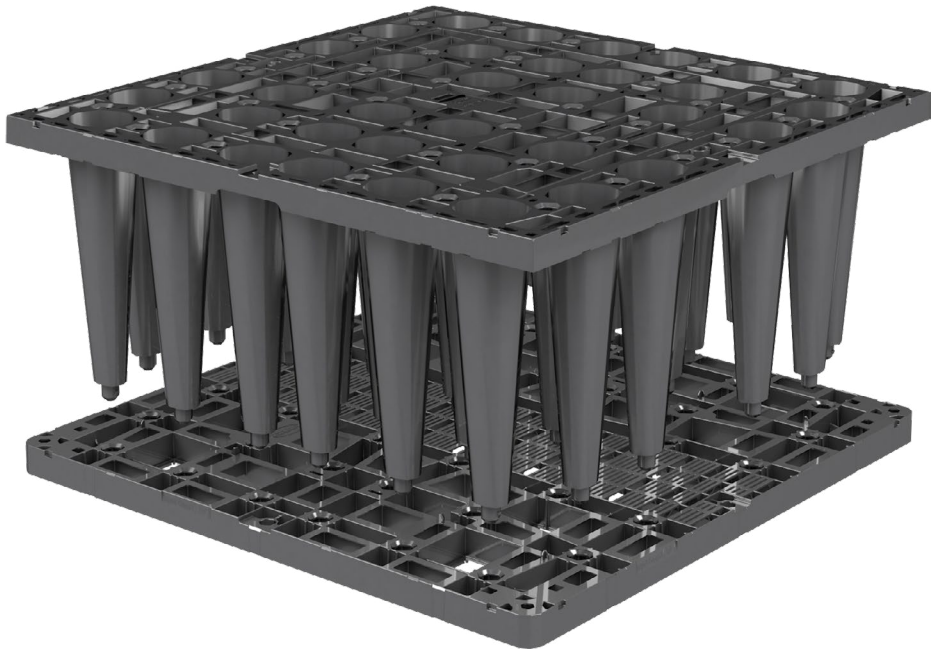
GRAF EcoBloc Stormwater Management System

SW24.1

High performance system for managing rainwater infiltration, stormwater attenuation and rainwater harvesting. The EcoBloc system provides high storage volumes, long service life and easy installation.



Applications

- Stormwater attenuation
- Rainwater infiltration
- Rainwater harvesting

Product Attributes

- High storage volume. One module equivalent to 1.3 tonnes of gravel.
- Expected service life of over 50 years
- Easy to install
- Load bearing up to 60 ton vehicles (HS-25)
- Nested Transport

Approvals/Standards

- HS-20
- HS-25

Sustainability

- Customisable for climate-resilient infrastructure

Quality/Environment/Health & Safety

- ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018

HYNDS STORMWATER

High performance system for managing rain water infiltration, stormwater attenuation and rain water harvesting.

The EcoBloc system provides up to 96% reservoir volume, installation depths up to 3 metres and a service life expected to exceed 50 years. Installation is kept simple with no requirement for heavy lifting equipment, special tools or machinery.

