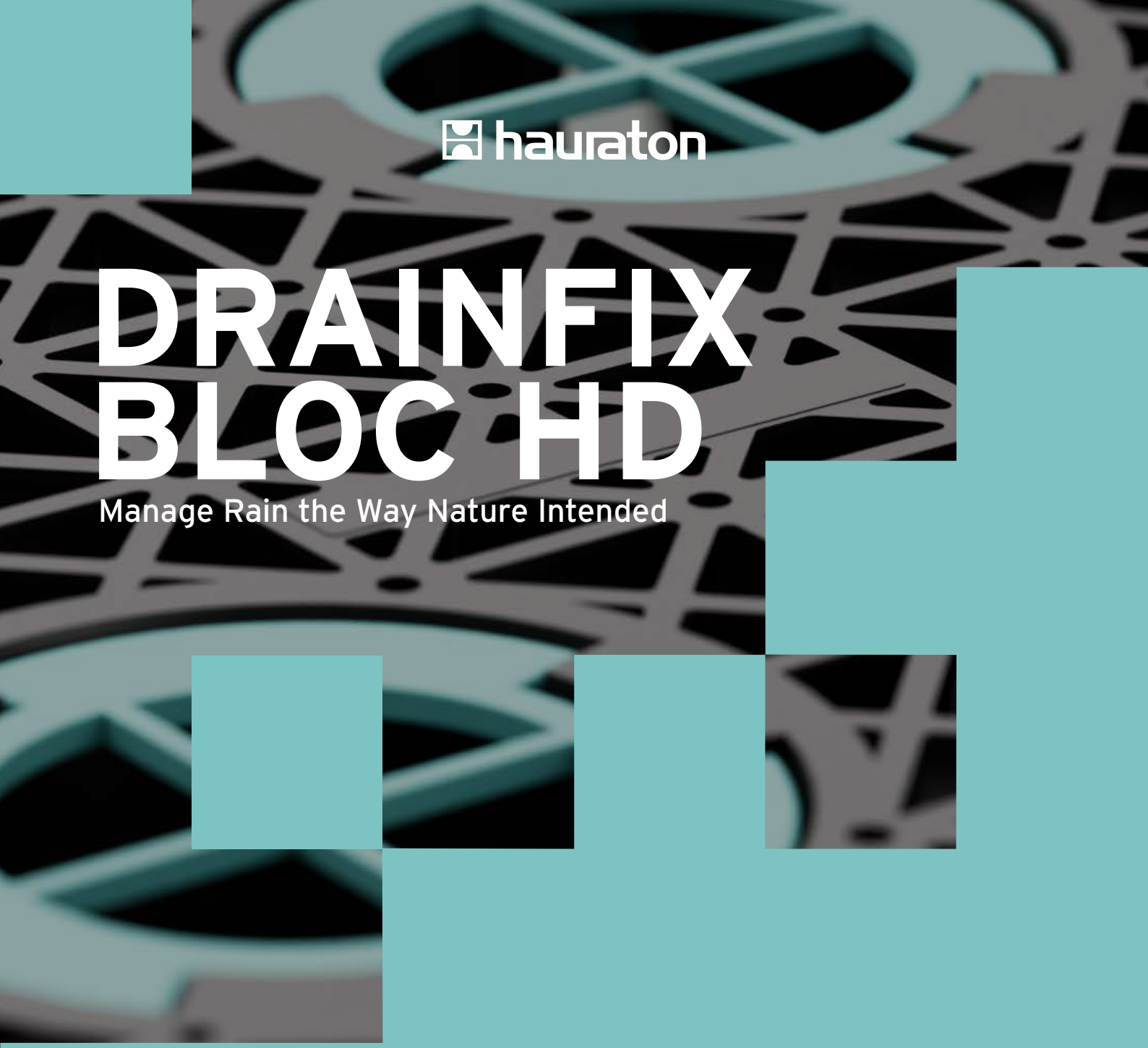
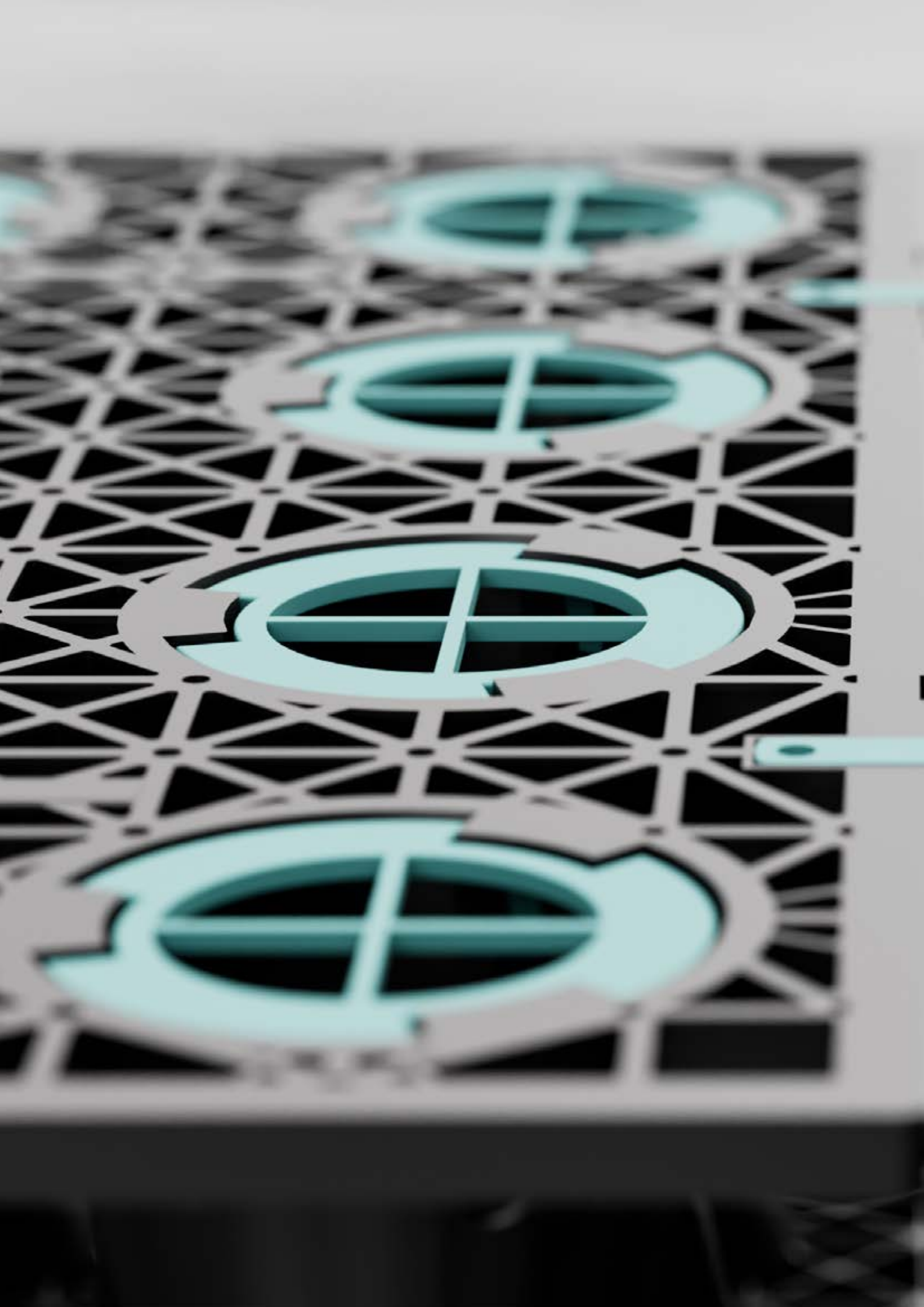
