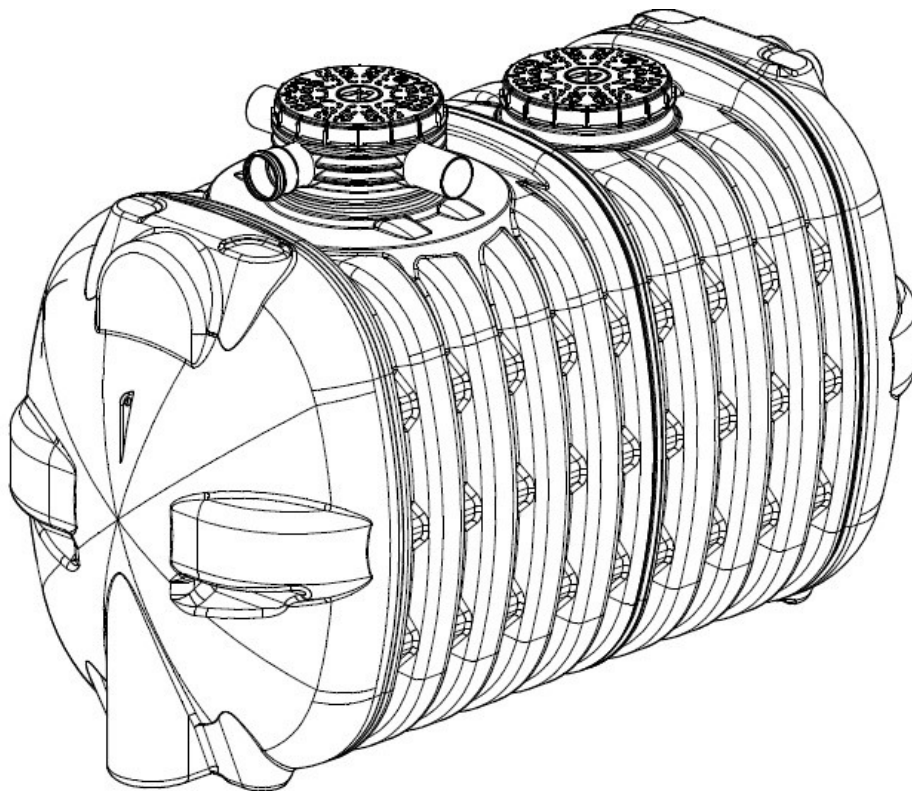


USER'S MANUAL



RAINWATER TANKS AB

Introduction

Dear Users,

Thank you for purchasing the AB rainwater storage tank. Our product has been designed for installation at single-family houses. It is designed to collect and store rainwater for use.

By using rainwater tanks, consumption of mains water can be reduced by up to 30%. The tanks can be used as part of a system for irrigating gardens or supplying domestic and household sanitary systems.

The device you own has been manufactured in Poland. It is characterised by high quality and proven design.

In this User's Manual you can find a lot of valuable information, as well as the instructions necessary for the correct installation and commissioning of the unit. We recommend that you read its contents carefully before proceeding with the installation.

Selected chapters of the User's Manual describe in detail the construction of the tank, the principles of its correct operation and maintenance. It is a collection of valuable information intended for the user, which will be helpful in the daily use of the rainwater tank.

We hope that your purchase will meet your expectations and provide years of trouble-free use.

We encourage you to purchase our other products.

Your AQUABIN Team

O Description and design of the device

In terms of convenience in use, rainwater tanks are an excellent addition to the domestic water supply. They make it possible to save water consumption from the mains water supply and achieve measurable financial savings. The economic benefits should therefore be considered in the long term. The investment pays for itself after a few years, depending on the use of the tank.

AB rainwater tanks are manufactured in 2000, 3000 and 4000 litre capacities. They are designed for installation at single-family houses. A filter located in the tank makes it possible to purify water from a roof area of up to 150m².

Rainwater tanks can collect and store water from roof slopes or paved surfaces (private driveways, car parks).

As standard, the tanks are equipped with a single riser, in the centre of which a basket filter has been placed. An inlet pipe is installed in the riser to be connected to the rainwater supply. A hole for technical connections \varnothing 110 mm has been made in the riser.

A siphon was installed at the outlet of the tank to increase the active capacity. Above the siphon, a service hatch has been placed, which makes it possible to carry out servicing operations.

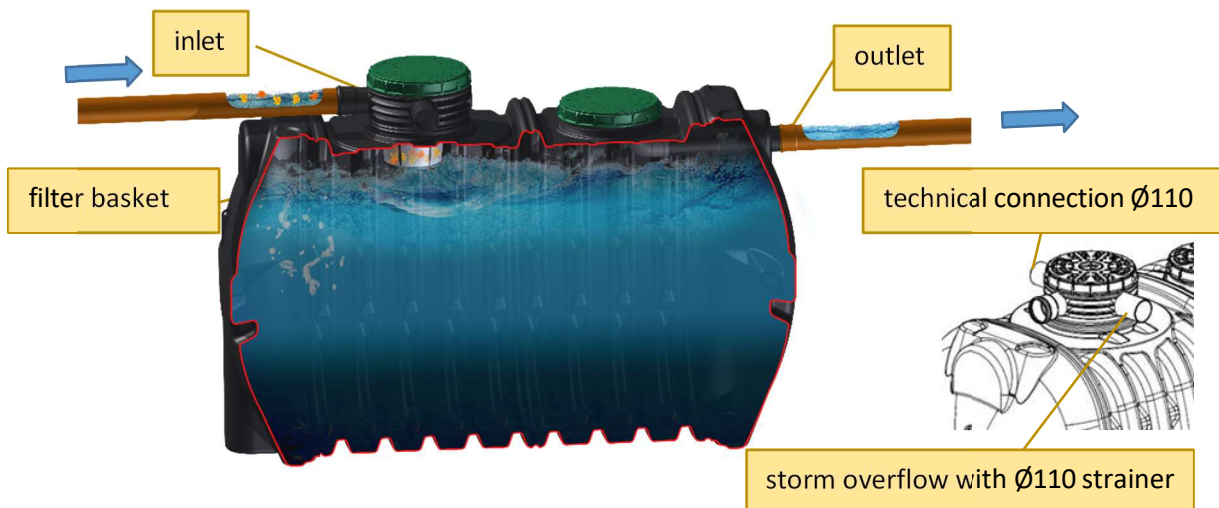


Figure 1: Rainwater tank AB - cross-section



Figure 2: Types of rainwater harvesting tanks: from left 2000 AB, 3000 AB, 4000 AB

