







The ideal infiltration module for every application

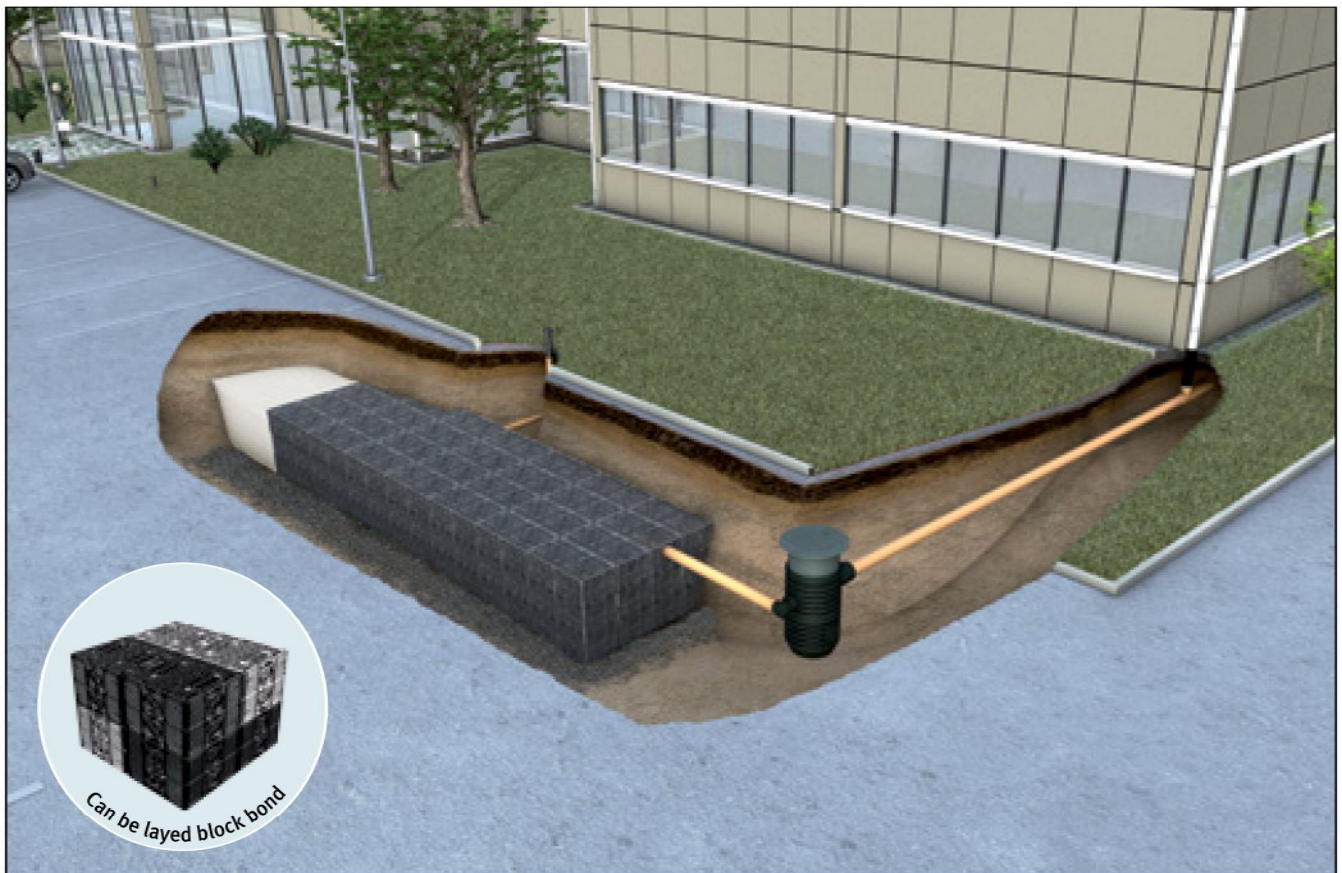
Modules for infiltration and detention/retention of rainwater