Design Features

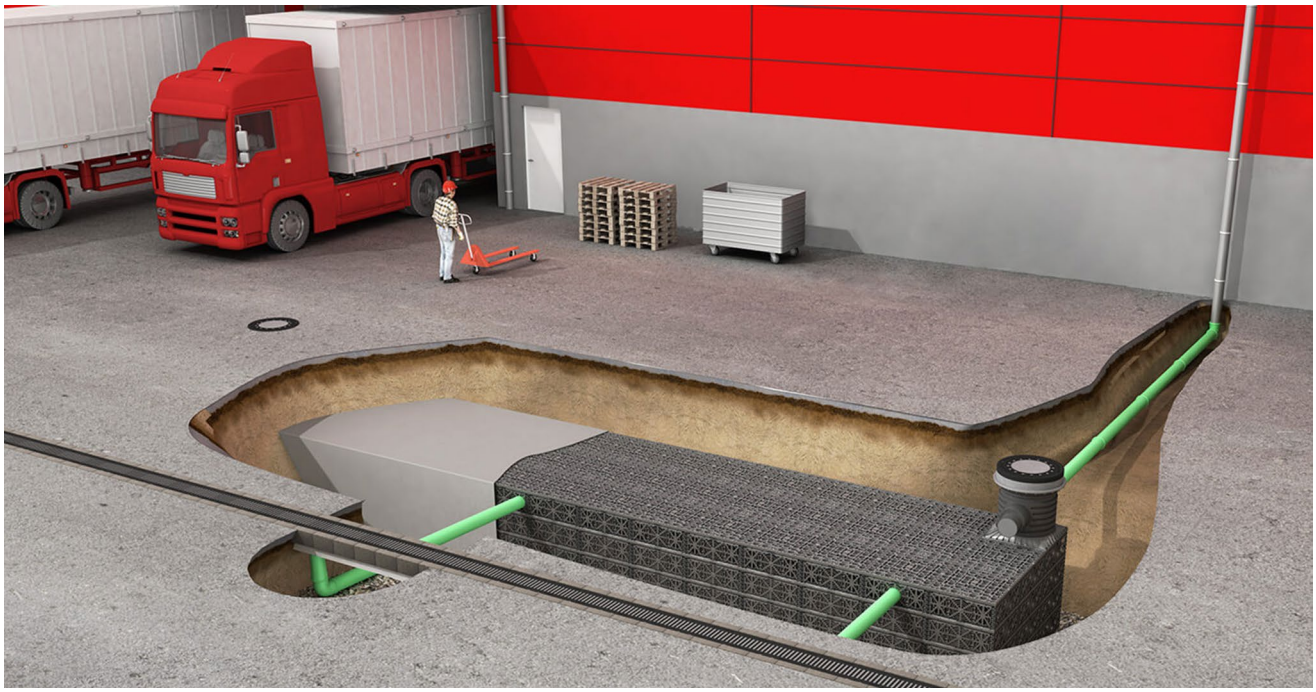


FIG. 1 General Installation example

Fully integrated shaft

The Vario 800 integrated flex shaft system (page 10) can be directly installed almost anywhere in an EcoBloc infiltration or attenuation system, providing inspection and maintenance access.

Load-bearing up to 60 tons

The GRAF EcoBloc Inspect Smart has a heavy-duty load-bearing capacity of 60 tons with a minimum of 550 mm earth covering.

Easy to Inspect

The GRAF EcoBloc Inspect Smart allows access by commercially available inspection cameras to effectively monitor the entire system.

High storage volume

The GRAF EcoBloc Inspect Smart modules have up to three times the storage volume of a standard gravel infiltration ditch. One module therefore takes the place of around 1300 kg of gravel reducing excavation costs.

Service life of over 50 years

A durable product design ensures sustainability. The GRAF EcoBloc system and the Vario 800 flex shaft system is designed for a service life of over 50 years.

Easy to install

The modules are designed for simple and effortless installation. Each module weighs 10 kg and its shape is easy to grip and carry. The straightforward ‘click’ – together system enables faster assembly with less labour costs than other systems.

High pressure jetting possible

The GRAF EcoBloc Inspect Smart can easily resist high pressure jetting.

Up to 96 % reservoir volume

The GRAF EcoBloc Inspect Smart offers a reservoir coefficient of 96% adding to its high load-bearing capacity.

Installation depth of up to 3 metres

Even under very heavy loads, the GRAF EcoBloc Inspect Smart modules can be installed at a depth of up to 3 metres. This means that up to 8 layers are possible.

Planning and sizing Graf EcoBloc Configurator

This is a valuable online tool for determining the components needed to build your EcoBloc system.

Our experienced team will help you to plan your project. We take all local circumstances into account from the concept planning phase to implementation.

We will run it through the configurator and provide you with a detailed quotation.