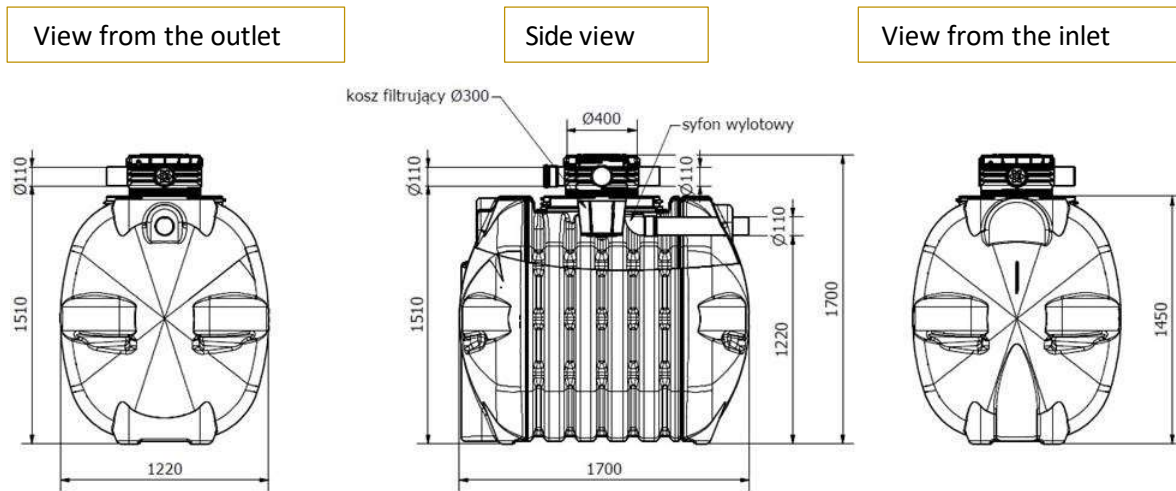


Figure 3: Rainwater tank 2000 AB - characteristic dimensions

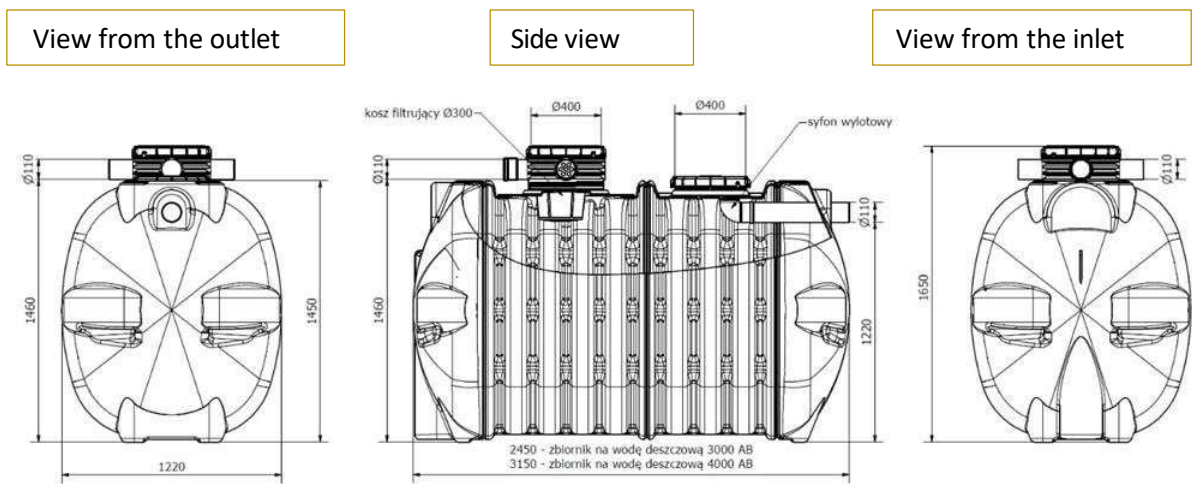


Figure 4: Rainwater tank 3000 AB and 4000 AB - characteristic dimensions

Table 1: Technical data of the *Rainwater tanks AB*

Name of tank	Inlet diameter [mm]	Outlet diameter [mm]	Length [mm]	Width [mm]	Overall height [mm]	Height to inlet [mm]	Height to outlet [mm]	Manhole covers [mm]	Tank weight [kg]
AB 2000	110	110	1700	1220	1700	1510	1220	1x400	85
AB 3000	110	110	2450	1220	1650	1460	1220	2x400	95
AB 4000	110	110	3150	1220	1650	1460	1220	2x400	110

O Operating principle

Water from the gutter can be fed directly into the inlet of the tank. A filter has been placed in the tank to treat rainwater collected from a 150 m² roof slope or paved area under normal conditions of use. Any impurities, such as leaves and small sticks, will be caught and retained by the basket filter. Fine impurities smaller than the mesh size of the filter (0.35 mm) may enter the tank. Depending on their weight, they may sink to the bottom or float on the surface of the water collected in the tank. If the tank overflows, the surface impurities are flushed out of the tank into the sewer system or rainwater infiltration. The impurities accumulated at the bottom of the tank should be removed systematically. The manufacturer's recommendation is a minimum of once every two years. The tank can be equipped with an additional pump or suction section. Water from the tank can be used in the garden and for domestic purposes.

NOTE: The water from the tank is not suitable for drinking.

O Installation of a rainwater tank

The AB rainwater tanks are installed in the ground as close as possible to the building (no closer than 5 metres), or to the place from where rainwater is to be collected. The tank should be installed at a safe distance from traffic routes. Do not expose the tank to high static loads without taking additional precautions. When selecting a site for the rainwater harvesting tank, make sure that the location will be safe for proper installation, use and service.

There is more to planning the installation of a rainwater tank than simply determining whether it will fit on a specific plot of land. The maximum ground for the tank is approximately 40 cm. The tank is installed using lean concrete (1m³ sand mixed dry with 200 kg cement). The pipe carrying rainwater from the building to the tank should maintain a slope of 1-2%.

Table 2: Amount of dry concrete required for installation of AB water tanks

Name	Unit	AB 2000 tank	AB 3000 tank	AB 4000 tank
Minimum amount of dry concrete required for tank installation	[m] ³	2	3	4

Installing a rainwater storage tank - step by step:

- Collect the humus for use on completion of the works,
- Carry out the excavation. The dimensions of the excavation (length, width) should be larger than the dimensions of the tank by approximately 50 cm (25 cm on each side of the tank),
- Spread a minimum 10 cm layer of lean concrete sub-base (1 m³ sand mixed dry with 200 kg cement) on the bottom of the trench,
- Place the tank on the ballast bed and level it carefully, maintaining the direction of the rainwater flow. Around the perimeter of the tank, make a backfill of lean concrete approximately 25 cm thick to the level of the upper edge of the inspection service hatches. The backfilling should be compacted by pouring water over it. **Backfill the excavation gradually while filling the tank with water to balance the pressure forces. The water level in the tank should be about 10 cm higher than the backfilling level,**
- The unit should be installed so that service hatch covers are visible and accessible for servicing. In the case of deeper foundation of the unit, additional risers should be used for the tank and service hatc

