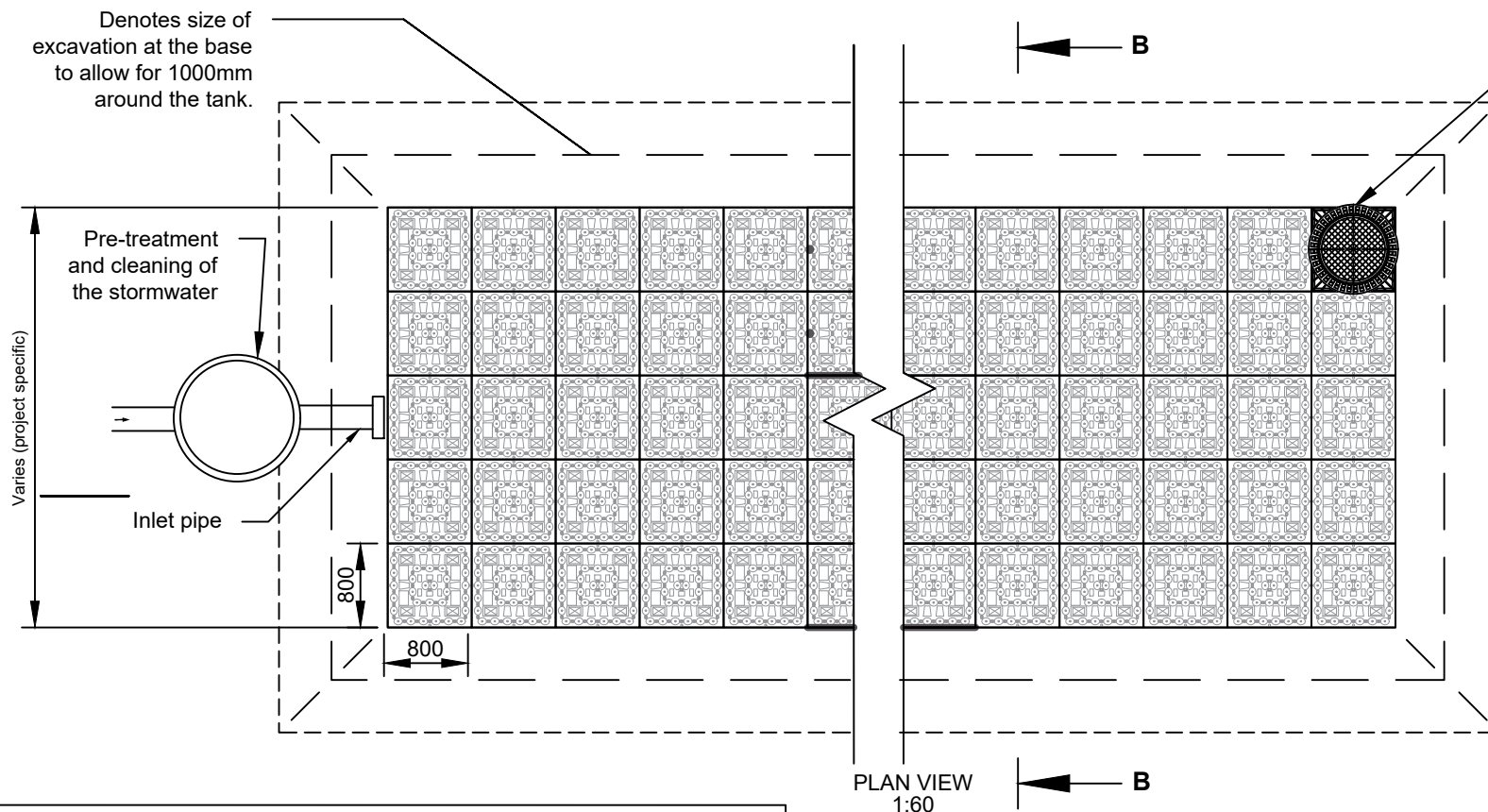


DRAWN : SABU DATE : 06.10.2025
CHECKED : NSE / MAME SCALE : VARIOUS@A3

PROJECT
GRAF STANDARD DETAILS

DESCRIPTION
TANK using GRAF ECOBLOC and Vario 800

DRAWING No. STANDARD DETAIL REV. P1 (Pg.1)



Vario 800 flex shaft

Various accessories available (e.g. extensions, inlet modules, flow controllers, filters).