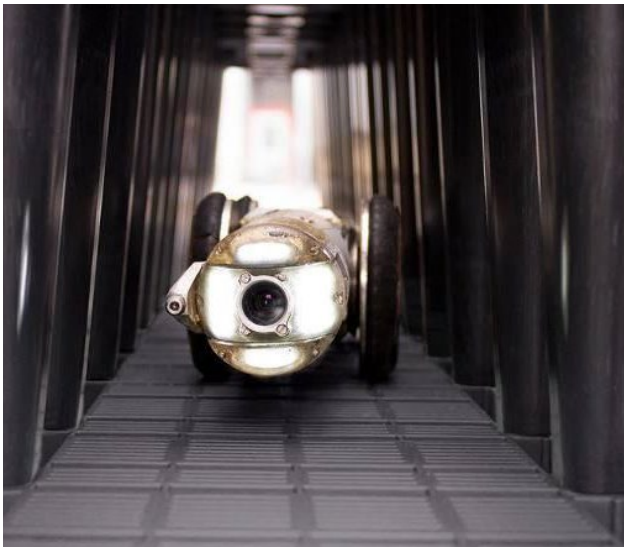


FIG. 2 Easy to inspect

FIG. 3 High pressure jetting possible

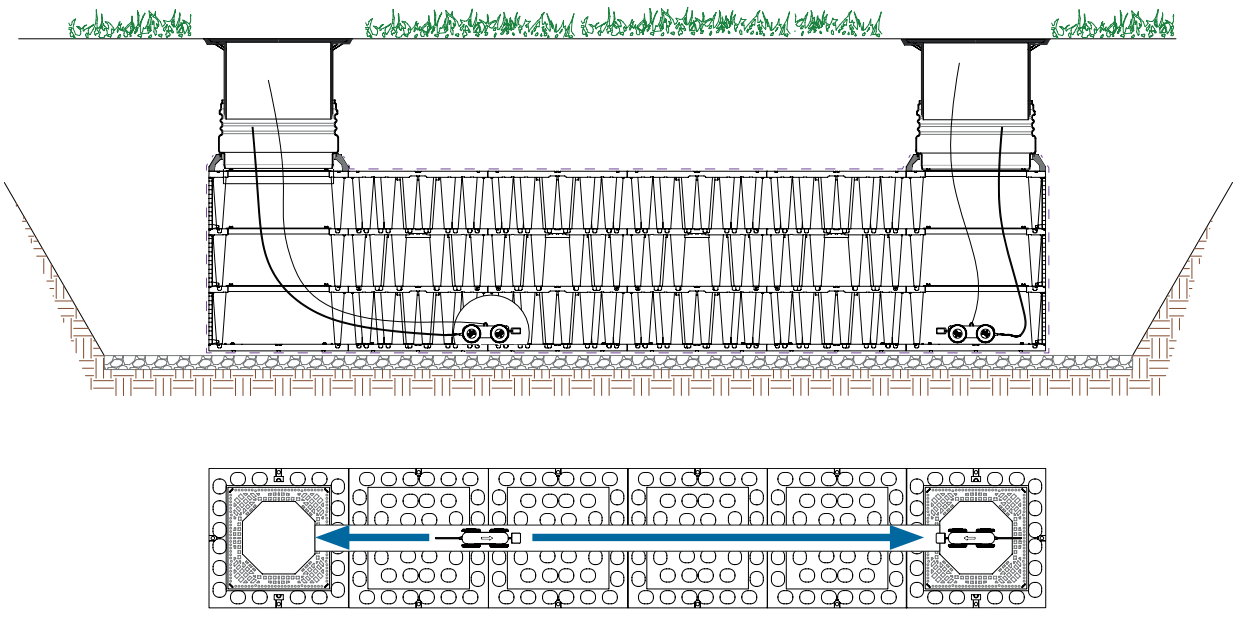


FIG. 4 Orientation of the inspection channels should run parallel to the long side of the infiltration system and form a continuous tunnel

Applications

Stormwater Attenuation

The controlled discharge of rainwater is increasingly important during heavy rain. The GRAF EcoBloc modules can be also surrounded by an impermeable membrane, which prevents water from escaping from the system unchecked. Restricted outflow allows the water to be discharged into the stormwater system in a controlled manner.