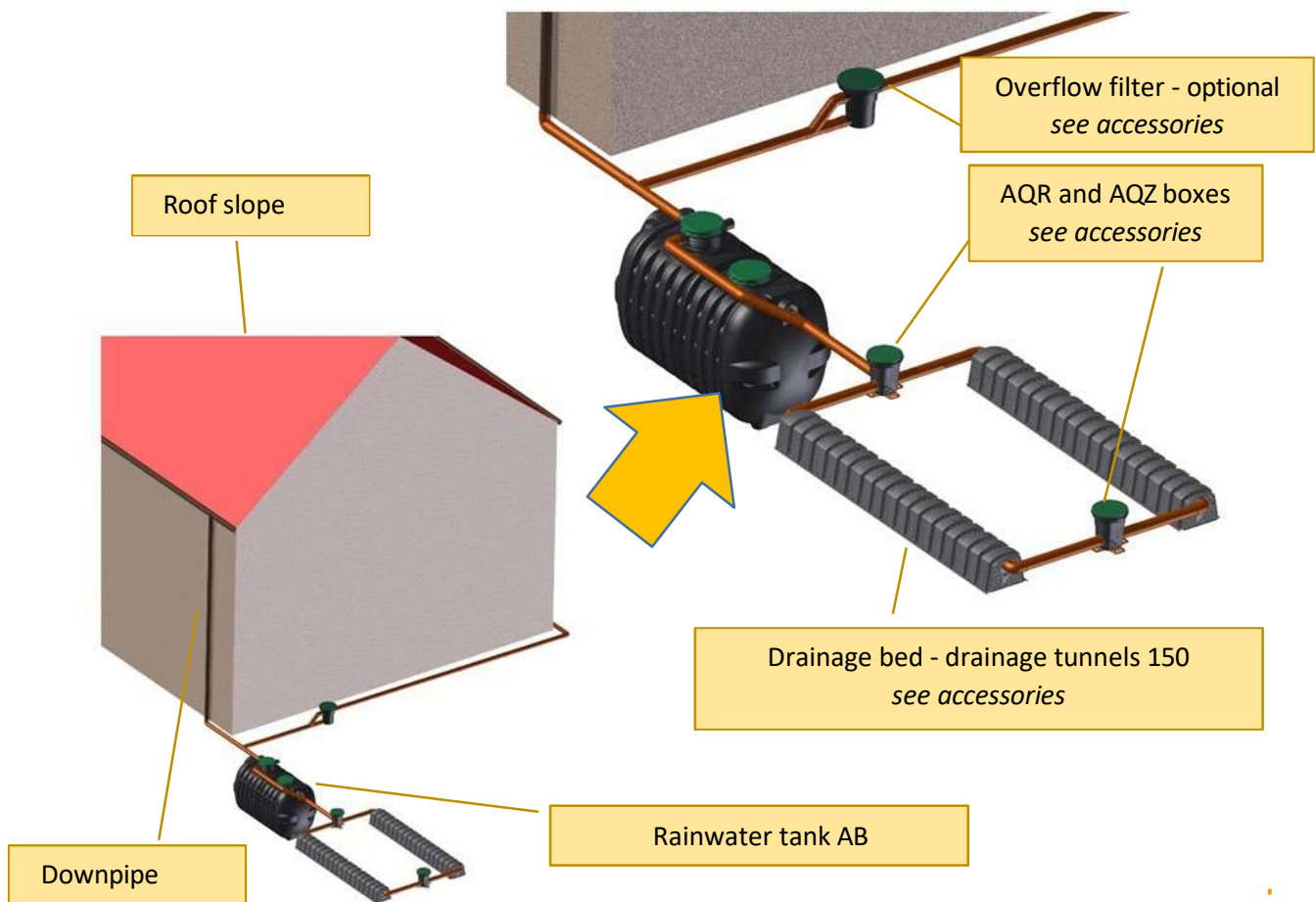


Figure 5: Installation of an AB rainwater tank with infiltration bed and optional overflow filter at a detached house with a roof slope greater than 150m²

NOTE: Do not empty the unit in the first month after installation in the ground.

Health and safety rules

Work associated with the installation of a rainwater tank is classed as particularly hazardous work due to the risk of accidents. These are mainly activities associated with:

- Work with electrical equipment,
- Work carried out below ground level,

When carrying out this type of work, it is important to bear in mind the safety requirements of yourself and those present during the work. All work, due to its special nature, should be carried out by teams of at least two people. All tools used, as well as construction equipment, should be in good working order and workers should have the necessary qualifications for the work to be carried out.

O Operation and maintenance

The AB rainwater tank is an almost maintenance-free device. The user is only required to keep the filter as well as the tank clean during operation.

Table 3: Frequency and scope of maintenance of rainwater harvesting tank AB

Device	Activity	Frequency	
		1 month	2 years
Rainwater tank AB	Functional check	•	
	Filter cleaning	•	
	Removal of heavy sediment from the bottom of the reservoir		•

NOTE: Leaving the tank empty may cause it to crease.

WARNING: The rainwater tank covers must be secured to prevent unauthorised persons, especially children, from opening them (risk of drowning). It is forbidden to stand or walk on the tank covers or to enter the tank.

NOTE: If any damage is found, the Manufacturer's Service must be notified immediately (applies to the warranty period).

NOTE: The area where the rainwater harvesting tank (including the drainage system) is located is for pedestrian traffic only.

O Accessories

Rainwater tanks can be retrofitted with optional risers. The risers are used for deeper foundation of the tank and the infiltration bed. The use of original AQUABIN accessories is recommended.

It is also possible to extend the infiltration system. Drainage tunnels should be used for this purpose. AQUABIN infiltration tunnels are recommended.

RISER FOR SL-REHC D400 H200 ONTO THE TANK

The riser are made of high-density polyethylene. The riser is removable and adapted to the tank service hatch. The riser is fitted with a dedicated gasket. The use of additional risers makes it possible:

- Foundation of the unit deeper in the ground,
- Service access to the unit. **Figure 6:** Riser SL-REHC D400 H200 tank with a



Name	Diameter [mm]	Height [mm]
Riser REHC D400 H200	400	200

Figure 6: Riser SL-REHC D400 H200 tank with a gasket.

