



DELAYED DISCHARGE AND INFILTRATION OF RAINWATER

**Tanks for delayed discharge
Infiltration blocks**



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The published rates are exclusive of VAT, and ex works.



BUFFER TANKS (delayed discharge) CHARACTERISTICS.

In periods of abundant rainfall, floods might occur frequently. This is because more and more paved surfaces are being created (buildings, parking lots, driveways, etc).

To solve this problem, there are various infiltration systems, that make the water infiltrate slowly into the ground. These systems have many drawbacks...

Therefore, we have developed a system that is able to gather the rainwater. Then, the amount of water is gradually transferred to the sewer or stream.

The system consists of a tank with a floater and an airlift. The floater stimulates the airpump and activates the airlift. The airlift is able to pump an average of about 9 liters per minute.

To determine the buffering volume, there is one factor that the customer should decide. It is impossible to create a buffering that works perfectly in every particular situation. Therefore, for periods of abundant rainfall, we have installed an overflow. The customer is free to choose, within how many years, an urgency overflow should be installed. This will determine the buffering volume.

Several studies come up with the same conclusions:

Privately: 10 l/m² peak rainfall(= 15 min) and 14 l/m² (within one hour)

For industries: 40 l/m² peak rainfall (= 15 minutes) and 56 l/m².(within one hour)

For industries our system is not applicable, because the roofs are much larger than 100 m².

	Returning period of an overflow		
	½ year	1 year	5 years
Private	1 m ³	1,5 m ³	2,75 m ³
Industries	4 m ³	6 m ³	11 m ³

FUNCTIONING

The buffer tank is at rest half full. In case of rain, the tank will fill.

If the level in the tank rises, the floating switch will give contact. This will ensure that an air pump of 40 watt will enter into force, which will turn on an airlift, mounted in the tank.

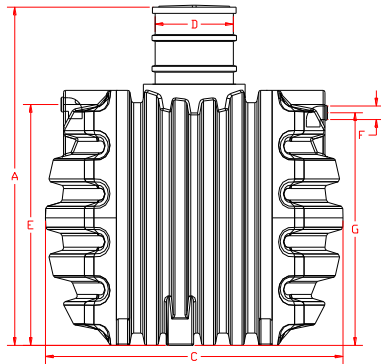
The airlift pumps an average of about 9 litres per minute.

there is an overflow, in case If it rains too long.

Reinforced horizontal buffer tanks

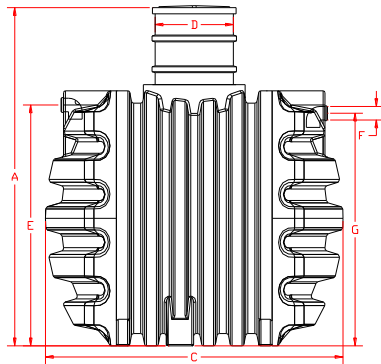
Reinforced version – 2.400, 3.300 and 6.000 liter.

BT2400



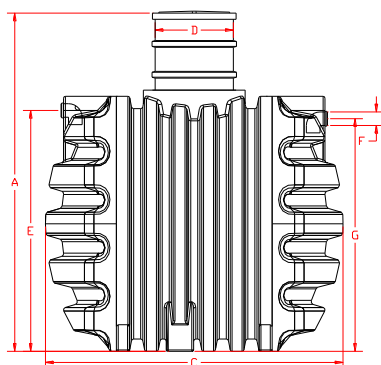
Installation in sand	
Color	Black
Volume	2.400 liter
Length	2.350 mm (C)
Width	1.350 mm (C)
Height	1.900 mm (A)
Height in	1.220 mm (E)
Height out	1.180 mm (G)
Diameter in/out	110 mm (F)
Diameter manhole	600 mm (D)
Weight	120 kg
Price – A04	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

BT3300



Installation in sand	
Color	Black
Volume	3.300 liter
Length	2.390 mm (C)
Width	1.610 mm (C)
Height	2.200 mm (A)
Height in	1.450 mm (E)
Height out	1.400 mm (G)
Diameter in/out	110 mm (F)
Diameter manhole	600 mm (D)
Weight	190 kg
Price – A04	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

BT6000



Installation in sand	
Color	Black
Volume	6.000 liter
Length	2.400 mm (C)
Width	2.070 mm (C)
Height	2.500 mm (A)
Height in	1.850 mm (E)
Height out	1.800 mm (G)
Diameter in/out	125 mm (F)
Diameter manhole	600 mm (D)
Weight	290 kg
Price – A04	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

Options



Adjustable riser: VHSC600/1200

Color	Black
Height	1.200 mm
Diameter	600 mm
Weight	22 kg
Price - A05	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