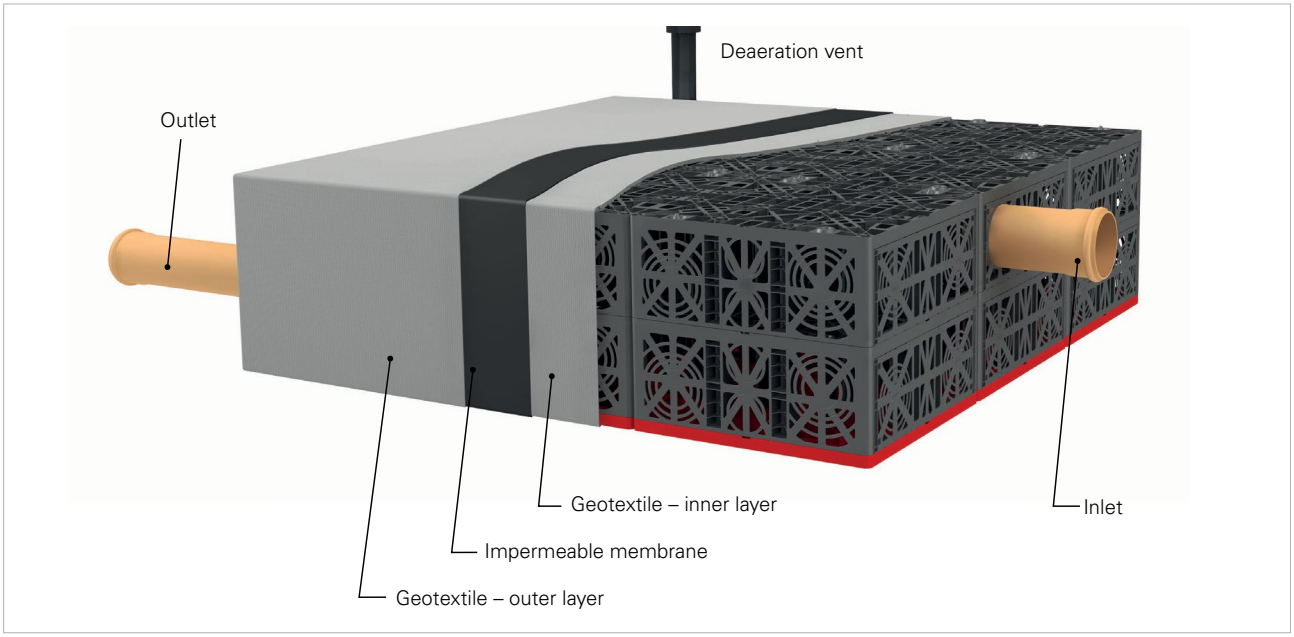


FIG. 5 Typical layout of stormwater attenuation installation

Rainwater Infiltration

Local infiltration of rainwater is gaining in importance. As we cover over more and more ground with impervious surfaces, we are interrupting the natural water cycle. The GRAF EcoBloc modules combine environmental management of rainwater with the opportunity to protect against flooding. It stores rainwater and gradually releases it back into groundwater reserves.