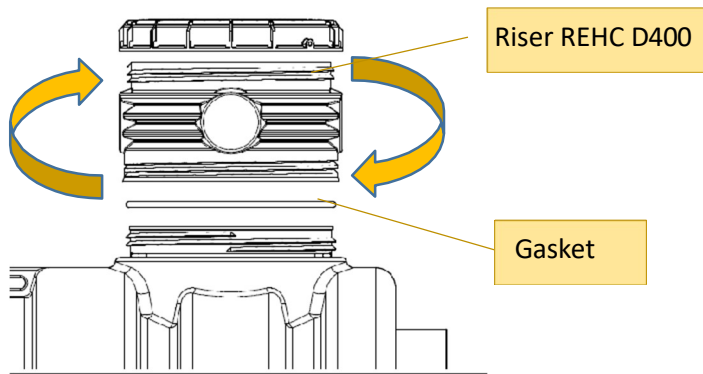
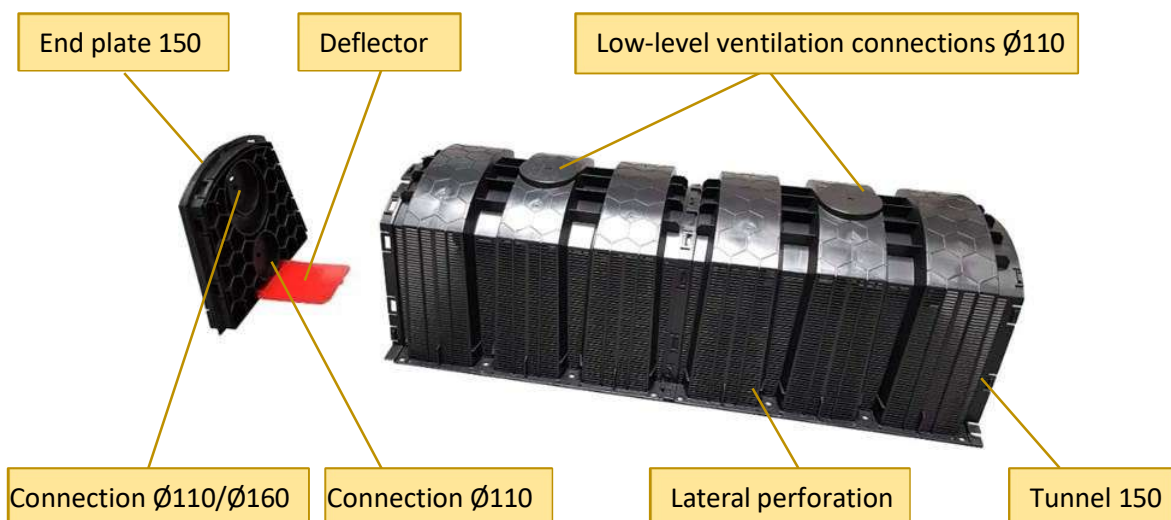


Figure 7: Installation of Riser REHC D400 H200 on tank

NOTE: The use of risers other than the original is tantamount to **voiding the warranty**. The manufacturer recommends a maximum of **two additional risers** per service hatch. The use of more risers and foundation of the tank in the ground deeper than an additional 60 cm will **void the warranty**.

INFILTRATION TUNNEL 150

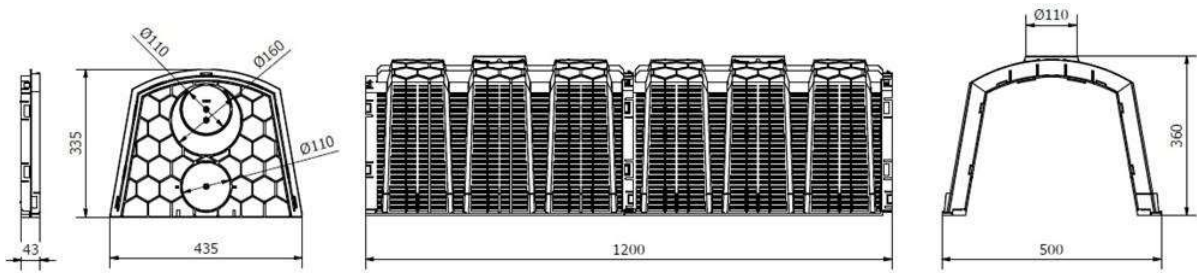
The 150 infiltration tunnels are designed for infiltrating wastewater containing pollutants from industrial processes and households into the ground. The construction of the tunnels also allows them to be used for storing and infiltrating rainwater. The tunnels are laid in the ground to form gravitational infiltration basins. The tunnel has longitudinal slots on the side walls through which sewage and rainwater can be infiltrated into the ground. The 150 infiltration tunnels are made of HDPE (high density polyethylene), using the plastic injection method. The production method used makes it possible to obtain products with a compact and lightweight construction. Each tunnel has ribbing to reinforce the structure. The height of the lateral tunnel perforations is 300 mm. The capacity of a single tunnel is **150 litres**.



Product specifications

Name	Length [mm]	Width [mm]	Height [mm]	Weight [kg]	Drainage area [m ²]			Product code
					bottom	lateral	total	
Tunnel 150	1200	500	360	5	0.6	0.7	1.3	2255
End plate 150	435	335	43	1.2	-	-	-	2256

The dimensions of the tunnels and lids are shown in the table. The tolerance of all parameters for each tunnel is +/- 2%.



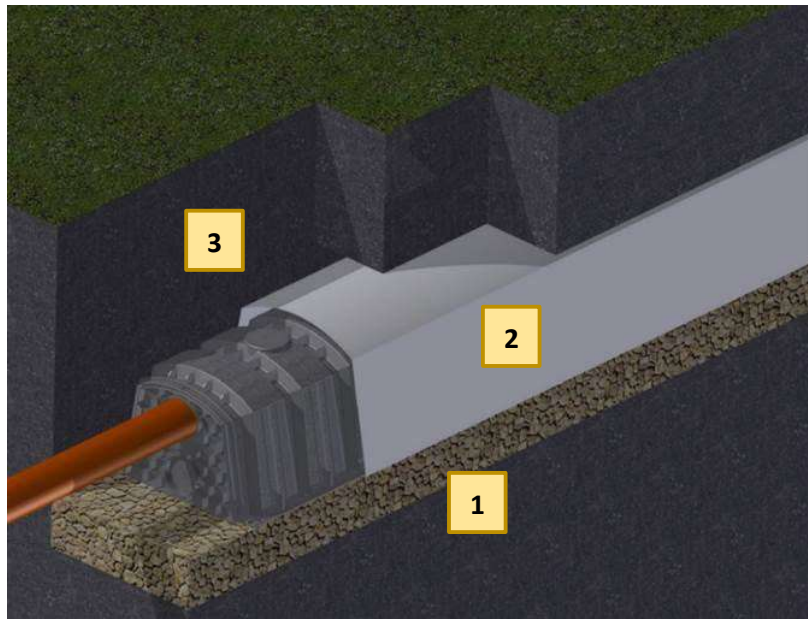
The capacity of a single infiltration tunnel is 150 litres (0.15m³).