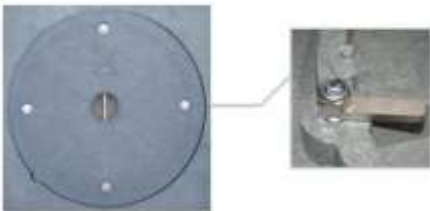
Telescopic riser: VHRB600/120-480

Color	Black
Height	120-480 mm
Diameter	600 mm
Weight	5,5 kg
Price - A05	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

Connecting set for buffer tanks

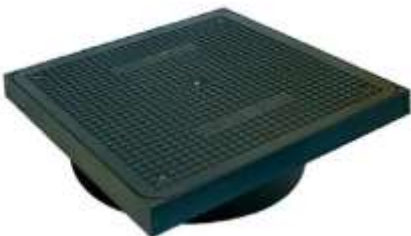
Diameter	50 mm
Standard length tube	1.000 mm
Price – A05	
Price per extra meter – A05	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

Plastic pedestrian cover Boralit: KDB A



Color	Gray
Length	700 mm
Width	700 mm
Height	145 mm
Diameter opening	590 mm
Weight	20 kg
Price - A05	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

Plastic watertight cover: B125 Hermelock.



Color	Black
Length	714 mm
Width	714 mm
Height	257 mm
Diameter opening	625 mm
Weight	27,1 kg
Price – A05	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

INFILTRATION BLOCKS CHARACTERISTICS

It happens more often that there rain floods occur. This is because more often paved surfaces (buildings, car parks, driveways, etc).

To solve this problem, there are now infiltration systems, which slowly infiltrating the rainwater into the ground. It can also occur that there is no possibility to discharge the rainwater due to lack of a sewer or canal.

In these cases an infiltration is the right solution. That is why we have these systems in our product range:

The infiltration blocks are maid in prime polypropylene. They exist in different volumes, depending on the application. They are pre-packed in a superior geotextile HF180. So the life expectance is more than 50 years.

The necessary volume depends on the total paved surface (roof, terrace, driveway, etc.), as well as the permeability of the soil. In the table below, the volume can be found relative to the kind of soil, per m² of paved surface.

Soil type	Sand		San loam		Loam		Clay loam		Clay	
Infiltration capacity	> 30 mm/hour		20 - 30 mm/hour		10 - 20 mm/hour		5 - 10 mm/hour		1 - 5 mm/hour	
Volume/100 m ²	1500 L		2000 L		2500 L		3000 L		3500 L	
Surface	Number	Type	Number	Type	Number	Type	Number	Type	Number	Type
0 - 30 m ²	1	IBB432	1	IBB648	1	IBB864	1	IBB1296	1	IBB1296
30 - 40 m ²	1	IBB648	1	IBB864	1	IBB1296	1	IBB1728	1	IBB1728
41 - 55 m ²	1	IBB864	1	IBB1296	1	IBB1728	1	IBB2592	1	IBB2592
56 - 80 m ²	1	IBB1296	1	IBB1728	1	IBB2592	1	IBB2592	1	IBB3456
81 - 110 m ²	1	IBB1728	1	IBB2592	1	IBB3456	1	IBB3456	2	IBB2592
111 - 165 m ²	1	IBB2592	1	IBB3296	2	IBB2592	2	IBB2592	2	IBB3456
166 - 220 m ²	1	IBB3456	2	IBB2592	2	IBB3456	2	IBB3456	3	IBB3456
221 - 300 m ²	2	IBB2592	2	IBB3456	3	IBB2592	3	IBB3456	4	IBB3456
301 - 500 m ²	3	IBB2592	3	IBB3456	4	IBB3456	5	IBB3456	6	IBB3456

The free volume is 95,5%, and the perforation degree is 65%.

They can be placed both in series and in parallel.

Provide a ventilation on the last block.

To prevent blockage we recommend that install a filter in front of the infiltration blocks. These are separate available.

The blocks can have a long maximum vertical load of 100 kn/m², and a horizontal of 20 kn/m². On short time they can have a vertical load of 500 kn/m², and horizontal 85 kn/m².

The blocks are inspectable and cleanable, depending on the installation.

We recomand to install a control pit behind the block. This facilitates the inspection and cleaning.

They are equipped with an inlet and overflow of 160 mm. On demand available in 110 and 125 mm.

We also deliver the seperate blocks for bigger applications.