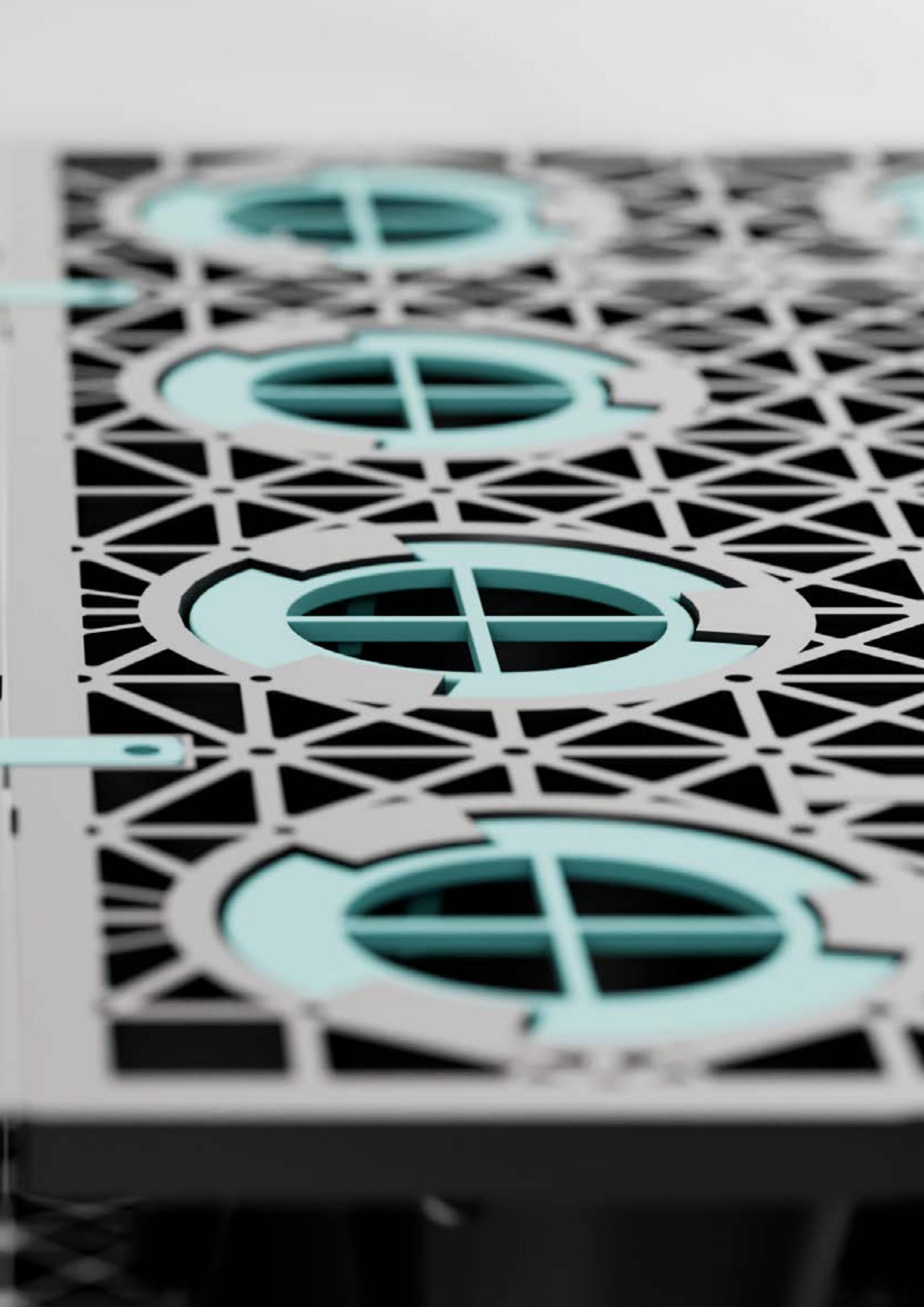
hauraton