At the beginning of the tunnel line, a lid equipped with a deflector is installed. The purpose of the deflector is to absorb the hydraulic impact of the inflowing sewage or water. Through its use under the tunnels, the soil at the point of inflow of wastewater or water is not washed away. The deflector is also installed at the end of the tunnel line. The bed must be equipped with an air supply at the end. This can be done by using one of the two connections located on the top wall of each tunnel or by using the top connection in the end plate. The connections at the top of the tunnel can also be used to revise the tunnel thread.



The minimum width of the deposit excavation should be 0.5 m and the minimum distance between the strands is 1 m. The bottom of the trench should be carefully levelled. On the bottom of the trench, lay a drainage support layer (1) consisting of stones with a 16-32 mm fraction or aggregate (without limestone) with a 32-64 mm fraction, with a thickness of not less than 100 mm. Provided that well permeable soils are present. The support layer may be increased as desired depending on the soil and water conditions. The tunnels should be covered with geotextile (2). Lay the tunnel strands with a gradient of approximately 1%. The tunnels are laid at a maximum depth of 1200 mm from the ground surface to the top edge of the tunnels. The length of a single line of tunnels should not exceed 30 m. Each line of the bed should be equipped with an air supply - low-level ventilation. Backfill with native soil (3). A supporting layer is not required for rainwater infiltration.



Tunnel beds can be installed in traffic areas and under car parks where there is car traffic of up to 3.5 tonnes. In this case, a minimum ground surface of 50 cm must be maintained between the ground surface and the top edge of the tunnels.

Selection guidelines - Rainwater tanks

When installing with a rainwater tank or linear drain, the manufacturer recommends the following adopt a conversion rate:

- **1 infiltration tunnel for every 15m²** of roof slope surface or area from which water is collected, for average annual precipitation per 1m² = 600 mm.

The number of tunnels as well as the thickness of the support layer should be selected according to the current soil and water conditions.

The manufacturer recommends carrying out periodic inspections of the bed. It is important that the bed strands are evenly loaded with sewage or rainwater. In order to avoid overgrowth of the chambers by roots, the planting of trees and plants with long root systems is prohibited in the close vicinity of the infiltration basin made of 150 tunnels. All foundation conditions of the bed must be in accordance with the manufacturer's recommendations.



1. Prepare tunnels



2. Remove deflector



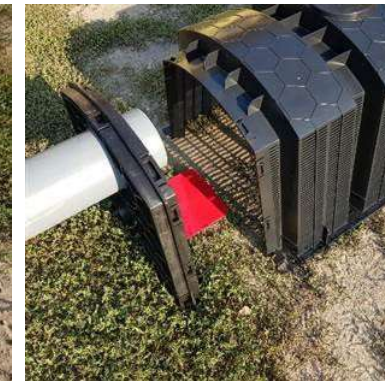
3. Drill a hole



4. Fit the deflector



5. Secure with screw



6. Clip on the lid



7. Check connection



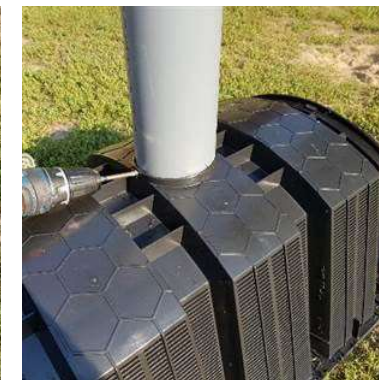
8. Connect the tunnels



9. Fit the end plate



10. Drill a hole on the back



11. Install the vent



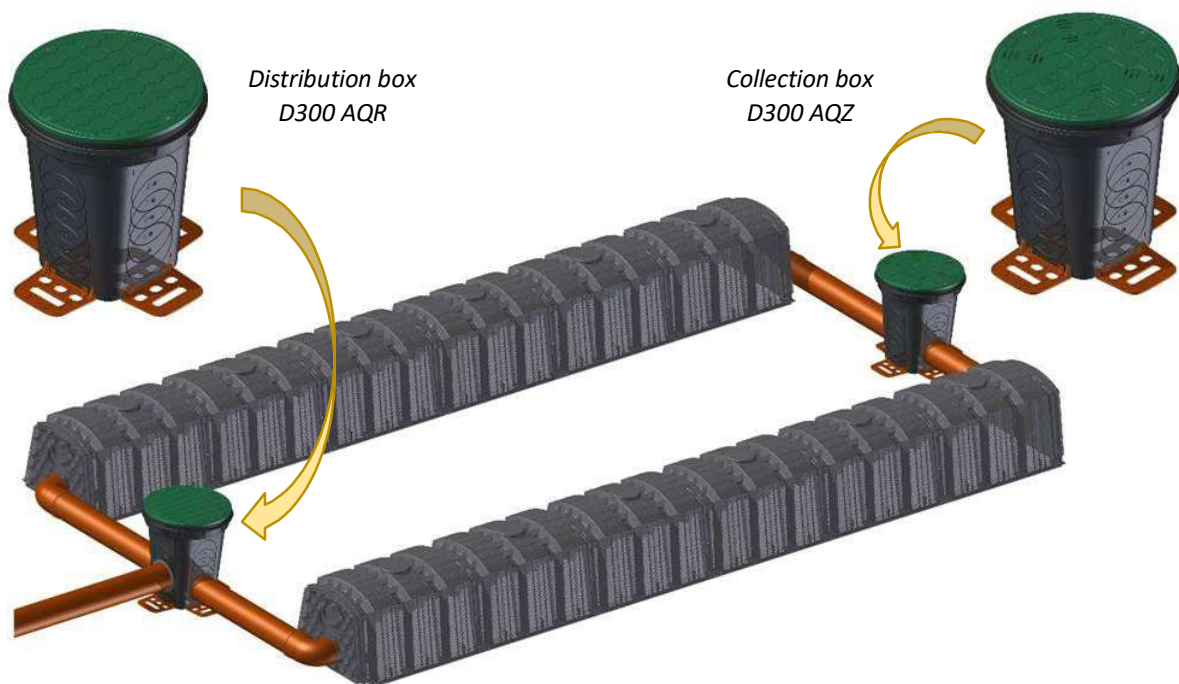
12. Check connection

Related accessories

The **D300 AQR distribution box** is a device responsible for the distribution of wastewater to the infiltration drainage system or biological bed. The box can also be used for rainwater drainage or have a technical function in various types of installation.

The **D300 AQZ connection box** is a device responsible for aerating the wastewater in the infiltration drain line or biological bed. It also performs the service function of the bed. The sump can also be used for rainwater drainage or have a technical function in various types of installation.

We fit **D300 H150 AQ screw-on risers** made of polyethylene onto the service boxes. Four gaskets are added with each service box, and three gaskets in the case of the closing service box, for installation in the sockets on the service box. The sockets are blanked off. They can be cut out with a knife or standard hole saw.