Shaft can be used as:

- Filter shaft
- Inspection shaft
- Pump shaft
- Flow control for attenuation, e.g. with choke drain or EcoFlow control

General info:

- One shaft every 60 m is recommended along inspection lines to ensure accessibility for inspection and cleaning.

NOTE: EXCAVATION TO EXCEED TANK SIZE BY MIN. 1000MM ON ALL SIDES TO ALLOW ACCESS

Backfill up to finished ground level using suitable material as required for finished cover.

8 to 16mm single sized non-angular stone around sides of tank to be completed prior to any fill material being placed on top of tank.

Angle to suit safe excavation or surrounding ground and depth

Base layer to be 8 to 16mm single sized non-angular stone min depth 50mm

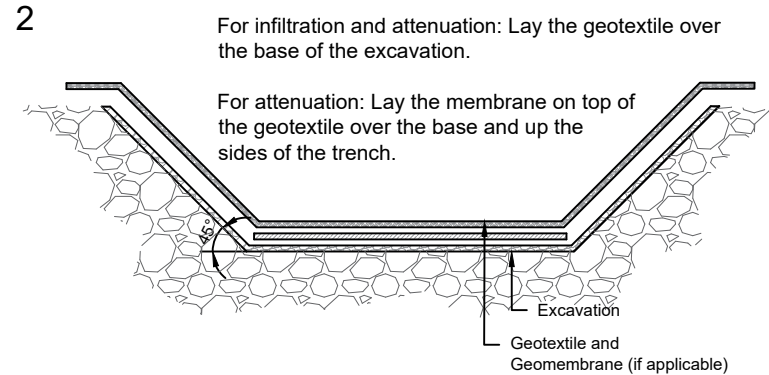
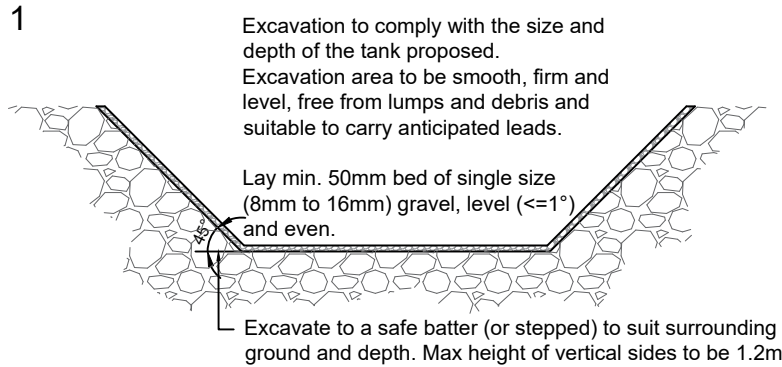
SECTION B-B
1:75

Layer immediately above tank to be 8 to 16mm single sized non-angular stone min 100mm before backfilling as per finished ground cover.

For infiltration and attenuation: outer layer to be 200g/m² non-woven geotextile. Installed with a min. overlap of 300mm.

For attenuation: Inner layer to be min. 1mm thick (graf recommendation: Min. 1.5mm thick) LLDPE impermeable membrane. Sheet widths of 5m and supplied in rolls or lengths to suit installation. All joints to be wedge welded to form a watertight seal.

Undisturbed earth base of excavation. Excavated area to be smooth, firm and level, free from lumps and debris and suitable to carry anticipated loads with a min cbr value of 5%. Soft or unstable areas in the existing ground below the excavation level must be removed and the resulting voids filled with Type 1 load-bearing material.