DRAINFIX BLOC HD

Manage Rain the Way Nature Intended







Rainwater Management

Climate change brings extreme weather events which calls for smarter rainwater management

What is Rainwater Management?

Rainwater management today requires a broader, integrated approach to water control. Competent systems need to address every stage of the process, from surface water collection, treatment through to storage, infiltration and controlled discharge. Each project brings its own set of requirements, shaped by site conditions, regulatory standards and long-term performance goals.

A comprehensive product portfolio applied with technical support and design expertise ensures rainwater is managed effectively. The aim is to deliver sustainable solutions that manage runoff volumes, mitigate flood risks, protect water quality and remain resilient under projected increases in rainfall intensity.

Consequences of climatic changes such as heat waves and more frequent heavy rainfall events are increasing significantly. Periods of drought and flooding are occurring more frequently. In addition, land sealing is increasing, especially in urban areas. Due to the sealing of the soil, water can hardly reach the soil naturally.

During heavy rainfall events, this leads to the intake capacities of the sewage system being exceeded. As a result, untreated rainwater runoff enters the environment, placing an additional burden on numerous ecosystems. It is therefore all the more important to use decentralised solutions with rainwater treatment that relieve the burden on the sewage system and promote groundwater recharge. This is the only way to promote comprehensive rainwater management.

Heat and Drought

Due to more frequent and longer periods of heat and the accompanying drought, the groundwater level is sinking more and more. Agriculture and forests are already visibly suffering from the long periods without precipitation and the increased occurrence of isolated heavy rainfall events. The unsteady supply of water causes stress for plants and trees, which also manifests itself in yield losses and premature leaf shedding.

Heavy Rainfall

The opposite extreme to heat and drought are heavy rain events, so-called urban flash floods or "century rain events" (rainfall amounts that statistically occur once a century). Against this background, drainage solutions must meet the following criteria:

- Consideration of heavy rainfall events in the drainage concept
- Operational safety even in the event of flash floods
- Consideration of flooding scenarios (proof of safety against flooding)

Through the integration of infiltration, retention, treatment and drainage systems, we can offer a comprehensive rainwater management solution that responds effectively to both heavy rainfall and drought challenges across all project types.

Inner Crate **2**

1 Outer Crate

Product Data	DRAINFIX BLOC HD
Application	Parking Spaces, Ports, Logistical Industry, Airports
Colour	Black
Compressive Strength - Vertical	400kN/m2
Compressive Strength - Lateral	90kN/m2
Void Ratio	95.8%
Surface Void Ratio	>60%
Minimum Backfill Cover	300mm*
Material	100% Recycled Polypropylene
Chemical Resistance	Good

*Minimum cover shown is the product capability, CIRIA recommend 500mm min cover in all cases & more for vehicular use.
** Maximum depth to invert shown assumes a 30 degree angle of shear resistance (dense sand & gravel) and no groundwater

DRAINFIX BLOC HD

Heavy duty crate, manufactured in Britain and made from 100% recycled plastics.

The Product

The DRAINFIX BLOC HD system is an extremely strong 100% recycled plastic water permeable crate with a 95.8% void ratio, allowing rainwater run off to be temporarily stored and then released gradually, either into the soil acting as a soakaway or attenuated for transfer to the sewer system after a rainfall event. The crate delivers exceptional pressure resistance, making it ideal for a wide range of applications. Its modular design allows easy expansion in all directions, enabling flexible construction of structures in any size.

The Advantages of DRAINFIX BLOC HD

- Large format - just 2.5 units/m3
- Lightweight - 17kg per unit
- Choice of diameters for incoming/outgoing connections
- High load bearing capacity, sufficient for pedestrian & traffic use
- Large storage capacity (383.2 litres) with 95.8% voids
- Economic and fast to install
- Can be installed even in areas with a high water table, making it a more suitable solution.
- Innovative open-inner / closed-outer design for faster installation and efficient transport

The Principle

For soakaways, these underground storage units are wrapped in a non woven, needle punched geotextile to allow water discharge to the sub-surface to re-charge groundwater. For attenuation systems, a sealed geomembrane is wrapped around the tank to create a watertight seal and a protection fleece is then wrapped around to protect the geomembrane.

The DRAINFIX BLOC HD has a high load bearing capacity and can easily be expanded in all directions. The open-inner / closed-outer configuration simplifies installation by providing immediate edge stability and a self-contained perimeter, reducing on-site assembly time and improving overall build efficiency.

The construction of the storage void is achieved by the use of the DRAINFIX BLOC HD, a geocellular system with dimensions of 1.0m x 1.0m x 0.4m (L x W x H) and with a storage capacity of 383.2 litres (95.8% void ratio). The standard loading capacity of 400 kN/ m2 is sufficient for most situations, whether pedestrian or trafficked.

*N.B. For HGV applications please contact our technical team.

Why Infiltration?

The expansion of buildings and roads seals natural surfaces and disrupts the water cycle. In many urban areas, only about a quarter of stormwater can infiltrate the ground, forcing most of it into drainage systems that are often outdated or undersized. Natural soil and vegetation normally store and slowly filter this water, but sealed surfaces prevent this, lowering groundwater levels and drying out soils. This also increases flood risk and the need for costly drainage infrastructure. To address these issues, we need systems that capture stormwater where it falls and release it gradually back into the environment.

Why Retention?

Retention systems temporarily store excess rainwater and release it slowly into drainage networks and natural waterways. This controlled discharge reduces peak flows, prevents sewer overload, and mitigates flooding. By holding back runoff during heavy rainfall, retention systems help prevent erosion, protect water quality, and stablise downstream water levels. They play a crucial role in managing stormwater sustainably, especially in areas where infiltration is limited due to soil or site conditions.

System Features

Looking into the system features of the DRAINFIX BLOC HD

Inner Crate

An inner crate is also supplied for larger projects that is supplied without sides to allow unfettered access to water entering the system which forms the inner volume within the full crate perimeter.

Layer to Layer Connectors

Systems are supplied with unit to unit turquoise connectors (4 per unit) and layer to layer red connectors (2 per unit) that also act as unit to unit connectors where required.

Closer Caps

A turquoise closer unit is supplied to cap the top layer of crates prior to covering with geotextile and/or geomembrane to create a flat top surface (16 per unit) for the top layer only.