Biological bed (infiltration plot) made on the basis of infiltration tunnels 150, decks 150, distribution box AQR and collection box AQZ.

DISTRIBUTION BOX D300 AQR

The D300 AQR distribution box is a device responsible for the distribution of wastewater to the infiltration drainage system or biological bed. The box can also be used for rainwater drainage or have a technical function in various types of installation.

The AQR distribution box is a monolithic cylinder with a height of 410 mm and a service hatch diameter of 300 mm, made of high-density PEHD polyethylene by plastic injection. The distribution box is equipped with a leak-proof (solid) cover $\varnothing 300$ mm. The service hatch can have one inlet and up to three outlets for the infiltration basin. The heights of the inlets and outlets are defined on the distribution box walls. The distribution boxes are fitted with a screwable polyethylene superstructure. Four sealing gaskets are provided with each service hatch for installation in the sockets on the service hatch. The sockets are blanked off. They can be cut out with a knife or standard hole saw.

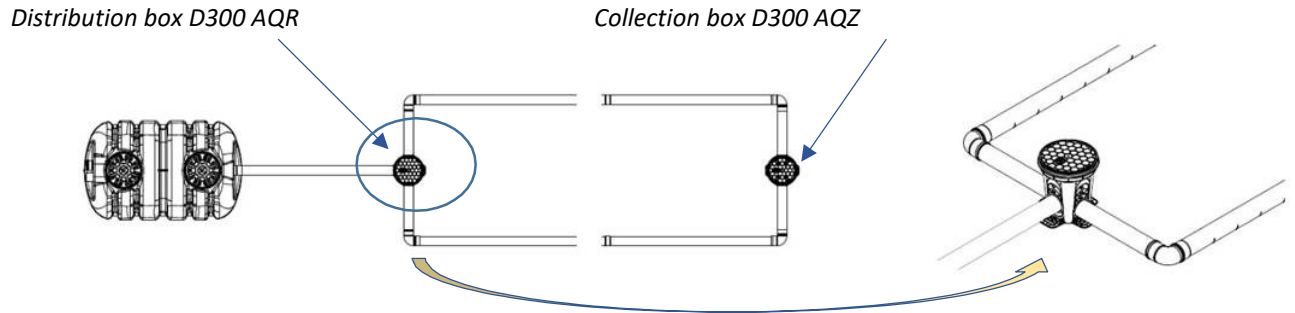
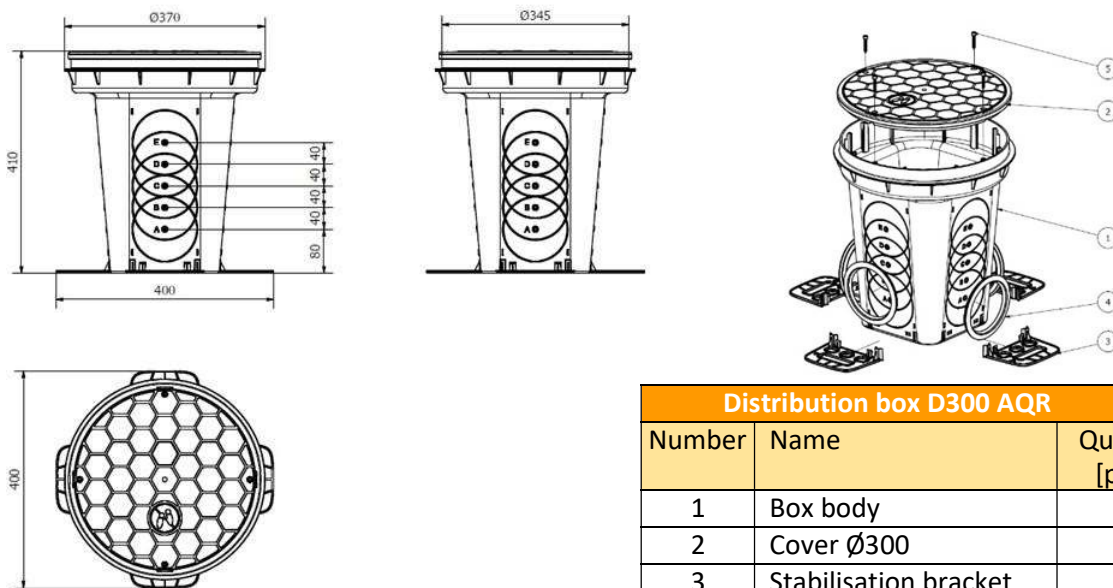


Figure 8: Distribution box D300 AQR - location in the infiltration bed

Length [mm]	Width [mm]	Height [mm]	Weight [kg]	Product code
400	400	410	3	2480



Distribution box D300 AQR		
Number	Name	Quantity [pcs.]
1	Box body	1
2	Cover Ø300	1
3	Stabilisation bracket	4
4	Gasket Ø110 [mm]	4
5	INOX screw	4

The box is installed directly into the ground. Before installation, the inlet and outlet openings should be cut out and the seals installed. The stabilising brackets should be clicked into the prepared sockets in the service hatch body. The purpose of the brackets is to stabilise the service hatch in the excavation and to anchor it to the soil.

COLLECTION BOX D300 AQZ

The D300 AQZ connection box is a device responsible for aerating the wastewater in the infiltration drain line or biological bed. It also performs the service function of the bed. The sump can also be used for rainwater drainage or have a technical function in various types of installation. The AQZ service hatch is a monolithic cylinder with a height of 410 mm and service hatch diameter of 300 mm, made of high-density polyethylene PEHD, using the plastic injection method. The service hatch is equipped with a Ø300 mm perforated cover. Up to four inlets from the infiltration basin can be made in the service hatch. The height of the outlets is defined on the service hatch walls. The service hatches are fitted with a bolted-on superstructure made of polyethylene. Three seals are supplied with each service hatch to fit into the sockets on the service hatch. The sockets are blanked off. They can be cut out with a knife or standard hole saw.

