

# Odourless sewage treatment plants

## BIO EASY FLOW

Systems with  
zero running costs



For those who care  
about the environment  
For modern gardens  
For the thrifty



## Dear Sir or Madam

Own sewage treatment plant is a proof of care for the environment and a reason to be proud. That is why more and more people choose this solution. When investing in a sewage treatment plant, you want a quick return on costs incurred and you want to have a comfortable life.

This is what we think about when designing a sewage treatment plant at HABA ENGINEERING. We have developed an odourless cleaning technology. By owning our sewage treatment plant, you benefit from the best patents based on well-thought-out technical solutions resulting from the involvement of the entire team of our employees and partners.

We want your sewage treatment plant to be something you don't have to think about. It is our role to make it a unique product, not only as a product, but also as a comprehensive service. That's why we constantly educate and train our distributors. Comfort and convenience in using the sewage treatment plant is your natural privilege as its owner.

Our experience is that we have installed sewage treatment plants in thousands of places: hotels, workplaces, schools, housing estates and villages.

However, family is the most important thing to us, because we are a family company. We want your home and surroundings to become our common showcase. With a HABA ENGINEERING treatment plant, you can return purified water to nature as food for plants. Thanks to the unique, odourless technology, you and your family will relax in your garden, and the beautiful vegetation irrigated from the sewage treatment plant will be our thank you to you and your family.

Rafał Lusina, CEO

# Why choose HABA odourless treatment plant?



## Odourless

Thanks to the latest technology, our wastewater treatment plants are completely odourless.



## Emptying the tank

Due to the large volume of the reactors, the frequency of emptying the tanks is very rare. Additionally, by using an automatic sludge composter, the need for disposal is completely eliminated.



## The highest quality of treatment

As a result, the sewage treatment plants meet the requirements for installation in urban agglomerations.



## Ability to work in all water and soil conditions



## Invisible in the garden

Possibility to integrate the treatment plant into the garden.



## Durable construction of the tanks

The treatment plants are made of HDPE, which lasts more than 50 years, which allows you to enjoy peace for many years.



**Clear water**  
after sedimentation,  
used for watering.



Tank outlet and cover

Underground tank

**Return on investment in the treatment plant**  
after 2-3 years of operation,  
and you get even more every year\*

### **In order to minimize the costs of the treatment plant already at the project adaptation stage:**

1. Lead the sewage pipe out of the building as high as possible, preferably approx. 10-15 cm below the external ground level. There is no fear that it will freeze, because there is no sewage in the pipe.
2. Locate the treatment plant in a soft landscape area.
3. Provide ventilation of the sewage system with a  $\varnothing$  110 pipe over the roof.
4. Design a sewage treatment plant with odourless technology purification to avoid problems with

bad smells from the treatment plant when the atmospheric pressure changes.

5. When using a water treatment plant, drain the washings (residues after softening water) with a separate installation, so that they do not end up in the tank sewage treatment plants.
6. In case of using gas heating with a condensing boiler, use a neutralizer condensate.

\* In combination with green shower  
(subject to local electricity tariff and building control approval)

# BIO EASY FLOW WIRO

**Large reactor chamber with a biological deposit – perfect clarity and less frequent emptying**

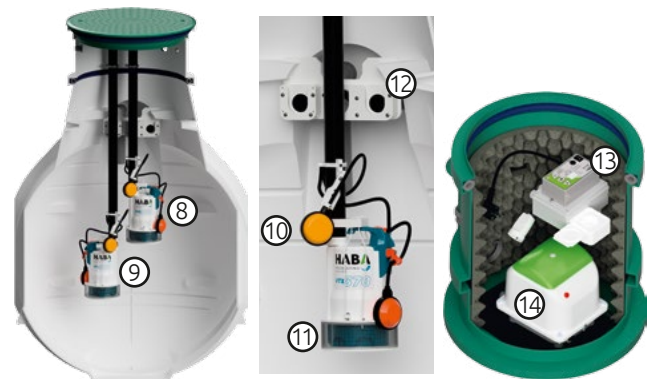
The technology used in BIO EASY FLOW sewage treatment plants is **completely odourless**, and the degree of purification allows the use of treated sewage for garden irrigation through the **mobile GREEN SHOWER system**.