Unit to Unit Connectors

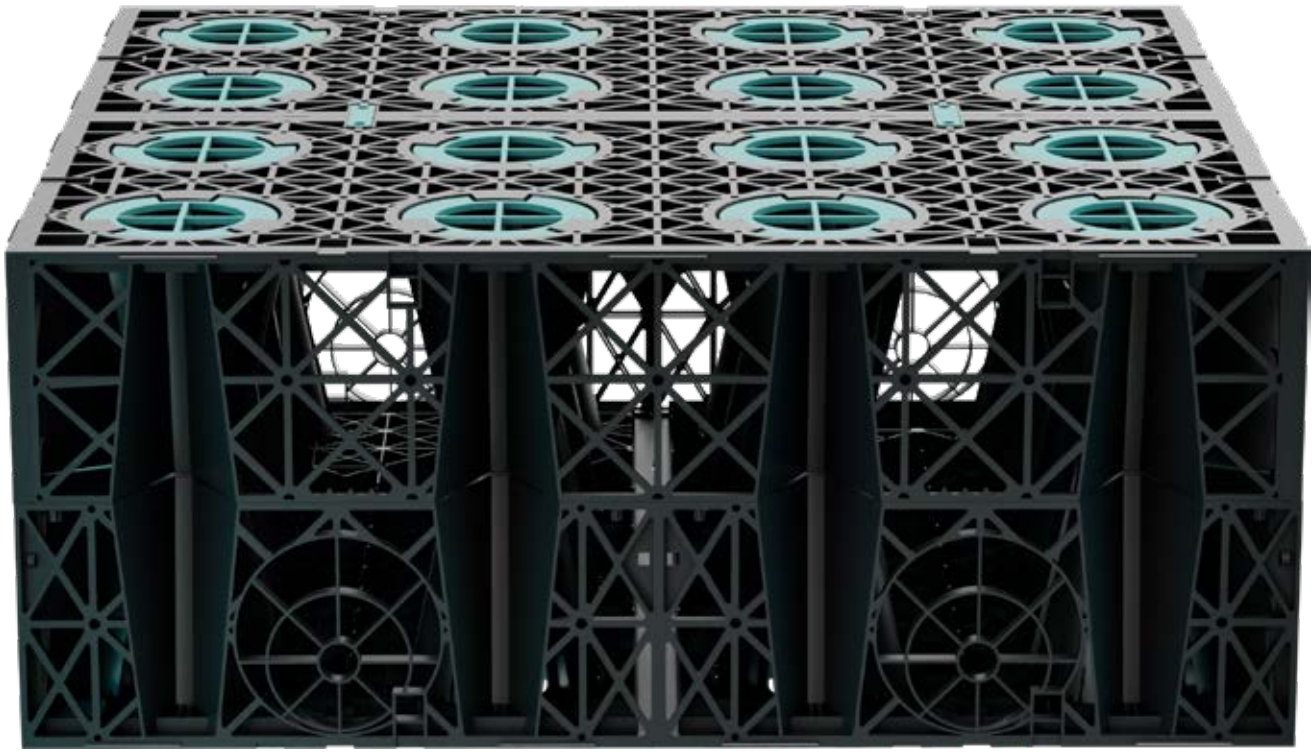
Systems are supplied with unit to unit turquoise connectors (4 per unit) and layer to layer red connectors (2 per unit) that also act as unit to unit connectors where required.

Attenuation

Position the inflow and outflow connections level with the base of the DRAINFIX BLOC HD structure.

Outer Crate

For larger projects, this crate forms the outer ring of any structure enabling both inspection/maintenance routes to be created and incoming / outgoing connections to be made.



Inspection and Maintenance

DRAINFIX BLOC HD units are designed to include three purpose designed inspection and maintenance routes within every unit running in both directions. Because of these, routes can be created running width or length of the structure at virtually any position this aids versatility in design.

Infiltration

Position the inflow connection at the top of the DRAINFIX BLOC HD structure.

Additional Features

Access, Maintenance & Inspection

The DRAINFIX BLOC HD crate has two removable cut-outs per side for inspection and maintenance. Remove cut-outs on the lateral walls as required. Access to the inspection route is via the upstream silt trap or downstream inspection chamber/manhole.

Silt Control

Install a silt trap upstream of the crate, or use a perforated pipe below it within the geomembrane, but never inside the crate (CIRIA), with a "U"-shaped geotextile channel as another option.

Making Connections

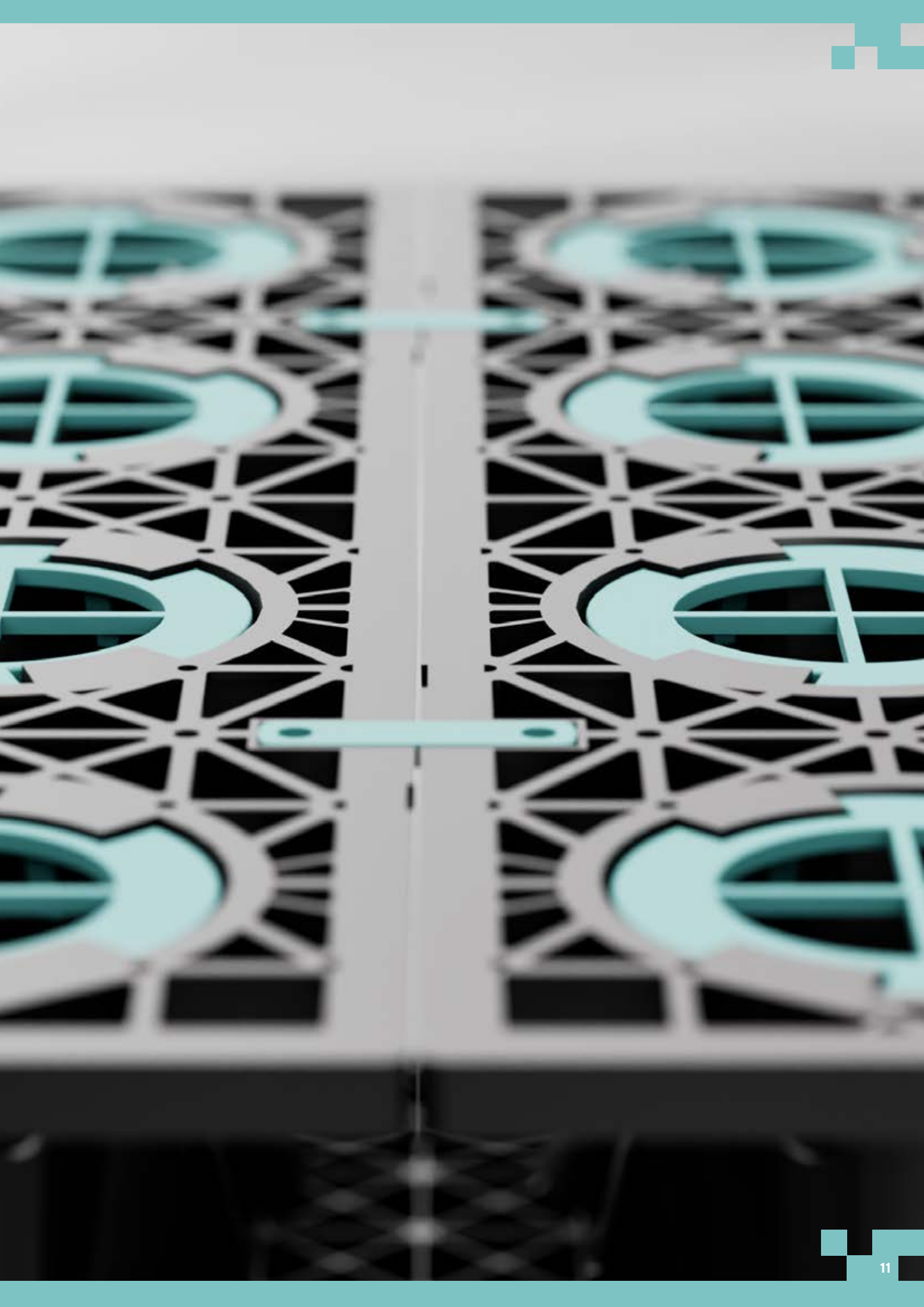
DRAINFIX BLOC HD crates include two removable cut-outs per side for 110/160 mm pipework, positioned at either the top or base by inverting the crate. Larger connections can be made using an adaptor plate or a manifold system.