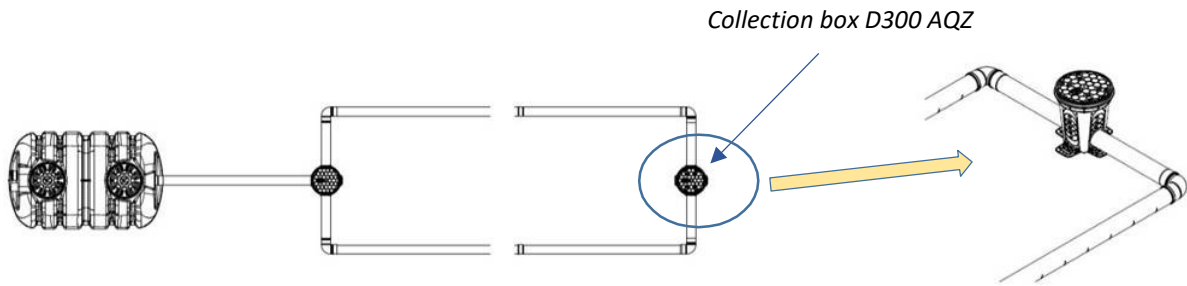
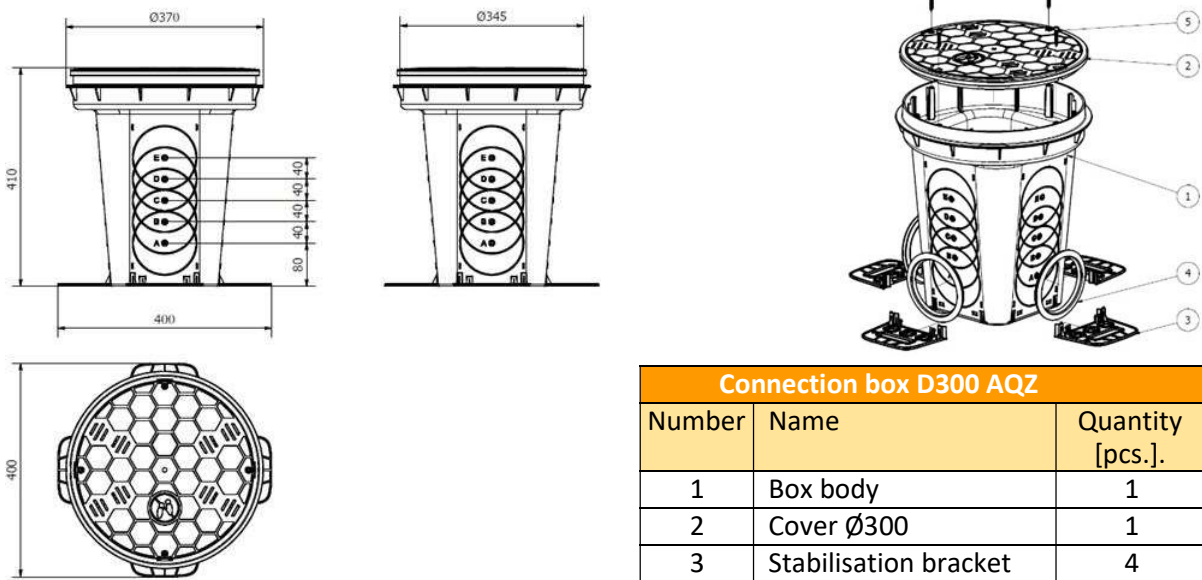


Figure 9: Collection box D300 AQZ - location in the infiltration basin

Length [mm]	Width [mm]	Height [mm]	Weight [kg]	Product code
400	400	410	3	2481



Connection box D300 AQZ		
Number	Name	Quantity [pcs.]
1	Box body	1
2	Cover Ø300	1
3	Stabilisation bracket	4
4	Gasket Ø110 [mm]	3
5	INOX screw	4

The service hatch is installed directly into the ground. Before installation, the outlet openings should be cut out and the seals installed. The stabilising brackets should be clicked into the prepared sockets in the service hatch body. The purpose of the brackets is to stabilise the service hatch in the excavation and to anchor it to the soil.

If the service box is founded at a greater depth, it is necessary to extend the service hatch. The risers D300 H150 AQ is used for this. The service hatch riser has an effective height of 150 mm and is fastened with four screws. The manufacturer allows for a maximum of **five** risers to be installed on a service hatch. The use of more risers or risers other than the original AQUABIN riser with a service hatch will **void the warranty**.

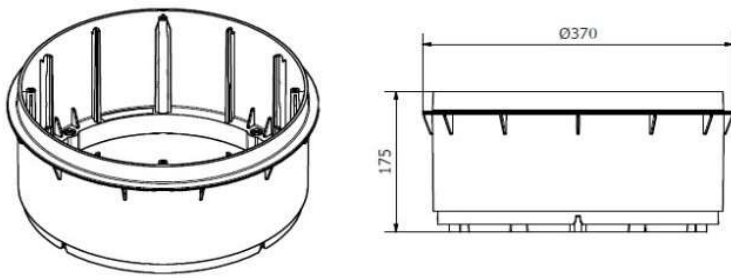


Figure 10: Riser D300 H150 AQ

RAINWATER OVERFLOW FILTER D300 AQ

The D400 AQ rainwater overflow filter is dedicated for installation with:

- concrete tanks,
- tanks made of plastics, resins, etc,
- in-ground rainwater infiltration systems such as infiltration tunnels, boxes.

The filter can act as an additional device in tanks which are not equipped with integrated filters. It can also work as a booster filter if the filter integrated in the tank is insufficient in relation to the dimensions for the roof slope.

The filter can also be installed upstream of the rainwater infiltration system in order to protect the infiltration system from inflow of pollutants (leaves, sticks, other fractions). It provides protection against siltation and clogging of the system. The filter basket placed in the filter allows treating rainwater from the roof slope up to 150m². The filter can be connected directly to the gutter drain. The unit is designed for installation in the ground. The overflow filter is made of high density polyethylene PEHD. The body and cover are made by plastic injection moulding. The filter connections are integrated into the body.

The filter is equipped with an inlet, a storm overflow with screen and an outlet. The storm overflow serves as an emergency drainage from the filter in the event of clogging of the filter basket. All connections have a diameter of Ø110 mm. The compact design of the filter protects it from damage. The screw-on cover makes maintenance easier. The filter can be sited deeper by using additional superstructures D400 H200 AQ.

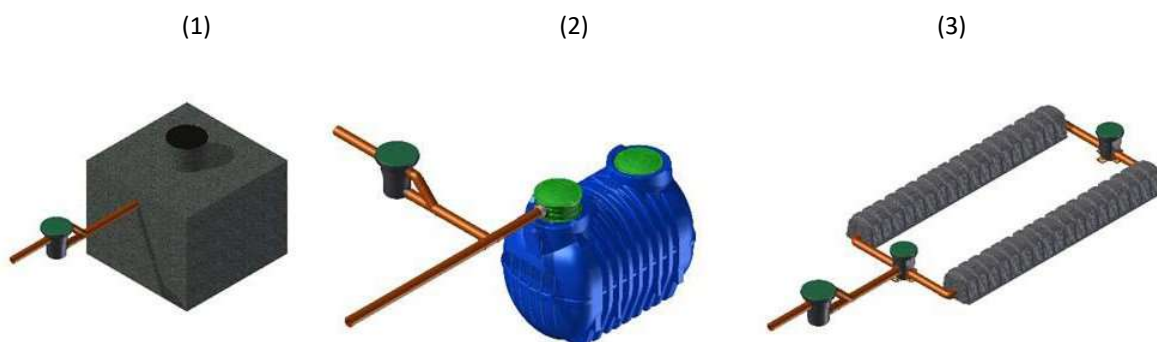


Figure 11: Rainwater overflow filter D400 AQ - installation options: (1) with a concrete tank, (2) as a booster with a tank with integrated filter, (3) together with an infiltration system (infiltration tunnels 150) for excess water in the ground.

