

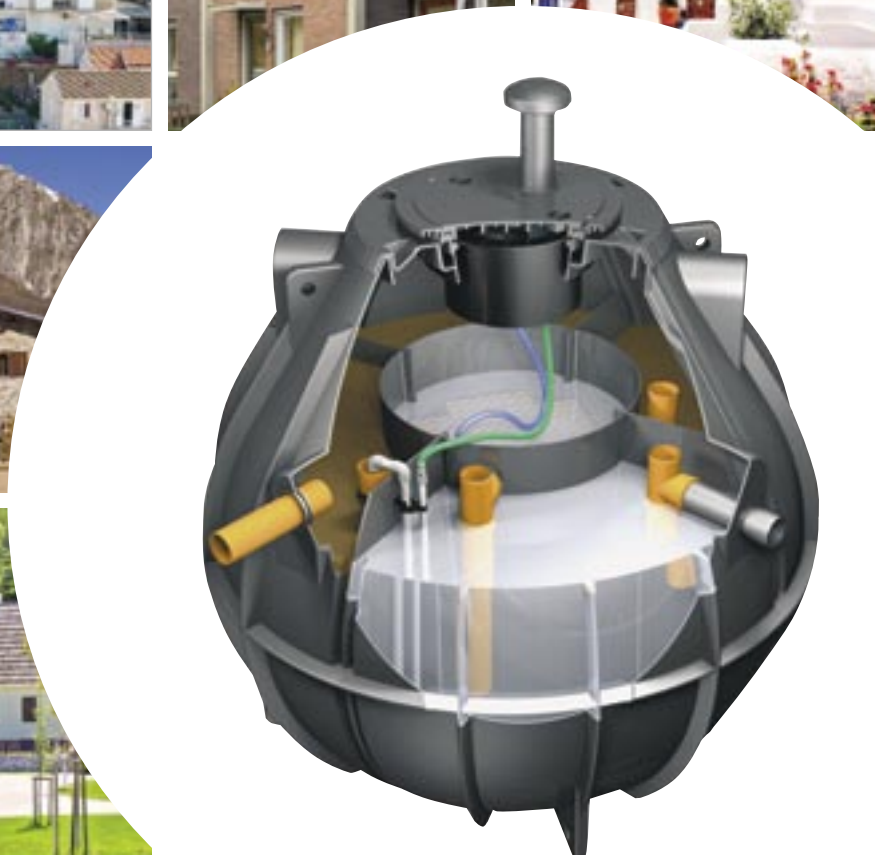
DELPHIN[®] compact



Small wastewater treatment plants

www.delphin-ws.de

DELPHIN Water Systems GmbH & Co. KG
The experts for fixed-bed technology



Quality
for Your
Home

Made in Germany

Performance guarantee starting from 1 PE



Overgrown fixed bed material in a **DELPHIN® compact** plant. Only the technology of the submerged and aerated fixed-bed assures a stable performance also at low wastewater quantities.



Serial production of fixed-bed inserts for **DELPHIN® compact** - controlled quality fabrication assures long-lasting performance



Maximum performance

In a biological small scale wastewater treatment plant **DELPHIN® compact** domestic sewage is fully treated with state-of-the-art fixed-bed technology. So well, that German, French and other international standards are easily met. The plant therefore was awarded with German and French approvals by the national authorities and is CE marked.

Ideal also for single and two person households

Fully biological small scale treatment plants are designed and tested with reference values for the pollution contained in domestic wastewater. But the so-called population equivalent (PE) is practically underrun in many cases. A 4 PE treatment plant, which is charged with 600 litres of wastewater daily during the approval testing period, is charged in real single or two person households often with less than 140 litres per day.

DELPHIN has enhanced its technology as first manufacturer in such a way that such underload situations mustn't result in a problem. This is documented by many control measurements at numerous **DELPHIN®** small scale treatment plants installed at holiday homes, single or two person households and by the **DELPHIN underload guarantee**.

The quality of **DELPHIN** small scale treatment plants is the result of continuous research and development in connection with a highly accurate and fully documented production.

The materials used for the fabrication and the technical equipment allow an outstanding long lifetime of the plant.