Geotextile:
200g/m² Non-woven,
needle punched geotextile

Geomembrane:
min. 1mm thick (Graf recommendation:
min. 1,5mm thick) LLDPE Geomembrane

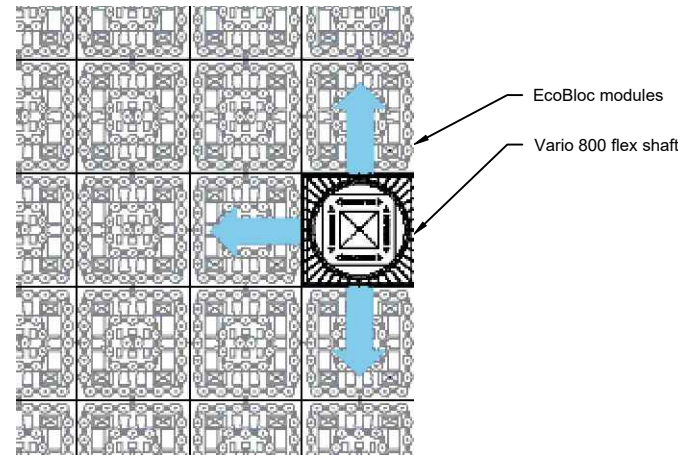
Geotextiles and Geomembranes with characteristics less than those specified are unlikely to be suitable and are therefore not recommended for use with Graf systems for this application.

3a Assemble Vario 800 flex shaft as shown below. Place the baseplate on the ground. Attach the side plates using the click system. Finally, position the cover on top.

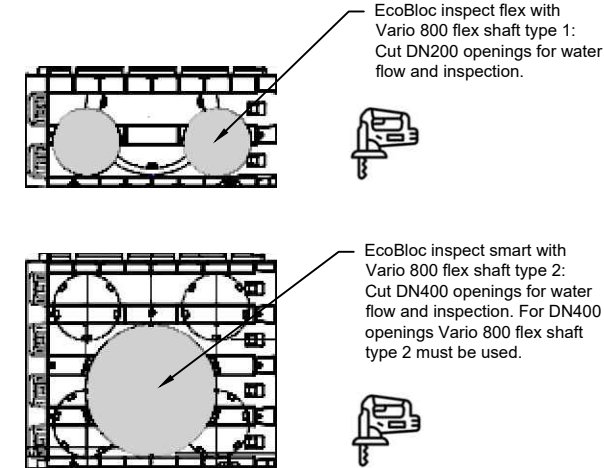


Cover and baseplate are red for illustration purposes only and are grey in colour

3b Cut all sides facing towards EcoBloc modules to allow water to flow into the nearby EcoBloc modules and to enable inspection (if applicable).



The sketch shows a Vario 800 flex shaft installed in EcoBloc modules. Water flows into the shaft, from where it is distributed into the EcoBloc modules.



Recommended tool: Jigsaw with min. 125mm blade.
Graf article no. for the blade: #934663

3c Accessory installation (e.g., inlet module, filter basket). Below are selected examples of available accessory components:



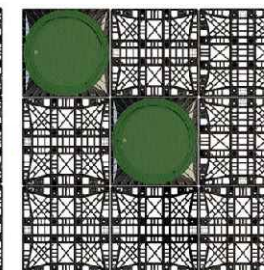
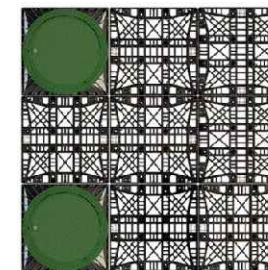
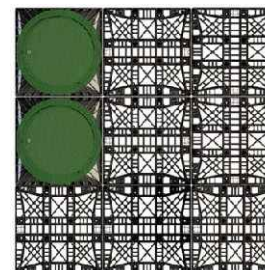
Ensure correct positioning of the gasket:
- in the Vario 800 flex shaft cover



- in the extension and / or inlet module



Note: Shafts must not be installed directly next to each other within the system.
Diagonal placement is allowed.