Vents

Sealed attenuation systems require a 110 mm diameter vent for every 7,500 m2 of drained area, achieved either by flipping the crate to create a side connection at the top or by removing the turquoise closer and fitting a flange connector.

Large Structures

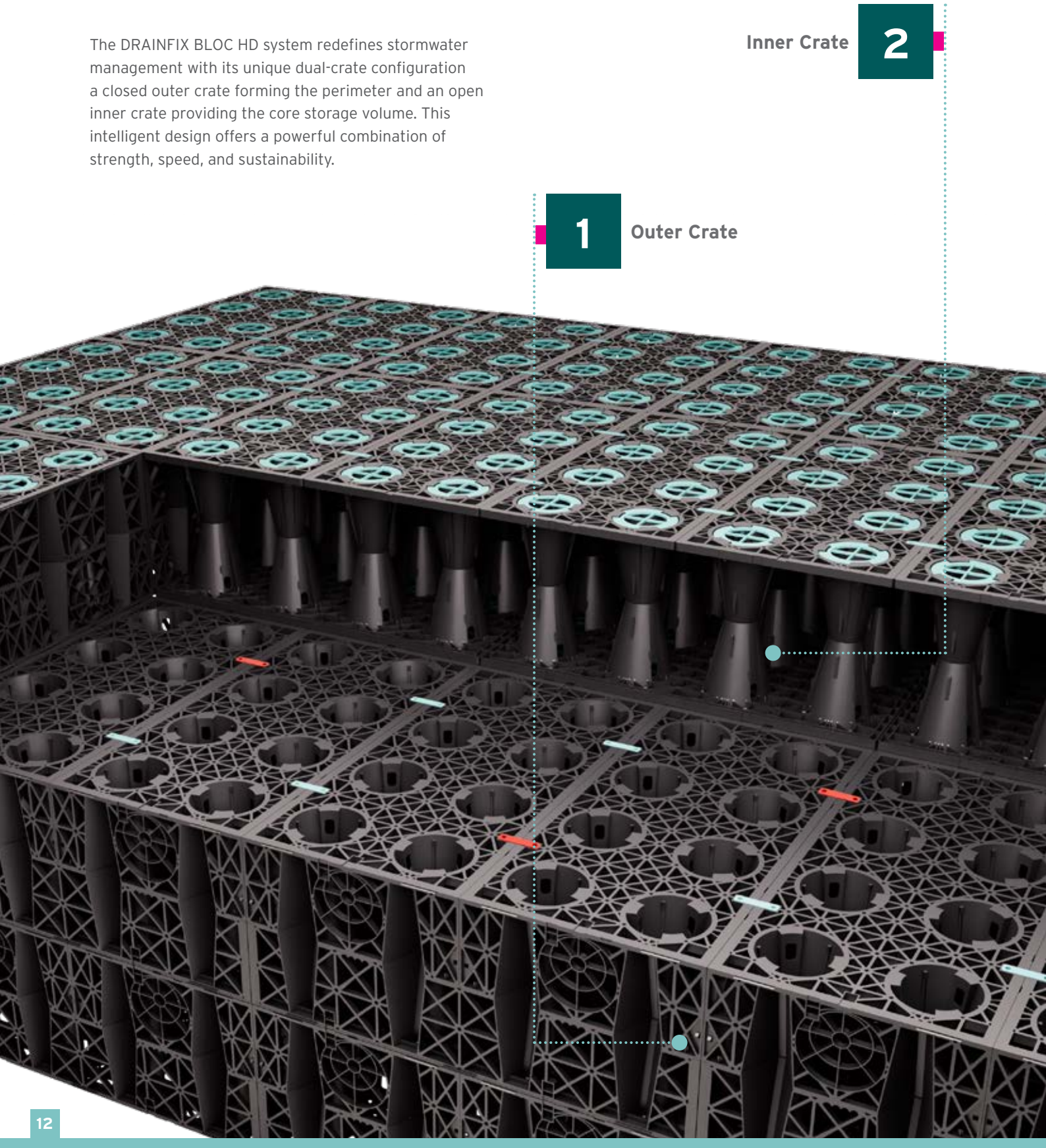
For large structures, use side-less crates with full crates forming the outer ring. Begin with a row of full crates, add half-height open crates (1 m x 0.5 m) clipped together, then flip the bases to form tops and secure at 90° with connectors. Finish with full crates around all sides.



Unique dual-crate configuration

Intelligent design of DRAINFIX BLOC HD

The DRAINFIX BLOC HD system redefines stormwater management with its unique dual-crate configuration a closed outer crate forming the perimeter and an open inner crate providing the core storage volume. This intelligent design offers a powerful combination of strength, speed, and sustainability.



Key Benefits

Faster Installation

- The closed outer crates create an instant boundary – no need for separate face plates or end panels.
- The system is intuitive and quick to assemble, saving valuable time on site.
- Simplified installation reduces labour costs and the potential for assembly errors.

Compact, Efficient Transport

- The open inner crates are designed to nest and stack, significantly reducing transport volume.
- Fewer deliveries mean lower logistics costs and reduced carbon emissions.
- Ideal for projects where space and transport efficiency matter.

Built-In Structural Integrity

- The closed outer crate provides exceptional rigidity and protection during backfilling.
- The system ensures long-term stability, even under heavy loading conditions.
- Designed for high load bearing capacity and durability in both infiltration and attenuation applications.