Up to 20 years reliability

Due to this circumstance we offer for our **DELPHIN®** small scale treatment plants with fixed-bed technology a prolongation of the usual guarantee for the tank material from two to up to 20 years after product registration at your local dealer.



Quality – Made in Germany

You can count on **DELPHIN®** small scale treatment plants. They are tested for a long lifetime with many thousand operating hours.

Quality supported by specialized dealers

Please consider that our prolonged guarantee is valid only for treatment plants which were purchased at an authorized **DELPHIN** dealer in your country and which were also installed by an authorized installer. Furthermore the maintenance described in our manual must be regularly carried out during the period of guarantee.

Quiet and odorless wastewater treatment for your home



1 Inlet, 2 Primary settlement, 3 Fixed-bed reactor, 4 Secondary clarifier, 5 Outlet, 6 Compressor, 7 Control board



DELPHIN® compact in an old cesspit

In many countries the allowances for the use of thousands of outdated treatment plants and cesspits expire soon. These plants must be exchanged by new systems which are state-of-the-art, because the old systems tend sooner or later to leakages and have disadvantages like the direct disturbance of the occupants by bad odors and noisy technical equipment.

In order to still make use of old cesspits these often can be used as new installation place without the effort for digging another pit for the new tank. No matter if you install it in a new place or into an existing pit, the installation is done between morning and tea time. In the evening you can enjoy your garden again.

- It's time to change to a modern and approved treatment technology with an excellently designed tank which allows making use of your
- whole garden again - stressless living guaranteed.

The perfect size for any requirements

Configuration	Type DELPHIN® compact	max. PE	Grade of treatment	Compressor I~, 230 V, 50 Hz	Power consumption [kWh/year]	Weight
	4/C/1	4	C	XP-80, 58 W	~ 118	380 kg
	4/N/1	4	N	HP-100, 95 W	~ 274	380 kg
	4/D/1	4	D	HP-100, 95 W	~ 349	380 kg
	6/C/1	6	C	HP-100, 95 W	~ 233	380 kg
	8/C/1	8	C	HP-120, 115 W	~ 457	400 kg
	8/C/2	8	C	HP-100, 95 W	~ 274	540 kg
	8/N/2	8	N		~ 524	
	8/D/2	8	D		~ 598	
	10/N/2	10	N	HP-150, 125 W	~ 579	700 kg
	10/D/2	10	D		~ 618	
	12/C/2	12	C		~ 360	
	14/N/3	14	N	HP-200, 210 W	~ 1062	1050 kg
	14/D/3	14	D		~ 1120	
	22/C/3	22	C		~ 786	
	24/N/5	24	N	2BH7310, 810 W (3~, 400 V, 50 Hz)	~ 2225	1750 kg
	24/D/5	24	D		~ 2681	
	32/C/5	32	C		~ 1632	
	36/N/5	36	N	2BH7410, 1100 W (3~, 400 V, 50 Hz)	~ 2814	1800 kg
	36/D/5	36	D		~ 3474	
	46/C/5	46	C		~ 1949	

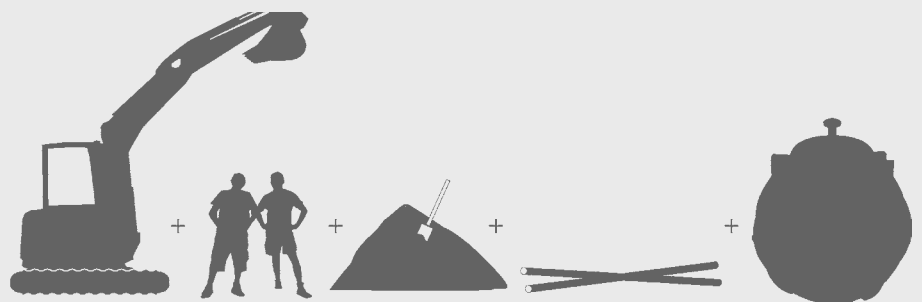
Grade of treatment:

Achievable effluent results at standard dimensioning (I PE = 150 l/d, 60 g BOD₅/d, 11 g N/d)