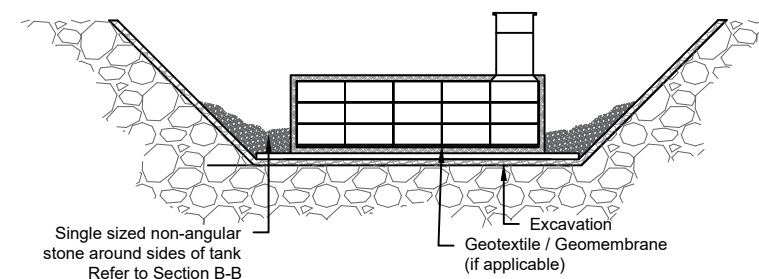


Note: For attenuation systems, a film cover is available for the Vario 800 flex shaft cover. It simplifies proper installation of the geomembrane at the Vario cover. The film cover is available in PP and PVC.

During installation of the Vario 800 flex shaft, the film cover to be pulled over the cover.

4 Backfill process of the installed infiltration system using EcoBloc and Vario 800 flex shaft. For infiltration and attenuation: The blocs and Vario 800 flex shaft must be wrapped with a geotextile to prevent dirt and from entering the modules.

For Attenuation: Wrap the modules with the membrane ensuring it is heat welded/sealed then wrap the top and sides with the geotextile to protect the membrane.



Example of assembled Vario 800 flex shaft incl. infiltration inlet module and telescopic dome shaft.

Example of infiltration system, including EcoBloc and Vario 800 flex shaft with extension and telescopic dome shaft.

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DO NOT SCALE - IF IN DOUBT ASK

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Installation method:

- a) Excavate the trench with a safe batter (or stepped) ensuring the footprint allows for sufficient space between tank and the sides. (minimum 1000mm around all sides of the tank).
b) Mark out the position of the tank including inlets and outlets.
c) Lay min. 50mm of single sized non angular stone. (8 to 16mm) as a base for the tank. This can be laid to a maximum fall of 1° .
- a) Lay the geotextile over the base of the excavation, overlapping any joins by a minimum of 300mm.
b) For attenuation: Lay the membrane on top of the geotextile over the base and up the sides of the trench.
c) For attenuation: Membrane must be joined by thermal fusion heated wedge welding. It is recommended that the Dual Seam method is used as this generates an unwelded channel which can be pressured with air to check the integrity of the weld.
d) The membrane and geotextile used must meet the specification stated on the drawing.
- a) Lay the baseplate on the ground. Install the side plates using the click system, each element consists of four interconnected side plates. Multiple elements can be stacked on top of each other. Finally, place the cover at the top and pull the film cover over it (for attenuation).

b) On the sides where infiltration crates are adjacent, cut flow openings and inspection openings (if applicable) into the panels to ensure unobstructed water movement and allow visual inspection and cleaning.

To enable inspection when using EcoBloc flex modules, the small lower DN200 openings in the Vario 800 flex shaft panels must be cut.

To enable inspection when using EcoBloc smart modules, the large DN400 openings in the Vario 800 flex shaft panels must be cut, and Vario 800 flex shaft type 2 shafts must be used.

Vario 800 flex shaft type 1 and type 2 shafts differ in height but are compatible with the system.

c) Assemble the accessories, such as the extension module or inlet module, onto the cover. Then place the telescopic dome shaft on top. Ensure that all gaskets are correctly positioned.

Note: For attenuation systems, a film cover is available for the cover of the Vario 800 flex shaft, to ensure proper installation of the geomembrane at the cover. The film cover is available in PP and PVC.
- a) Fix adaptor plates to the sides of the modules in the required position for the inlet and outlet pipes.
b) Install vent pipe connection into the top of the tank at a suitable location.
c) Backfill around the tank and for 100mm above with non-angular stone. Backfill to finished ground level with suitable material in layers.
f) Connect inlet/outlet pipes. Must be sealed / welded watertight.
g) In order to prevent silt from entering the tank it is recommended that silt traps or catchpit manholes are installed upstream of any inlet. These should be regularly maintained to avoid the buildup of any silt.

N.B. Installation method may vary depending on depth of the tank and is project specific. For more information or technical questions please contact our Technical Department at Otto Graf GmbH.

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PROJECT
GRAF STANDARD DETAILS

DESCRIPTION
TANK using GRAF ECOBLOC and Vario 800 flex shaft

DRAWING No.	REV.
STANDARD DETAIL	P1 (Pg.2)