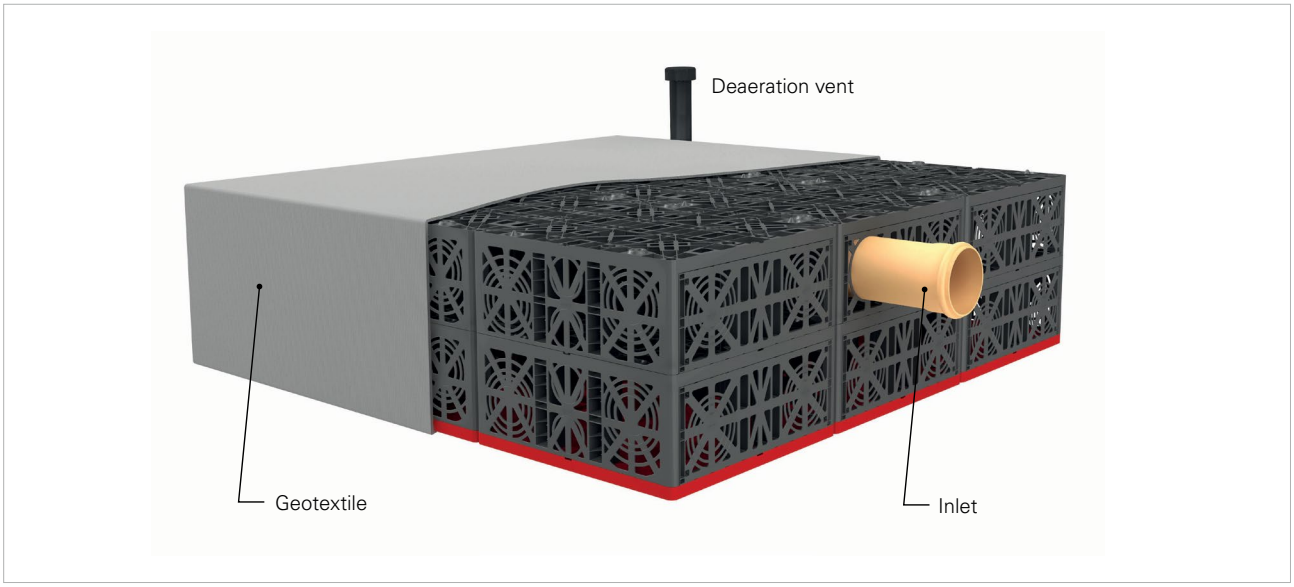


FIG. 6 Typical layout of rainwater infiltration installation

Logistics

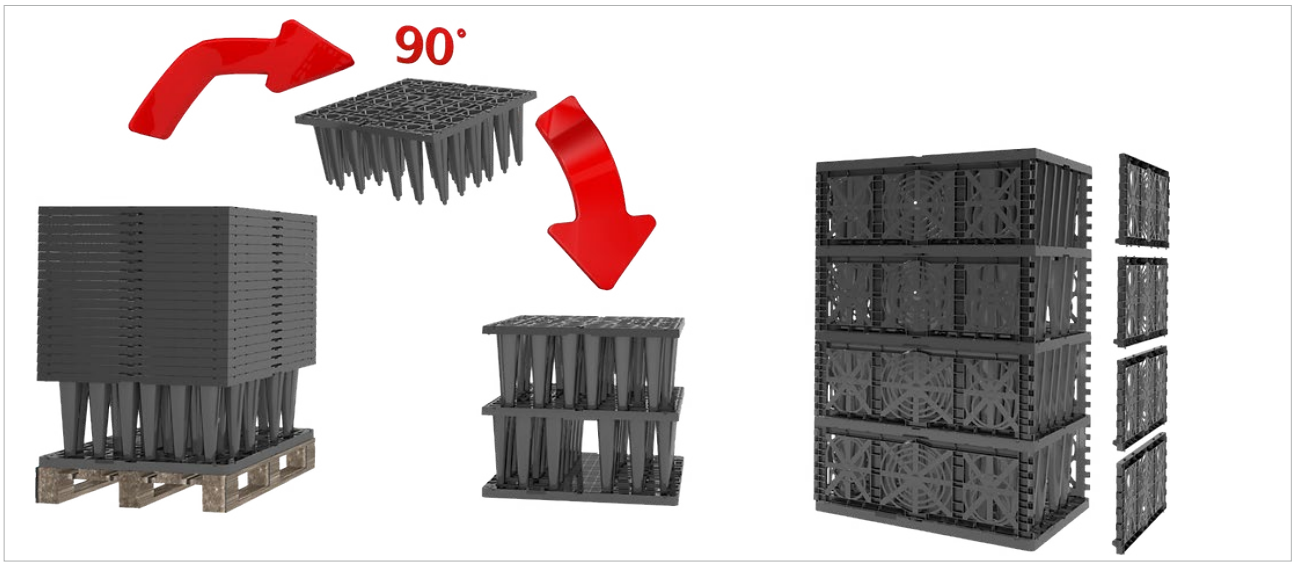


FIG. 7 Space saving for economical shipping

1. Easy Installation

The EcoBloc base plate forms the foundations of each EcoBloc system. Up to 8 EcoBloc modules can be fitted on one base plate.

2. Side plates

The side faces are to be sealed with EcoBloc end plates. The EcoBloc system can be adapted to match individual requirements.

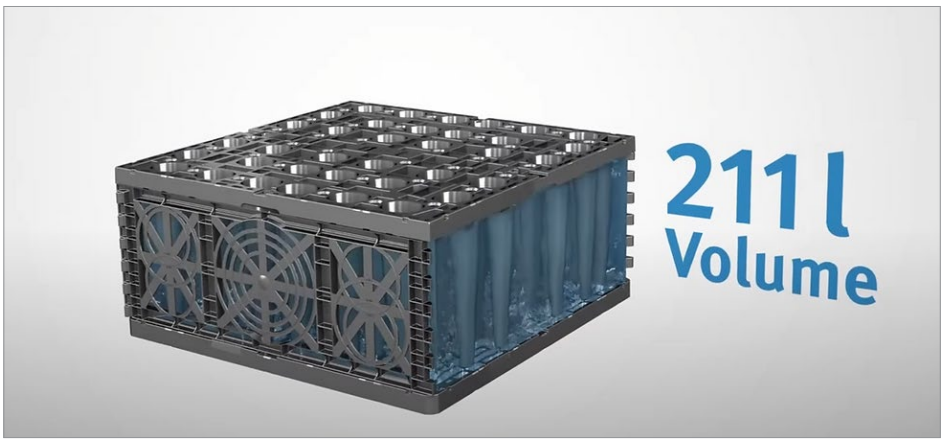
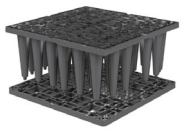


FIG. 8 High storage volume. Three times the storage volume of a gravel trench

The System at a Glance

EcoBloc Inspect Smart System

- Load bearing 60 tons/HS-25
- Inspectable
- High pressure jetting possible



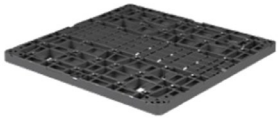
EcoBloc Inspect Smart

DN 110/160/250 connecting surfaces

Volume	Length	Width	Height	Weight	Colour	Code
211 Ltrs	800 mm	800 mm	330 mm	10 kg	Grey	ECO402500

EcoBloc Inspect Smart Base Plate

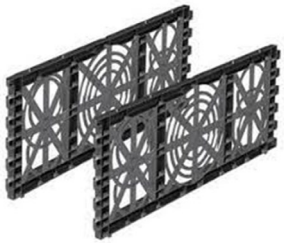
Forms the foundation of the EcoBloc Inspect Smart system.