Infiltration module		Rain Bloc green	Rain Bloc black / inspect	Infiltration Tunnel	Infiltration Tunnel twin
Capacity		300 L	300 L	300 L	600 L
Available with inspection channel			•		
Load					
Load	Short-term	max. 75 kN/m ²	max. 100 kN/m ²	max. 75 kN/m ²	max. 75 kN/m ²
	Long-term	max. 35 kN/m ²	max. 50 kN/m ²	max. 35 kN/m ²	max. 35 kN/m ²
Without traffic load 	Max. earth covering	2000 mm	2750 mm	1990 mm	1480 mm
	Min. earth covering	250 mm	250 mm	250 mm	250 mm
	Max. installation depth	3500 mm	5000 mm	2500 mm	2500 mm
	Max. layers	7	10	1	1
Vehicle 	Max. earth covering	2000 mm	2750 mm	1990 mm	1480 mm
	Min. earth covering	250 mm	250 mm	500 mm	500 mm
	Max. installation depth	3500 mm	5000 mm	2500 mm	2500 mm
	Max. layers	7	10	1	1
Lorry 12 	Max. earth covering	1900 mm	2750 mm	–	–
	Min. earth covering	500 mm	500 mm	–	–
	Max. installation depth	3500 mm	5000 mm	–	–
	Max. layers	7	10	–	–
Lorry 30 	Max. earth covering	1800 mm	2500 mm	–	–
	Min. earth covering	500 mm	500 mm	–	–
	Max. installation depth	3200 mm	5000 mm	–	–
	Max. layers	6	10	–	–
Lorry 40 	Max. earth covering	1700 mm	2250 mm	–	–
	Min. earth covering	600 mm	500 mm	–	–
	Max. installation depth	3000 mm	5000 mm	–	–
	Max. layers	5	10	–	–
Lorry 60 	Max. earth covering	–	2000 mm	–	–
	Min. earth covering	–	500 mm	–	–
	Max. installation depth	–	5000 mm	–	–
	Max. layers	–	10	–	–
Connections frontal					
DN 100		•	•	•	•
DN 125		•	•		
DN 150		•	•	•	•
DN 200		•*	•*	•	•
DN 300		•*	•*	•	•
Connections on the side * possible with adapter plate					
DN 100		•	•		
DN 125		•	•		
DN 150		•	•		
Connections top					
DN 100				•	•
DN 200				•	•
Measurements					
Length		1200 mm	1200 mm	1160 mm	1160 mm
Width		600 mm	600 mm	800 mm	800 mm
Height		420 mm	420 mm	510 mm	1020 mm
Weight		16 kg	18/19 kg	11 kg	22 kg
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GRAF Rain Bloc/Rain Bloc inspect

Infiltration and harvesting from one mould



The flexible, high-performance Rain Bloc is ideal for use in public and industrial areas. There are no limits on the use and design of the surface above the system thanks to its extreme load-capacity. Whether it is a parking space, works entrance or storage area – everything is possible.

High-performance

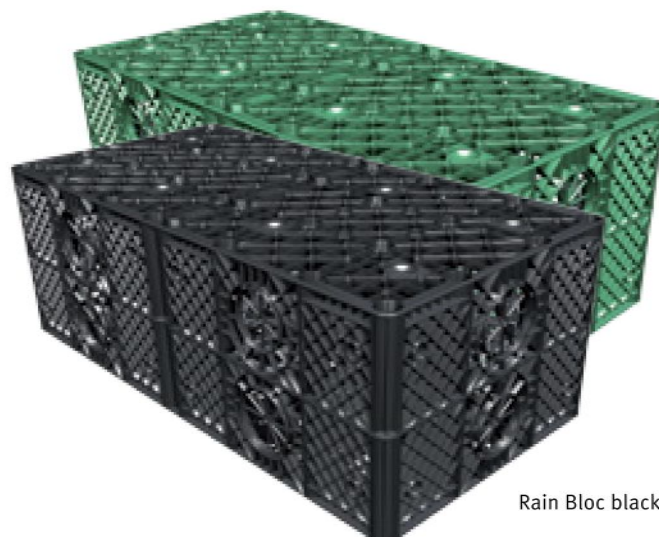
The lorry-bearing design guarantees extreme load capacity thanks to its stable column structure. It facilitates SLW 60-bearability with an 500 mm (19.7") covering. The lorry-bearing design can bear a long-term load of approx. 3.5 t per m². There are no limits on the use and design of the surface over the system.

Inspectable

The unique inspect rim facilitates flexible laying of inspection channels within your ditches. The Rain Bloc inspect is already completely prefitted and only has to be installed in the tried and tested Rain Bloc system. The Rain Blocs can be inspected easily with a push-rod camera through the opening of diameter DN 150. Crossing inspection channels can also be laid easily.