IBB432



Installation: see installation requirements	
Volume	412 liter
Length	1.200 mm
Width	1.200 mm
Height	300 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	20,50 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

IBB648



Installation: see installation requirements	
Volume	618 liter
Length	1.800 mm
Width	1.200 mm
Height	300 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	31 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

IBB864



Installation: see installation requirements	
Volume	824 liter
Length	1.200 mm
Width	2.400 mm
Height	300 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	41 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

IBB1296



Installation: see installation requirements	
Volume	1.236 liter
Length	1.800 mm
Width	2.400 mm
Height	300 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	75 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

IBB1728



Installation: see installation requirements	
Volume	1.648 liter
Length	2.400 mm
Width	2.400 mm
Height	300 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	95,5 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

IBB2592



Installation: see installation requirements	
Volume	2.482 liter
Length	1.800 mm
Width	2.400 mm
Height	600 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	150 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

IBB3456



Installation: see installation requirements	
Volume	3.296 liter
Length	2.400 mm
Width	2.400 mm
Height	600 mm
Height in	80 - 240 mm
Height out	80 - 240 mm
Diameter in/out	160 mm
Weight	190 kg
Price – A04	

Dimensions are in mm and informative. Subject to alterations.

Options

Part	Price: A05
Sleeve 160	
Ventilation set	

EFFLUENT DISTRIBUTORS

FUNCTIONING

The liquid enters the installation via the inlet.

The installation is filled up to the outlets, and flows out to the different water treatment plants.

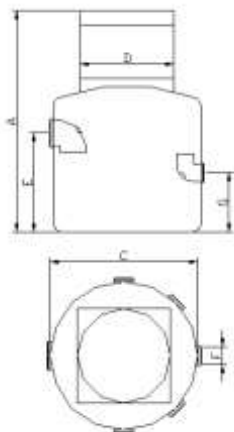
The outlets are installed at the same heights, so that the same amount of liquid flows trough the different outlets.

CHARACTERISTICS

The effluent distributor is a device that is used to distribute the same amount of liquid to different water treatment plants.

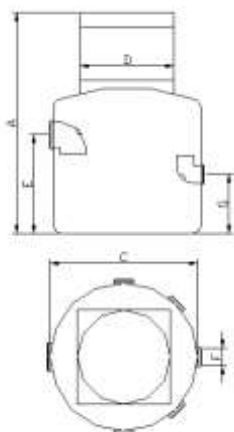
They are available with 2, 3, 4 and 5 exits.

VERD02



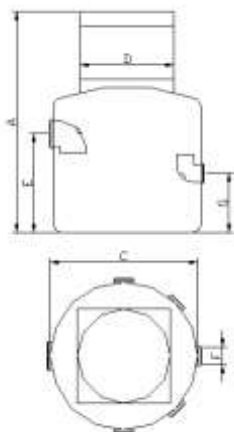
Installation in 15 cm consolidated sand	
Volume	300 liter
Number of exits	2
Length	900 mm
Width	900 mm
Height	930 mm
Height in	600 mm
Height out	360 mm
Diameter in	125 mm
Diameter out	110 mm
Diameter manhole	600 kg
Weight	23 kg
Price – B01	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

VERD03



Installation in 15 cm consolidated sand	
Volume	300 liter
Number of exits	3
Length	900 mm
Width	900 mm
Height	930 mm
Height in	600 mm
Height out	360 mm
Diameter in	125 mm
Diameter out	110 mm
Diameter manhole	600 kg
Weight	23 kg
Price – B01	
<small>Dimensions are in mm and informative. Subject to alterations.</small>	

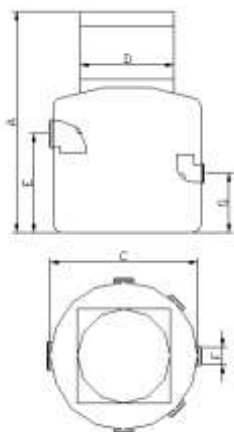
VERD04



Installation in 15 cm consolidated sand	
Volume	300 liter
Number of exits	4
Length	900 mm
Width	900 mm
Height	930 mm
Height in	600 mm
Height out	360 mm
Diameter in	125 mm
Diameter out	110 mm
Diameter manhole	600 kg
Weight	23 kg
Price – B01	

Dimensions are in mm and informative. Subject to alterations.

VERD05



Installation in 15 cm consolidated sand	
Volume	300 liter
Number of exits	5
Length	900 mm
Width	900 mm
Height	930 mm
Height in	600 mm
Height out	360 mm
Diameter in	125 mm
Diameter out	110 mm
Diameter manhole	600 kg
Weight	23 kg
Price – B01	

Dimensions are in mm and informative. Subject to alterations.

PRE FILTER

IBB Filter



Installation in 15 cm consolidated sand	
Volume	40 liter
Length	315 mm
Width	315 mm
Height	510 mm
Height in	317 mm
Height out	317 mm
Diameter in/out	110 mm
Diameter manhole	315 kg
Weight	5 kg
Price – A03	

Dimensions are in mm and informative. Subject to alterations.



Options

Part	Price: A05
Riser 300 mm	

Replacement parts

Part	Price: A05
Filter basket	
separator	

INSTALLATION PROCEDURES, MAINTENANCE AND WARRANTY

The client acknowledges to have received a copy of this and agrees.
The installation requirements should be read FIRST BEFOR placement.