Volume	Length	Width	Height	Weight	Colour	Code
24 Ltrs	800 mm	800 mm	40 mm	4 kg	Grey	ECO402501

EcoBloc Inspect Smart End Plates

The front ends of an EcoBloc Inspect Smart system are sealed by end plates with DN 110 / 160 / 250 contact surfaces.



Item	Colour	Code
EcoBloc Inspect Smart end plates (Set 2 units)	Grey	ECO402503

EcoBloc System Accessories

EcoBloc Connectors

For horizontal connection

Code	Description
ECO402015	Set 10 units
ECO402018	Set 25 units
ECO402020	Set 50 units
ECO402025	Set 200 units

Deaeration Vents

DN 100

Code
ECO369017

Adaptor Plate

Code	Description
ECO402033	DN 300/ DN 400/ DN500

Vario 800 flex shaft system

Flexible use

The GRAF Vario 800 shaft provides easy access to all EcoBloc modules. It can be used in many different ways:

- As an inspection shaft
- As an inlet shaft
- As a filter shaft
- As a flow control shaft

Easy to inspect

The Vario 800 shaft allows easy access to the EcoBloc system by commercially available inspection cameras. This has been confirmed by several independent testing authorities.

Load-bearing up to 60 tons

The GRAF Vario 800 shaft has a heavy-duty load-bearing capacity of 60 tons with an 800 mm earth covering. The fibreglass reinforced material gives the shaft extra strength.

Connection surfaces up to DN 400

The Vario 800 comes with DN 200, DN 315 and DN 400 connection surfaces. The optional, freely rotating inlet module can be connected to pipes of sizes DN 150, DN 200, DN 250 and DN 300.

No additional excavation

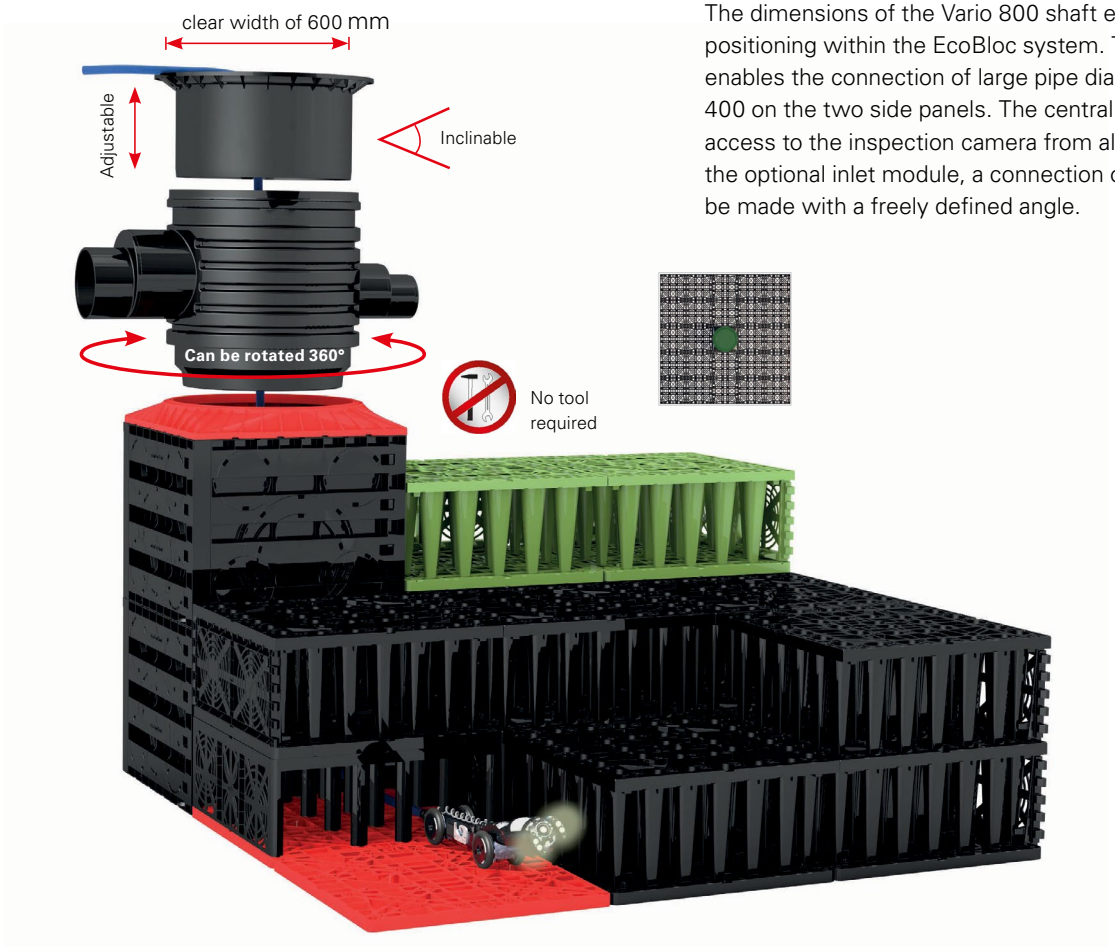
The Vario 800 flex shaft system can be directly installed in an EcoBloc infiltration or detention system. The connection surfaces of the inspection channels in the Vario 800 flex shaft system are accurately matched to the EcoBloc system.