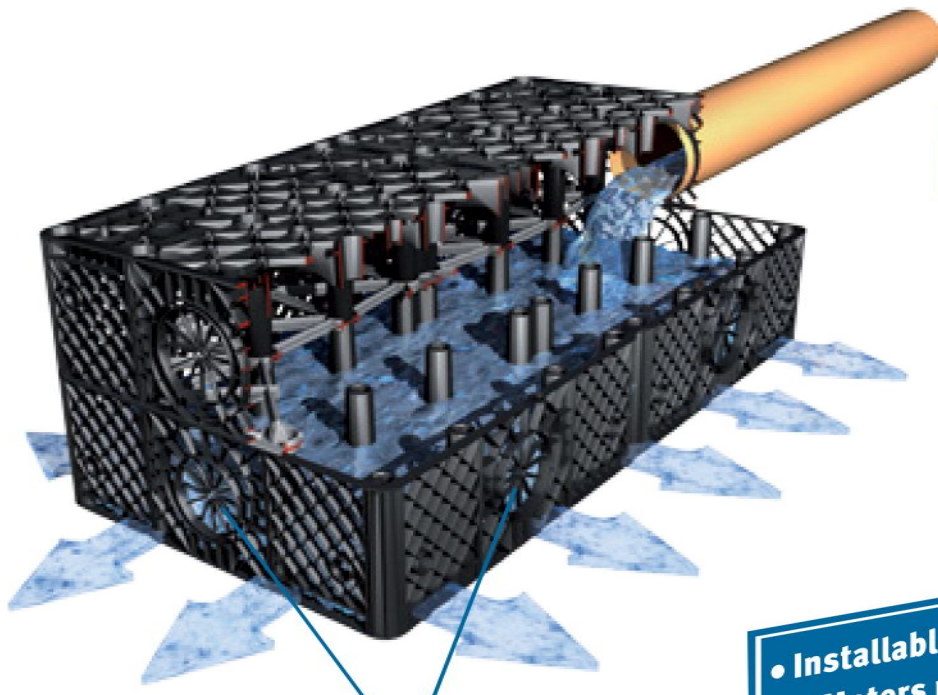
Easy to install

The Rain Bloc can be installed in rows or block form, with 1 to a maximum of 10 layers and a max. installation depth of 5 meters, depending on the local conditions and the desired storage capacity. Installing the module is easy, fast and variable. It can be installed without heavy equipment - a Rain Bloc weighs just 16-19 kg. The individual modules are connected using practical fast connectors.



You will find an enquiry form and sizing assistance on our website www.graf.info

Rain Bloc black



The special construction of the GRAF Rain Bloc guarantees lasting, high infiltration performance.

• Installable in up to 10 layers
• 2 Meters maximum earth covering

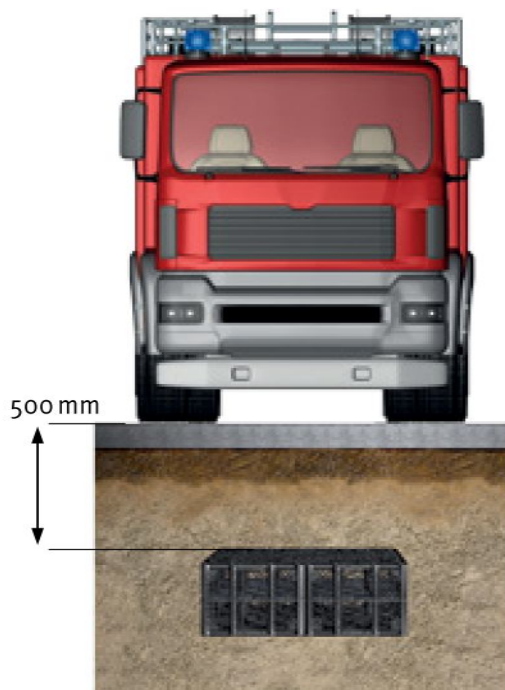
Flexible connection options - length and crossways DN 100/125/150.

Rain Bloc black

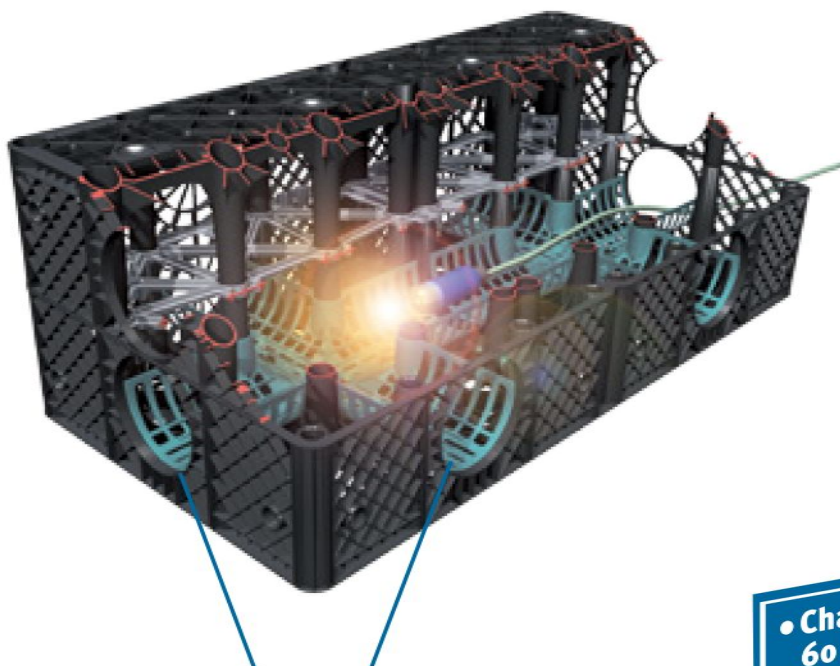
Capacity [litres]	Length [mm]	Width [mm]	Height [mm]	Colour	Order no.
300	1200	600	420	black	360014