Thanks to this, treated sewage has become a valuable source of water and life-giving elements for plants in our garden (we save on fertilizers).

BIO EASY FLOW **enables cooperation with the automatic sludge composter HABA COMPOSTER** (original development by HABA ENGINEERING!), which eliminates the need to remove sludge, radically reducing operating costs.

Thanks to the use of top-class components, the premium version has a **25-year warranty on the tank**.

- ① Emergency overflow
- ② Sludge pump outlet
- ③ Treated sewage outlet no. 1
- ④ Treated sewage outlet no. 2
- ⑤ Green inspection cover ø 160
- ⑥ Aesthetic premium cover with high durability and low height that makes mowing the lawn easier
- ⑦ Technical box with soundproofing
- ⑧ Purified sewage pump
- ⑨ Excess sludge pump
- ⑩ Maximum level sensor with swing handle
- ⑪ Self-cleaning filter basket on the pump
- ⑫ Pump quick connector
- ⑬ MultiBio controller
- ⑭ Aeration blower



**PHASE I:** Wastewater goes to the reactor, where it undergoes the process of sequential oxygenation. This contributes to the removal organic pollutants, nitrogen and phosphorus.

**PHASE II:** The blower stops working, the sediment falls to the bottom of the tank (sedimentation).

**PHASE III:** Pumping out the clarified, treated part of sewage.

The treatment plant automatically switches to economic mode (holiday), in the period of lack of sewage inflow.

## Basic models of odourless Bio Easy Flow sewage treatment plants

Number of users (PE)	Length (L)	Width (B)	Reactor capacity	Depth of inlet	Height from the bottom of the tank to the bottom of the inlet
1-3	1,36 m	1,24 m	1,47 m <sup>3</sup>	52 cm	127 cm
1-5	2,15 m	1,24 m	2,50 m <sup>3</sup>	52 cm	127 cm
2-8	2,45 m	1,60 m	3,75 m <sup>3</sup>	53 cm	130 cm
3-12	2,50 m	1,83 m	5,25 m <sup>3</sup>	54 cm	155 cm
4-16	2,80 m	1,86 m	6,25 m <sup>3</sup>	52 cm	159 cm
5-22	2,77 m	2,10 m	7,50 m <sup>3</sup>	56 cm	190 cm
<b>Model with reduced inflow height (at high groundwater level)</b>					
1-4	2,75 m	1,20 m	2,40 m <sup>3</sup>	33 cm	91 cm
2-7	3,10 m	1,22 m	3,50 m <sup>3</sup>	43 cm	96 cm

## Advantages of Bio Easy Flow technology

- The entire cleaning process is closed in the tank, so if it is necessary to replace any element of the sewage treatment plant, you will never have to dig up the garden.
- The treatment plants are made of polyethylene, which lasts more than 50 years, which allows you to enjoy the peace for many years.
- Water flowing out of the treatment plant resembles water from a lake. It is odourless and transparent.

## Additional accessories

for more aesthetics in your garden



### STANDARD cover

Standard manhole cover for sewage treatment plants, pumping stations or separator available in green or black colour

### PREMIUM cover

Modern design, thanks to the flat appearance and increased resistance to load

### CHAMELEON cover

Thanks to a special recess, CHAMELEON cover allows for customization to the environment, incl. grass, stones, bark, etc., and makes mowing the lawn easier.

### Small cover fitted for socket Ø 160.

### Condensate neutralizer

This device is used to neutralize the acid condensate from the gas boiler, before discharging to a sewage treatment plant.

With this device, you don't have to use separate drainage system for condensate (outside the treatment plant).



### Extension risers

We don't always know what will be the final ground level in our garden.

Our offer includes both fixed and telescopic risers,, thanks to which you can align the cover of the sewage treatment plant with soil, after finishing the project of your garden.



### Blower vibration damper HABA SILENCER

Dampens up to 95% of blower vibrations.



## Biopreparations for sewage treatment plants

### ① Eco9 OXY START MAXI BIO

A biopreparation intended for biological treatment plants with fine-bubble aeration, which should be used each time the treatment plant tank is empty and when it is started.

### ② Eco9 MAXI FLO

A specialized biopreparation intended for biological treatment plants with fine-bubble aeration and tanks with Retrofit installed.