Flexible Design, Modular Performance

- The modular crate system can be configured to suit any project scale or footprint.
- Expand easily in all directions to meet varying storage volume requirements.
- Compatible with both permeable (infiltration) and sealed (attenuation) system designs.

Lower Total Project Costs

- Faster assembly, reduced transport, and minimal accessories translate to real cost savings.
- Reduced installation time frees up site resources and accelerates project delivery.
- A single, integrated system – fewer components, fewer complications.

Efficient Transport

Delivered Ready for Installation

The DRAINFIX BLOC HD system is delivered to site together with enough turquoise clips to enable side to side connections (four per crate) and for multi-layered systems red clips are provided (two per crate). The final layer of crates have the turquoise caps fitted to complete the structure. For drainage and vent connections both 110/160mm OD cut-outs are provided on each side of the crate. Larger connections are accommodated by the use of adapter plates to suit the incoming pipe diameters.

It features a unique dual-crate configuration – a closed outer perimeter crate combined with an open inner crate infill.

This innovative design allows rapid installation and efficient logistics:

Part Name
DRAINFIX BLOC HD Unit to Unit Connectors
DRAINFIX BLOC HD Layer to Layer Connectors
DRAINFIX BLOC HD Closer Cap
DRAINFIX BLOC HD Crate Heavy - 40T
DRAINFIX BLOC HD Inner Crate Heavy - 40T Flat Packed

1

The inner crate provides a 75% increase in transport efficiency

Inner Open crates

The inner open crates stack neatly for compact transport, reducing delivery volume and carbon footprint, and can be quickly assembled on site.

Inner Flat Packed Crate Packaging

14 crates per pallet

910 cubic metres (tank volume) per lorry

2

Outer Closed crates

The outer closed crates form a robust boundary, eliminating the need for additional face plates or end panels footprint, and can be quickly assembled on site.

Outer Crate Packaging

8 crates per pallet

520 cubic metres (tank volume) per lorry

Applications

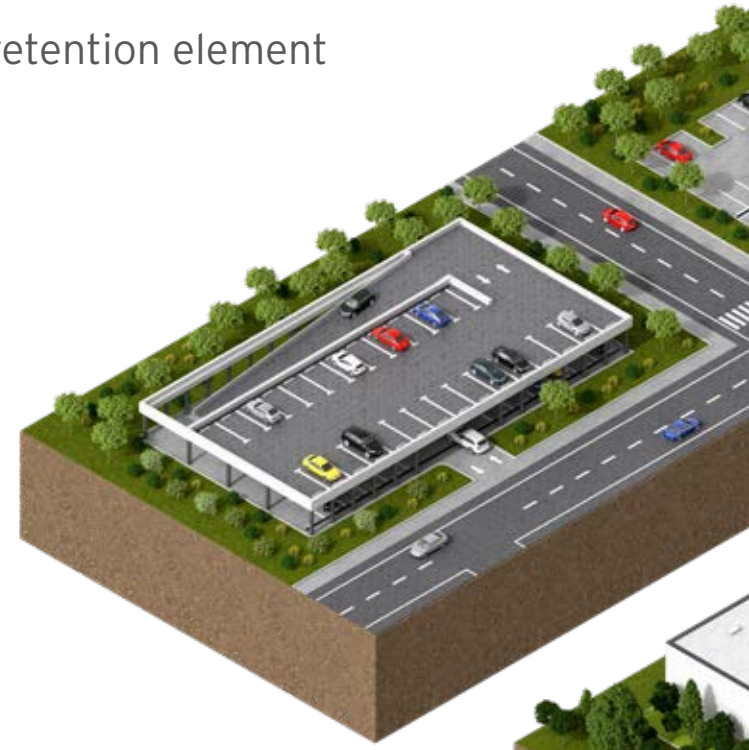
Suitable for use as an infiltration or retention element in commercial and industrial areas.

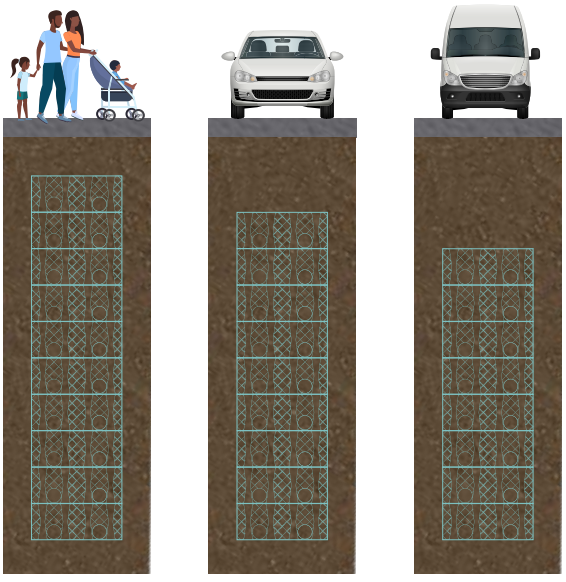
Commercial Areas

DRAINFIX BLOC HD is ideal for bulk stormwater storage in both attenuation and infiltration systems. With its high load-bearing capacity of up to 3 tonnes, it is perfect for amenity areas, car parks, and even roadways.

When installed with 500 mm of cover, it is suitable for cars; with 750 mm of cover, it can support full vehicular traffic.

Standard 100 mm and 150 mm connections are integrated, and other diameters can be easily accommodated.