Wide access

The Vario 800 is terminated at the top by the GRAF telescopic dome shaft. With a clear width of 600 mm, it gives easy access to the shaft. The base of the shaft itself is 800 x 800 mm in size, providing sufficient space for all possible applications.

Can be positioned in any location

The dimensions of the Vario 800 shaft enable free positioning within the EcoBloc system. The corner position enables the connection of large pipe diameters of up to DN 400 on the two side panels. The central position offers ideal access to the inspection camera from all directions. Using the optional inlet module, a connection of up to DN 300 can be made with a freely defined angle.



Vario 800 Flex, Type 1

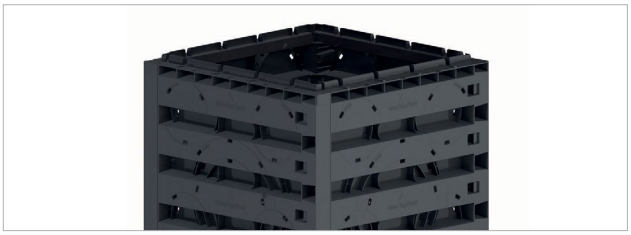
Shaft body for one or more layer of EcoBloc system

Vol. (L)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Colour	Code
230	800	800	355	16	Grey	ECO450050

Vario 800 Flex, Type 2

Shaft body for two or more layer of EcoBloc system

Vol. (L)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Colour	Code
420	800	800	660	27	Grey	ECO450051



Vario 800 Flex, Base/Cover Set

Base and cover for Vario 800 flex shaft

Colour	Code
Grey	ECO450052

Setup Process

1. Stackable

To save space during transport and storage, the parts of the Vario 800 are stacked into each other. This minimizes transport costs and CO^2 emissions.

2. Easy Installation

Groups of four wall elements are connected in a few simple steps and without tools to form a single height unit of the Vario 800. The height can be easily adjusted to the EcoBloc tank depth. A shaft cover and base plate complete the element.

3. Ready

GRAF accessory components can now be added to the Vario 800 shaft as required.

Accessories

Shaft components

Infiltration connecting piece 1000 DN 600

With DN 200 contact surface, incl. profile seal, length 1000 mm, 750 mm, 500 mm.

Code: ECO371015

Tank Covers

Mini Telescopic Dome Shaft

Suitable for pedestrian loading, height adjustable from 140 – 340 mm.

Code: ECO371010

Cast Iron Telescopic Dome Shaft

Suitable for Class B vehicle loading,

height adjustable from 140 – 440 mm.