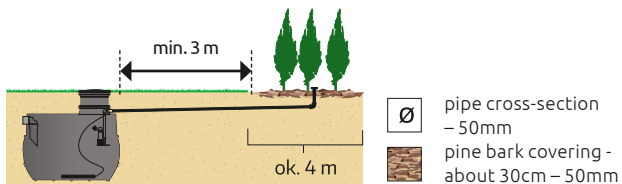
# A system for the management of treated wastewater through GREEN SHOWER irrigation (HABA patent)



## Decorative plant plots

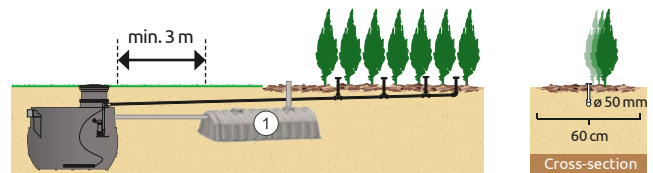
It is the GREEN SHOWER irrigation system that discharges the treated sewage to selected points of the plot. There may be one or more plots.

The space requirement is approx.  $3 \div 4 \text{ m}^2 / 1\text{PE}$ . Water-loving plants work well in the plot.



## Linear and perimeter irrigation

Thanks to the use of the patented GREEN SHOWER linear sprinklers, this system allows the use of treated sewage to irrigate plants located in different parts of the garden. For example, you can design rectilinear, circular or other irrigation.



① Additional infiltration tunnel in case of frequent power outages



The GREEN SHOWER sprinkler for the construction of plant plots



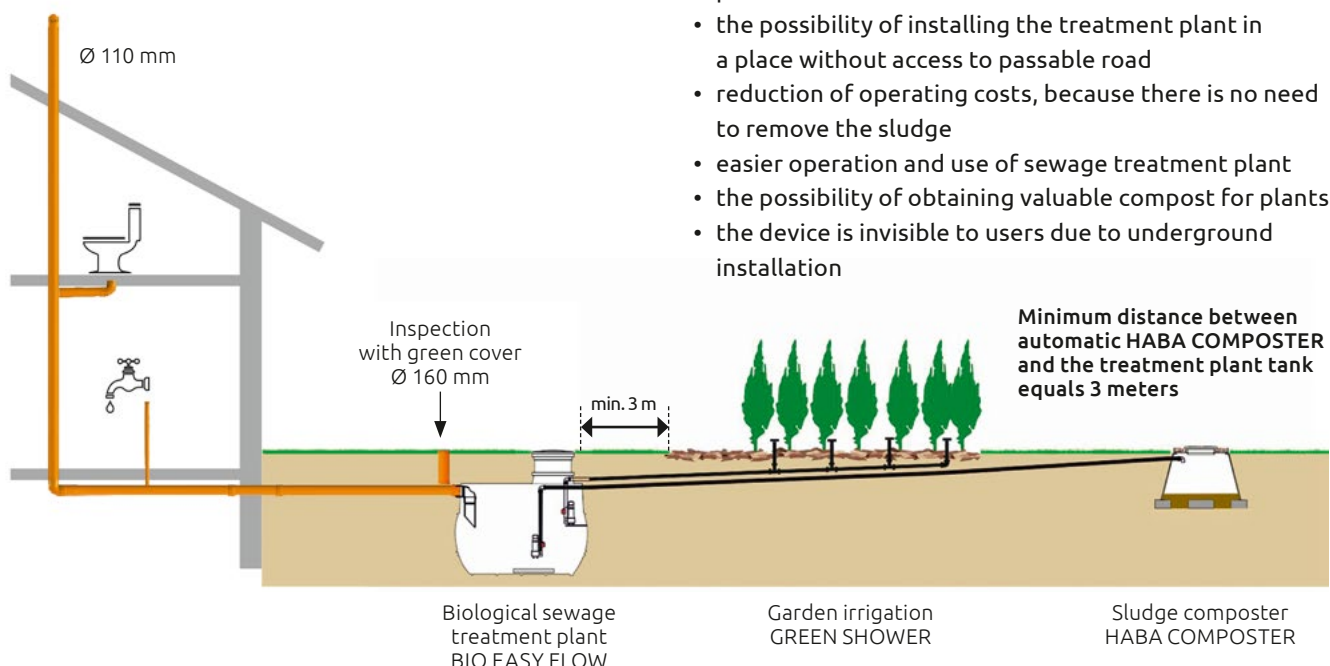
GREEN SHOWER sprinkler for the construction of linear irrigation systems

## HABA COMPOSTER - automatic sludge composter

Excess sludge, formed in the biological process of wastewater treatment in a biological treatment plant, is pumped out to the sludge composter with sludge pumps located in the biological treatment plant, controlled by the control.