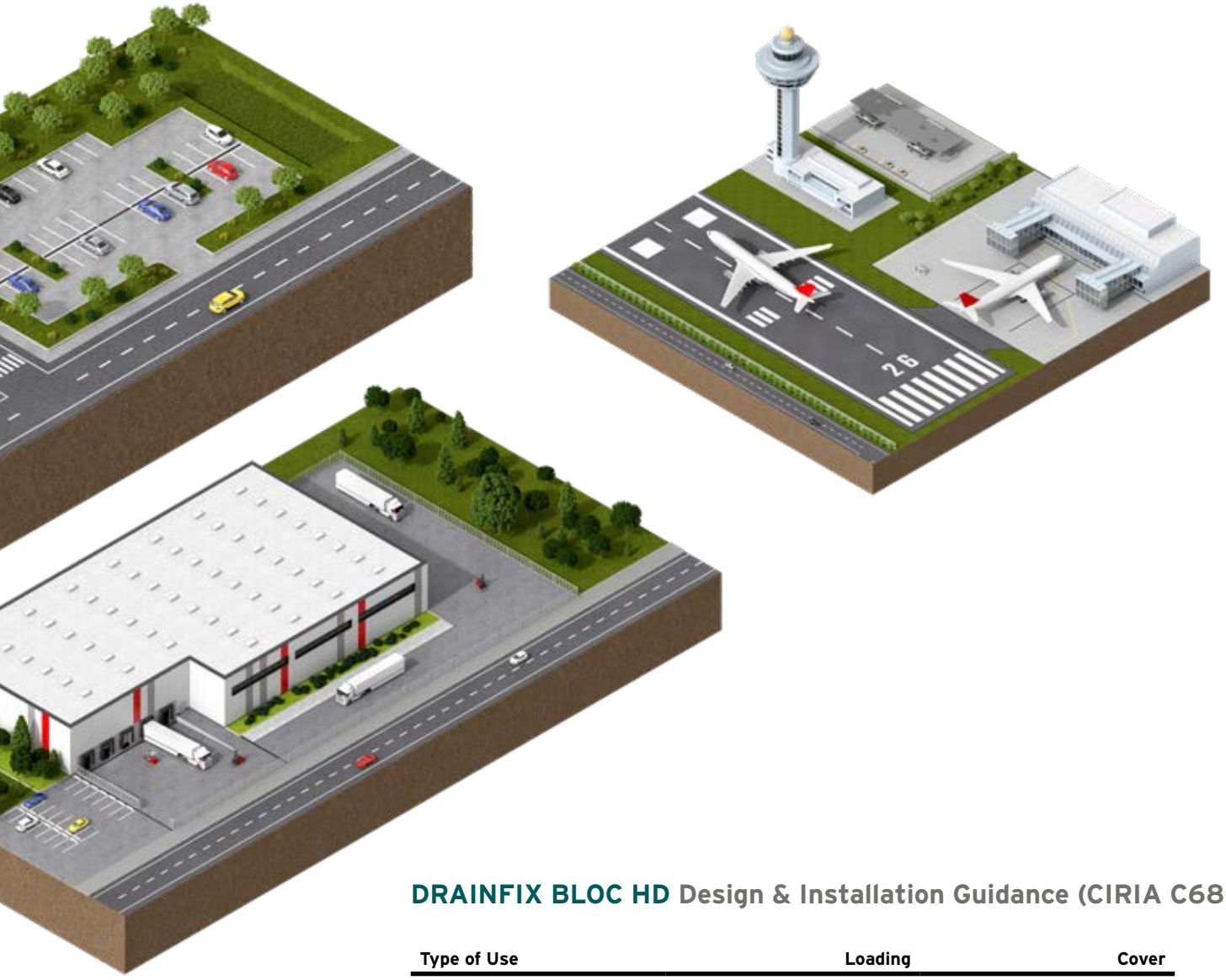


Crate Loading

The vertical loading on a crate structure is a combination of both the weight of the backfill and the imposed loads due to traffic (live) and structures (dead loads).

Lateral loads are a factor of the pressure exerted by the depth of installation and the strength of the surrounding soil.

N.B. For HGV applications, please contact our technical team



DRAINFIX BLOC HD Design & Installation Guidance (CIRIA C680)

Type of Use	Loading	Cover
Landscape	Pedestrian	0.3m - 0.5m*
Car Park	> 3T GVW	0.5m
Car Park	> 9T GVW	0.75m
HGV	> 44T GVW	1.2m

* CIRIA recommend an assessment of the risk of damage due to gardening operations etc

DRAINFIX BLOC HD Guidance on Maximum Depth

Maximum Depth of Installation to base with varying soils (no groundwater within 1m of base)

Soil Type	Shear Angle	Pedestrian	Car Parks	Heavy Use
Stiff over consolidated clay	24°	2.8m	2.8m	2.5m
Silty sandy clay, consolidated	26°	3.0m	3.0m	2.8m
Loose sand & gravel	30°	3.9m	3.9m	3.3m
Medium dense sand/gravel	34°	4.2m	4.2m	3.9m
Dense sand & gravel	34°	5.0m	5.0m	4.7m

Sustainability at HAURATON

HAURATON have been a successful specialist in surface drainage and rainwater management worldwide for almost 70 years. The issue of sustainability is particularly important to us.

DRAINFIX BLOC HD is 100% Recycled Polypropylene

From small polypropylene granules to long-lasting crates.

The DRAINFIX BLOC HD is produced from a variety of post-consumer polypropylene products, such as disposable bottles. In this way, valuable resources such as crude oil are conserved and the amount of waste is reduced for the benefit of the environment. DRAINFIX BLOC HD crates are also PVC-free and can be fully recycled following lifetime use.

They provide a lightweight alternative that's both easy to install and hard-wearing. DRAINFIX BLOC HD has exceptional strength and durability as it can withstand static loads and high traffic loads with a void of 95.8%

Our commitment to the environment

At **HAURATON,** we rely on natural and recycled materials, produce with renewable energies and reduce CO_2 through short transport routes. From the selection of raw materials to the manufacturing process and disposal, we minimise energy consumption and use all resources sparingly.

We are therefore all the more delighted that our comprehensive approach to rainwater management has now been awarded Gold certification **CONCRETE SUSTAINABILITY COUNCIL (CSC)**.

Facts and figures

Thanks to photovoltaics, around **370 tonnes** of CO_2 can be reduced each year.

Fluorescent tubes have been replaced by energy efficient LEDs. Our savings: **46 per cent** energy.

Our combined heat and power plant reduces primary energy consumption by up to **40 per cent** and uses the waste heat efficiently for heating and hot water.

Over **97 per cent** of production waste is reused or recycled, for example as concrete scrap for road construction.

Renewable energies already cover **31 per cent** of our total energy consumption.

Resource-Saving Production

Environmental protection and the careful use of environmental resources concerns us all. At **HAURATON** we focus on sustainability in all areas - from the selection of renewable raw materials to the manufacturing process and disposal.

Short distances and an efficient logistics concept

Our DRAINFIX BLOC HD materials are procured exclusively from local and regional producers. Almost half of all HAURATON's total orders are placed with local, nearby suppliers, which has an extremely positive effect on the CO2 balance. HAURATON also already have the ISO 14001 certification.