Install the filter directly into the ground. Connect the inlet pipe before installation. We can connect the storm overflow to the sewer network or connect it to the outlet. The filter outlet can be connected to a rainwater storage tank or, if discharging into the ground, to an infiltration tunnel system.

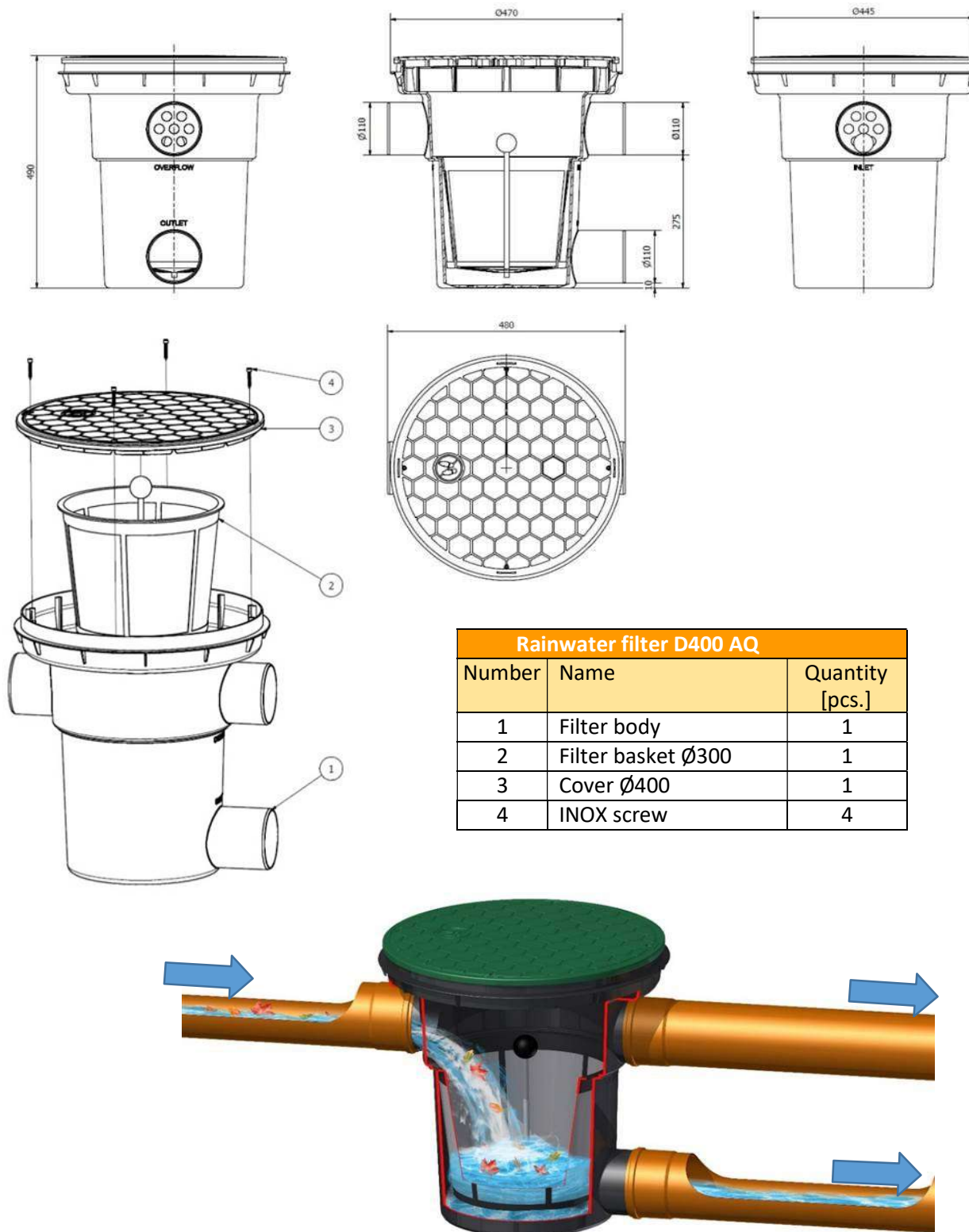


Figure 12: Rainwater overflow filter D400 AQ - Operating diagram

O About the warranty

The manufacturer provides a **two-year warranty period**, starting from the date of sale, for the device. The **ten-year warranty period is granted by the manufacturer**, exclusively for the tank. If a manufacturing defect is detected in the device, which has been confirmed by the AQUABIN Claims Department, we will repair the device free of charge or the defective components will be replaced with new ones. Repair of the device or replacement of the defective components will be carried out in the shortest possible time - no longer than 20 working days. All notifications to the manufacturer under the Guarantee should be made by letter or e-mail.

The warranty does not cover:

- Failure by the contractor to observe the rules for the correct installation of the appliance as described in this User's Manual,
- Failure by the user to observe the rules for the correct operation and handling of the device as described in this User's Manual,
- Interference with the design of the device by making arbitrary modifications,
- Mechanical damage resulting from incorrect assembly and transport of the unit,
- Failure to comply with the conditions for selecting the type and size of rainwater tank for the number of users and the local soil and water conditions,
- Misuse of the device,
- Higher forces, i.e. the triggering of extraordinary phenomena independent of human will (atmospheric, geological).

O Declaration of performance – Rainwater tank AB

Below is the manufacturer's declaration of performance:

Zasadnicze charakterystyki wyrobu budowlanego do zamierzonego zastosowania	Deklarowane właściwości użytkowe			Uwagi
	Zbiornik na wodę deszczową 2000 AB	Zbiornik na wodę deszczową 3000 AB	Zbiornik na wodę deszczową 4000 AB	
Pojemność użytkowa (do odpływu)	2010	3010	4010	[I]
Pojemność całkowita	2030	3050	4100	[I]
Szczelność (próba wodna)	Wynik pozytywny	Wynik pozytywny	Wynik pozytywny	
Wytrzymałość konstrukcji	Wynik pozytywny	Wynik pozytywny	Wynik pozytywny	28 kN/m ²
Trwałość	Wynik pozytywny	Wynik pozytywny	Wynik pozytywny	
Wygląd zewnętrzny	Bez zadziórów i ostrych krawędzi	Bez zadziórów i ostrych krawędzi	Bez zadziórów i ostrych krawędzi	
Klasa reakcji na ogień	E	E	E	

**We recommend the purchase
of other **AQUABIN** products**



www.aquabin.pl