### Advantages of using an automatic sludge composter

- there is no need to transport sludge from the treatment plant anymore, thanks to its utilization within the plot
- the possibility of installing the treatment plant in a place without access to passable road
- reduction of operating costs, because there is no need to remove the sludge
- easier operation and use of sewage treatment plant
- the possibility of obtaining valuable compost for plants
- the device is invisible to users due to underground installation



# PROJECTS



Sewage treatment plant installed in the floating house



Invisible cover



Sewage treatment plant for the manor house "Róża Poraja"





The key to success in any area of life is a human. I believe, that the key to success of HABA Company is her founder - Rafał Lusina, who at the very beginning based HABA on a solid foundation of continuous learning, creativity and listening to people's needs.

This approach quickly resulted in cooperation with the team from Department of Water Supply and Rural Sanitation of the University of Life Sciences in Poznań, under my leadership. Our common activities led to numerous improvements in wastewater treatment technology, including infiltration troughs, fluidized beds, new septic tank structures, non-woven filters for sewage, optimization of operation of sprinkled beds or dairy wastewater treatments.

Engineers from HABA company tested an Austrian idea of decay settler aeration, that was presented by me during science seminar in Bucharzewo (Poland). HABA built their own prototype of sewage treatment plant, which became an odourless sequential biological reactor called Bio Easy Flow.

I am very pleased to be one of colleagues and consultants of Rafał Lusina for over twenty years. Together we tested many innovative solutions to offer competitive installations to buyers of home sewage treatment plants. I am also convinced, that HABA company will continue its development in the similar way and maintain its leading position in the domestic market - for the benefit of people and environment.

*prof. dr hab. Eng. Ryszard Błażejowski,  
Poznan University of Life Sciences*



My research has shown, that the odourlessness of the Bio Easy Flow sewage treatment plant results from the intensive and cyclical aeration of wastewater in the reactor.

Such solution provides the right conditions for the development of aerobic microorganisms, that reduce the pollutant load in the sewage. It

is an effective and convenient solution.

In addition, it is worth noting, that the treated wastewater can be successfully used for sprinkling plants in order to irrigate them. It is extremely important, especially since we are threatened with a hydrological drought. The use of treated wastewater, which contain nitrogen and phosphorus, is a good option. Plants intended for consumption should not be watered this way, but you can successfully irrigate lawns or ornamental shrubs.

*prof. dr hab. Eng. Krzysztof Chmielowski  
University of Agriculture in Cracow*



For scientists from Poznan University of Technology, HABA is a reliable partner in the development and improvement of new wastewater treatment technologies. One of the fruits of this cooperation is developing the vortex separator by a research team headed by EngD Marek Orchowiak, prof. PP.

In addition, HABA team provided our university with devices for scientific purposes, on which research necessary to improve wa-

tewater treatment technology is carried out.

Another area of cooperation with the company is field research of Bio Easy Flow sewage treatment plants, which, combined with the expertise of scientists, will allow to create a practical guide of good practices in the use of sewage treatment plants.

The joint activities contribute to education and increasing the ecological awareness of the users of sewage treatment plants and developing optimal standards for the operation of these devices..

*dr hab. Eng. Izabela Kruszelnicka, dr Eng. Dobrochna Ginter-Kramarczyk  
Poznan University of Technology*



**LET US PROTECT THE EARTH'S  
WATER RESOURCES**

**MANUFACTURER OF:**  
sewage treatment plants  
rainwater harvesting systems  
pumping stations  
biopreparations

**HABA Sp. z o.o.**  
ul. Zdrojowa 51, 62-065 Grodzisk Wielkopolski  
tel.: +48 61 30 70 172, + 48 791 585 015  
e-mail: [marta.l@haba.pl](mailto:marta.l@haba.pl)  
[www.haba.pl](http://www.haba.pl)