Continuous optimisation of picking and loading reduces the amount of packaging per product, shortens loading times and ensures better customer service.

Monitoring and testing

Progress towards our energy targets are monitored in the following ways:

- Periodically recurring energy audits on energy consumption, energy efficiency and investment proposals
- Regular internal reporting on the environmental targets and related metrics/targets during the year, as well as an annual management review
- Annual external audits of environmental procedures in conjunction with our ISO 9001/14001 certification

Our perspective for optimised logistics

Short loading times, less packaging, and optimised shipping – our products reach the customer faster and protect the environment during transport.

Product line supply chain

Procurement of Recyclate
Sourcing recyclates made from high-quality industrial materials.

High Quality Manufacturing
Plastic injection moulding carried out ensuring consistent quality and reliability.

Procurement of Products
Plastic components manufactured through precision injection moulding.

Storage
Efficient storage and order picking to ensure smooth material flow and timely deliveries.

Delivery
Comprehensive sales, shipping, and after-sales service to ensure smooth order fulfilment and customer support.

You can find out more about **Sustainable Materials at HAURATON** on our website
https://www.hauraton.com/en/knowledge/sustainable-materials/

Drain

Targeted drainage of rainwater through drainage systems.

Treat

Effective treatment of contaminated rainwater runoff

Retain

Safe retention and temporary storage of large quantities of water

Infiltrate

Targeted infiltration of rainwater into subsoil

Core Competencies

HAURATON is an expert in comprehensive rainwater management with the core areas of expertise DRAIN, TREAT, RETAIN AND INFILTRATE. We develop and produce tailor-made rainwater managemnet solutions for all areas of applications.

1 Drain

RECYFIX MONOTEC

Drainage systems are designed to collect and convey rainwater efficiently through surface channels. The RECYFIX MONOTEC channel is a lightweight, one-piece system that combines strength and ease of installation.

2 Treat

DRAINFIX CLEAN

Rainwater treatment systems ensure that pollutants and sediments are removed from collected rainwater before it enters the ground or sewage network. The DRAINFIX CLEAN filter system delivers reliable purification with low maintenance, making it ideal for protecting both infrastructure and the environment.

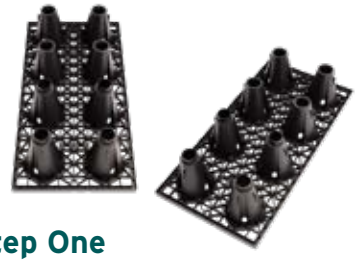
3 Retain/Infiltrate

DRAINFIX BLOC HD

Infiltration crate systems manage stormwater by allowing it to soak into the ground reducing runoff and flood risk. DRAINFIX BLOC HD is a durable, eco-friendly system, suitable for both infiltration and retention. Lightweight and easy to install, it's designed to effectively mitigrate flooding in large surface area projects such as car parks and commercial developments.

To see more products that **HAURATON** have to offer, visit our website **https://www.hauraton.com/en/products/**

Assembly of Inner Crate



1 Step One

Your DRAINFIX BLOC HD Inner Crate parts arrive flat-packed on a pallet. Four parts are required to assemble one side-less inner crate.

2 Step Two

Position two inner parts side by side, aligning the Male (M) and Female (F) ends. Secure them with two turquoise clips (see Step Five).

3 Step Three

Place the remaining two inner parts on top, positioned perpendicular to the bottom crates as shown.

4 Step Four

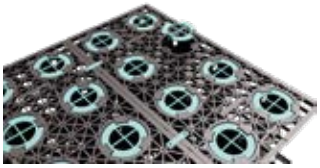
Once placed, firmly press down on the top inner crate parts to ensure they 'click' into place.

5 Step Five

Use four turquoise DRAINFIX BLOC HD clips per inner side-less crate to secure the top and bottom sections, as shown.

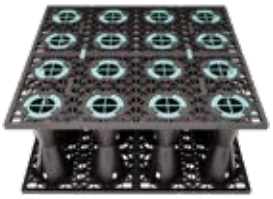
6 Step Six

For installations over one layer deep, use two red DRAINFIX BLOC HD clips per crate on opposite sides between layers to secure them during installation.



7 Step Seven

For installations over one layer deep, use two DRAINFIX BLOC HD red clips per crate on opposite sides between layers to keep them secure during installation.

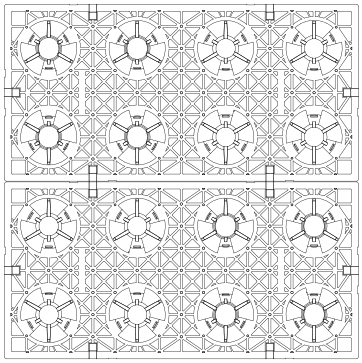


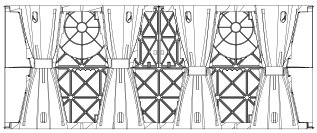
8 Step Eight

Your made up inner side-less crate including all clips and closers (for the top layer) should look like the photo to the right.

DRAINFIX BLOC HD

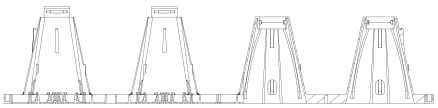
DRAINFIX BLOC HD Outer Crate

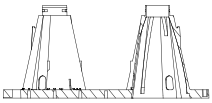




Item Description	Length mm	Width mm	Height mm	Weight kg	Item no
DRAINFIX BLOC HD Outer crate, for heavy duty use	1000	1000	400	16.8kg	11494

DRAINFIX BLOC HD Inner Crate





Item Description	Length mm	Width mm	Height mm	Weight kg	Item no
DRAINFIX BLOC HD Inner crate, for heavy duty use	1000	1000	400	6.8kg	11495

(Whole made up of 4 x stackable component parts (each L:1000mm x W:500mm x H:200mm))

Accessories

Item Description	Length mm	Width mm	Height mm	Weight g	Item no
DRAINFIX BLOC HD Closer cap, turquoise	Ø150	Ø150		33g	11493
DRAINFIX BLOC HD Unit to unit connector, turquoise	87	N/A	33	11g	11492
DRAINFIX BLOC HD Layer to layer connector, red	87	N/A	43	14g	11491

HAURATON UK
18 & 19 Saddleback Road
Westgate Industrial Estate
Northampton
NN5 5HL
Tel. 01582 501380
sales-uk@hauraton.com

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