In the event of loss by the customer of the installation requirements the customer must always ask for a new copy of the installation requirements at Boralit nv, or download them from the Boralit Web site.

INSTALLATION PROCEDURE BUFFER TANKS

INSTALLATION PROCEDURES IN CONSOLIDATED SAND

Always install the facility as closely as possible to the contamination source to prevent the feeder pipe from clogging and causing blockages (excepted for rainwater tanks). Prepare a pit that is at least:

- 15 to 20 cm broader than the tank
- 15 to 20 cm deeper than the distance between the height of the inlet and the bottom of the tank.

See to it that all groundwater or rainwater that might be present in the pit is pumped out before pouring consolidated sand into the pit. The bottom of the pit must be covered by at least 15 cm of consolidated sand of 150 Kg/m³ (*). Level (with a builder's level) the grease trap in the pit so the inlet is at the proper height to connect to the house drainpipe. Fill the grease trap with water and connect both the inlet and outlet. Provide with correct and sufficiently large ventilation according to the type of unit and always with a minimum of 50 mm. Backfill the pit round the unit with at least 15 cm of consolidated sand of 150 Kg/m³ (*). Always introduce small amounts of consolidated sand, slightly press the sand to prevent distortion of the unit. Put at least 10 cm of consolidated sand of 150 Kg/m³ (*) on top of the grease trap. Install the PE-risers, which can be obtained from Boralit, on the unit until ground level is reached, and put the cover on (the grease traps must remain easily accessible for inspection and cleaning). In case vehicles might drive in the immediate surroundings of the installation, a sufficiently strong concrete slab must be installed. The concrete slab should not rest on the tank and should divert the pressure to the ground that has not been disturbed.

(*) Please contact us in case of a temporary high groundwater level, and also if the tank becomes more deeply embedded in the ground than is permitted by the PE-riser.

INSTALLATION PROCEDURES IN REGULAR SAND

Follow above instructions and If there is no groundwater, the consolidated sand can be replaced by regular sand. Please contact us if the tank becomes more deeply embedded in the ground than is permitted by the PE-riser.

The PE covers are only temporarily. They do not have a safety lock and can not stand the weight of persons or vehicles who might pass by. Make sure you get Boralit covers, to increase the security of persons or vehicles who cross the installation.



INSTALLATION PROCEDURES INFILTRATION BLOCKS

First determine how to install the block (inlet and overflow at the top or at the bottom). When at the bottom, bring the connecting tubes from the top to the bottom with 45° elbows.

Care for a good working for filter, so there are no solids in the systems This will ensure the long term for blocking the system.

Groundwater must be at least 50 cm lower than the bottom of the pit.

Dig a pit 70 cm deep, and 30 cm wider and longer than the block. If there are multiple blocks are these must be at least 50 cm from each other.

Cover the bottom of the well with 10 cm of coarse sand, fine gravel or gravel by up to 2/8 mm.

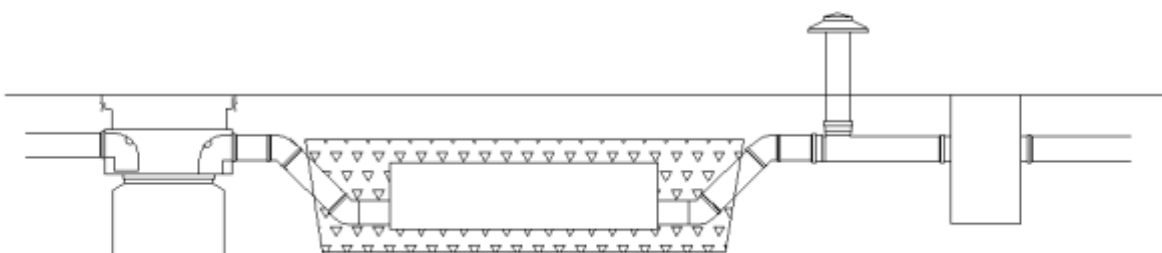
Place the block (s), and connect the entrance, the overflow, and the aeration. Remark: Introduce the connections for maximum 20 cm in the block.

Fill the pit around the block(s) with coarse sand, fine gravel or gravel by up to 2/8 mm.

Cover the block (s) with 30 cm of sand, fine gravel or gravel by up to 2/8 mm.

Then place the desired finish above it.

The infiltration blocks are only suitable for pedestrians.





MAINTENANCE

The installation should be cleaned regularly. Rotten leaves may cause an unpleasant odor.

WARRANTY

We offer a 10-year warranty on all our tank products as far as evident manufacturing faults are concerned. Failure to comply with installation procedures and guidelines voids warranty.
2-year warranty on all parts.

The general sales and warranty conditions of Boralit count.

OTHER DOCUMENTS

These documents are also available:

- Manual buffer tanks.
- technical sheet infiltration blocks