Q Webcode G4102

Technical data	
Volume	300 litres (79 US-gallons)
Length	1200 mm (47.2 inches)
Width	600 mm (23.6 inches)
Height	420 mm (16.5 inches)
Connectors	12 x DN 150
Material	6 x DN 125 6 x DN 100
Weight	approx. 18 kilos
Material	Rain Bloc black: 100% polypropylene (PP) recycling material



Lorry-bearing 60 t



The special construction of the GRAF Rain Bloc guarantees lasting, high infiltration performance.

Flexible connection options - length and crossways DN 100/125/150.

• Characteristics as Rain Bloc black
 • 60 t Lorry-bearing
 • Inspectable by camera through crossing inspect channels

Rain Bloc inspect

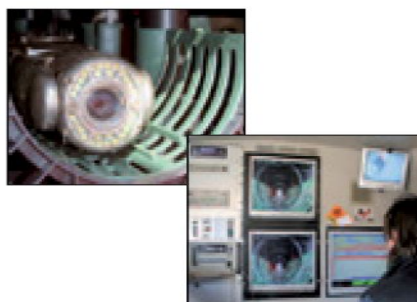
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Technical data	
Volume	300 litres (79 US-gallons)
Length	1200 mm (47.2 inches)
Width	600 mm (23.6 inches)
Height	420 mm (16.5 inches)
Connectors	12 x DN 150
Material	6 x DN 125 6 x DN 100
Weight	approx. 19 kilos
Material	Rain Bloc inspect: 100 % polypropylene (PP) recycling material

Inspection of Rain Bloc

The mobile head of the machine is equipped with a high definition camera linked up to a lighting system enabling a 360° inspection of the structure. The complete operation can be followed at the surface on control monitors. The access to the inspection channels is via directly connected up inspection manholes.



Rain Bloc accessories

Deaeration end

DN 100

Order no. 369017



Connecting elements

For all horizontal and vertical connections
10 units

Order no. 369012



GRAF-Tex geotextile

For one Rain Bloc size of 2.50 x 2.50 m

Order no. 231006

Material sold by the metre, roll width 5 m

Order no. 231002



Installation guide

Rain Bloc

Earthworks - Formation level

This will be done according to the rules of good practice (extra width at the foot of the structure and appropriate slope angle) relating to open-cut earthworks.

The adjustment is done:

- **flat formation level:**

- small structures (length of less than 20 m), flatness tolerance 2 cm,
- big structures (length greater than 50 m), flatness tolerance 5 cm,
- medium-sized structures (length between 20 and 50 m), tolerance of 0.1 % on the length,

- **for retention:** sloping Formation level with a ditch of between 0.5 and 1 %

The bad bearing capacity of the Formation level should be taken into account and where necessary amendments to the installation design should be made to overcome weak ground conditions.



Installation bed

This will be done according to the rules of good practice (extra width at the foot of the structure and appropriate slope angle) relating to open-cut earthworks.

The adjustment is done:

Geotextile - Geomembrane

The nature of the geosynthetic complex depends upon the application.

A non woven or woven geotextile is suitable for infiltration applications, see Rain Bloc Accessoires.

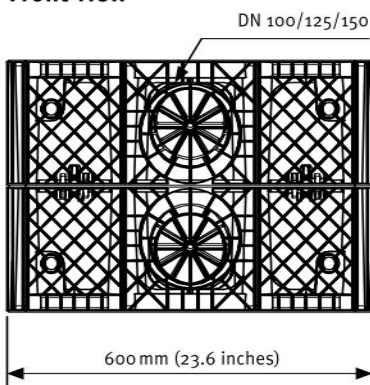
For retention applications a non woven geotextile fleece should be used to protect the non permeable geomembrane.