Code: ECO371020

Cast Iron Telescopic Dome Shaft Heavy Duty

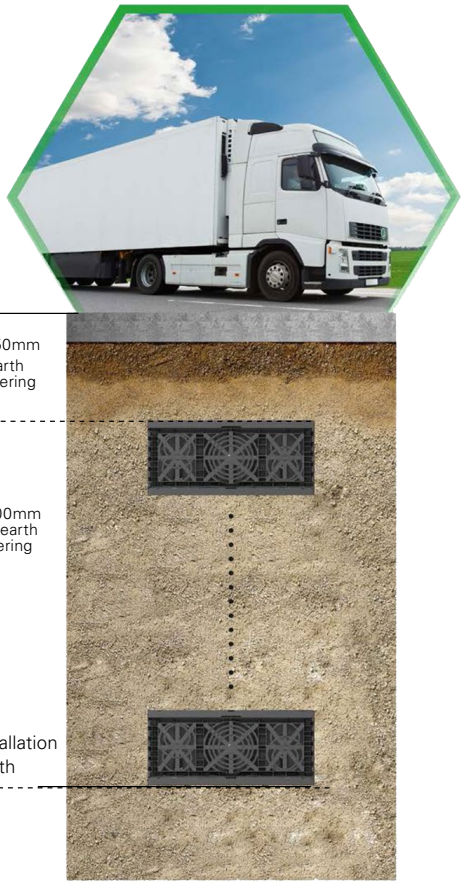
Suitable for Class D heavy duty loading, height adjustable from 140 – 440 mm.

Code: ECO371021

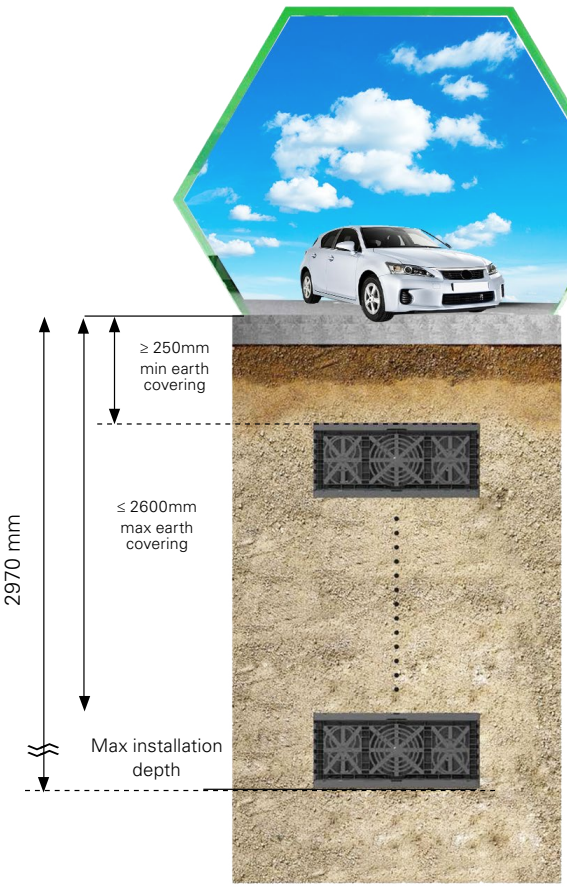
Note: *Cover and concrete supporting ring to be provided on site.*

Load Specifications

60 Tons / HS-25



Light vehicle < 10t



- *Depths of earth covering/installation are based on loadings as per table on page*

Infiltration Mode		EcoBloc Inspect Smart
Gross Volume		211 L
Net Volume		202 L
Storage Coefficient		96%
Inspectable		•
High Pressure Jetting Possible		•
LOADINGS		
Without Traffic Load	min. earth covering	250 mm
	max. earth covering	2750 mm
	max. installation depth	3070 mm
	max. number of layers	8
Passenger Vehicle < 2.5 t	min. earth covering	250 mm
	max. earth covering	2700 mm
	max. installation depth	3070 mm
	max. number of layers	8
Light Vehicle < 10 t	min. earth covering	250 mm
	max. earth covering	2600 mm
	max. installation depth	2970 mm
	max. number of layers	8
Common 3 Axle Rigid Truck < 22.5 t	min. earth covering	550 mm
	max. earth covering	2400 mm
	max. installation depth	2770 mm
	max. number of layers	6
Common 6 Axle Semitrailer < 42.5 t	min. earth covering	550 mm
	max. earth covering	2400 mm
	max. installation depth	2770 mm
	max. number of layers	6
Common 9 Axle B-double < 62.5 t	min. earth covering	550 mm
	max. earth covering	2400 mm
	max. installation depth	2770 mm
	max. number of layers	6
CONNECTIONS		
DN100		•
DN150		•
DN200		• [2]
DN250		•
DN300		• [2,3]
DN400		• [2,3]
DN500		• [3]
MEASUREMENTS		
Length		800 mm
Width		800 mm
Height		330 mm
Weight		10 kg

1. Values on request on when combined with EcoBloc Inspect Smart. 2. Optionally available with Vario Shaft. 3. Optionally available with adaptor plates

Branches Nationwide *Support Office & Technical Services 0800 93 7473*