Installation will be done according to the rules of good practice and in particular by overlapping by 30-50 cm of the strips of geotextile in order to prevent any materials from getting into the structure.

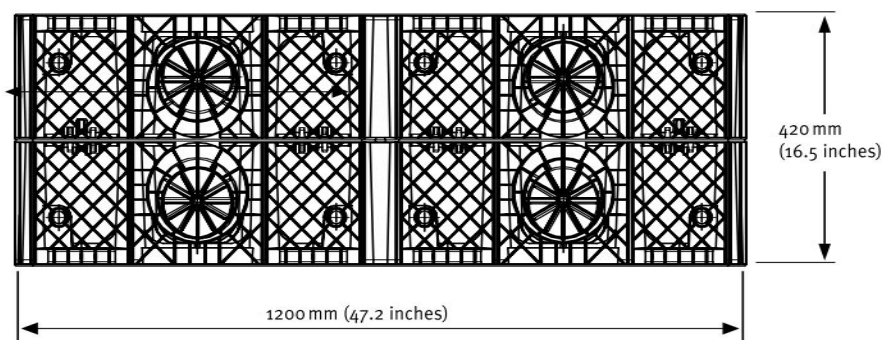
The placement of the geomembrane will be done by gluing or welding (water-tightness around the pipes must also be assured).



Front view



Side view



Installation guide

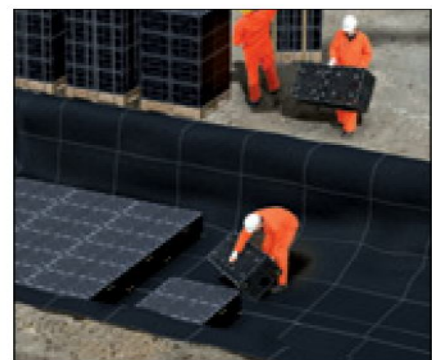
Rain Bloc

Receipt of product at site - Handling - Storage

The Rain Bloc crates are delivered in packs.
 They are unloaded with fork-lift trucks or manually in the case of depalletisation.
 They should be stored on a flat, clean surface.
 In the event of prolonged storage (several months), it is advisable to protect them against ultra-violet light radiation.

Assembly of modules

It is recommended to align the first elements of the structure on the width of the tank. Special attention must be paid to the proper alignment of this row, as this conditions the proper layout of the structure.
 The subsequent rows will then be made parallel to the first one then joined up with the clips.



Specification Summary

Rain Bloc

Ultra-light and strong grid structure

- Flat Formation level
- Polypropylene materials
- Dimensions 1.20 x 0.60 x 0.42
- Vol. ratio: 95 %
- Link between modules by clips, 2 per contact face
- Modules inspectable for the bottom and lateral surface
- Traditional modules for layers 2 and subsequent
- Resistance to heavy loads (HGV up to 60 t)
- Minimum earth covering under heavy loads: 0,50 m
- Maximum installation depth depending on the nature of the soil in place

Placement

Earthworks

These are carried out in accordance with the rules of good practice (extra width at the base of the structure and slopes of batters) relating to open-cut earthworks.

Formation level

This is made up of a 10 cm bed of filler materials (gravel or any other non angular granular material)

Geosynthetic complex (geotextile/geomembrane)

The geosynthetic complex should have sufficient tensile strength to suit the application. Fitting is done as per the rules of good practice. For retention applications, typically a 2.0 mm thick membrane will be required with welded joints and a heavy duty protection fleece. For infiltration applications a geotextile with sufficient filtration properties is required.

Installation - Fitting

Placement by alignment of the first elements of the structure on the width of the tank. The subsequent rows are produced parallel to the first one then joined up with clips (each contact face between the modules must have a minimum of one clip).

Backfilling

The backfilling and compacting should be carried out in accordance with the rules of good practice, in layers with light compaction.

Deaeration

The regulating of the internal pressure of the structure and its ventilation will be done via vents: 1 deaeration end DN 100 for 100 modules or 3 deaeration end DN 100 for 250 modules.

Connection

- Mains of DN < 150: direct connection onto the module
- Mains of DN 200, 250 and 300: connection onto specially equipped module
- Connection to tank at bottom of modules (no fall connection)

Filtration

The presence of structures upstream of the filtration has special importance for it enables the collection of the maximum amount of floating material or material in suspension in the rainwater drained and capable of clogging up the structure.

Placement limits

For loads of up to 60 tons:

- minimum earth covering = 0.50 m
- maximum earth covering = 2 m
- maximum installation depth = 5 m