C (carbon removal)	COD: ≤ 100 mg/l	BOD ₅ : ≤ 25 mg/l	-		SS: ≤ 35 mg/l
N (nitrification)	COD: ≤ 75 mg/l	BOD ₅ : ≤ 15 mg/l	NH ₄ - N: ≤ 10 mg/l		SS: ≤ 25 mg/l
D (denitrification)	COD: ≤ 75 mg/l	BOD ₅ : ≤ 15 mg/l	NH ₄ - N: ≤ 10 mg/l	N _{tot} ≤ 25 mg	SS: ≤ 25 mg/l



All that you need:



External technology installation



External technology installation

By default, the technical components of a DELPHIN® compact small wastewater treatment plant are being installed internally via a hooking-in-module located inside the manhole pit of the tank. Alternatively, the whole technology can be installed outside of the plant's tank.

Solution 1: External technology shaft

Technology shaft for the subsurface installation of the compressor and the air distribution outside the treatment plant. The control panel may be installed in any distance to the wastewater treatment plant indoors or outdoors at a wall. The air hoses have to be installed inside a protective conduit between technology shaft and plant.

Solution 2: Wall bracket

Stainless steel wall bracket for indoor installation of compressor, control panel and air distribution. The bracket is equipped with two shock-proof sockets for the connection of the compressor and the control panel. The air hoses have to be installed inside a protective conduit between wall bracket and plant.

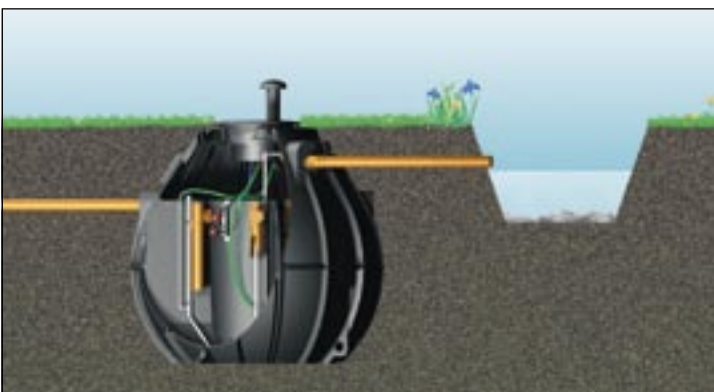
Solution 3: Outdoor switch cabinet

Premium steel cabinet for the accommodation of compressor, control panel and air distribution outdoors. The switch cabinet is equipped with a rain cover, wall fixations, ventilation grids and external operation and alarm lights. The air hoses have to be installed inside a protective conduit between cabinet and plant.



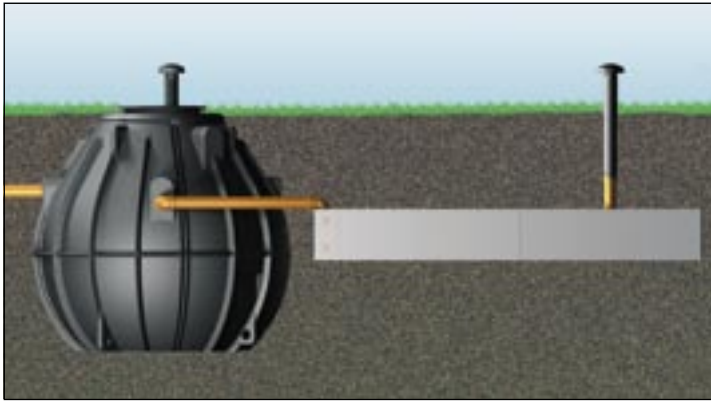
Extensions

An extension of the installation depth can be achieved using optional dome extensions of 250 mm or 500 mm. In this case, water inlets up to 1,55 m below ground level can be connected to the small wastewater treatment plant without the requirement for an additional pump shaft. The wide diameter of the extensions (1000 mm) assures the maintainability of the plant.



Additional airlift device

With an additional airlift pump the original outlet level of the treatment plant in the final clarification is raised by 50 cm or alternatively by 90 cm. With this solution high discharge points can be reached and the additional installation of a pump shaft is avoided. This accessory is available as internal version for sizes up to 8 PE and as external shaft for sizes up to 12 PE.



DELPHIN® block seepage elements

If no drainage channel is available for the discharge of the biologically treated wastewater, DELPHIN® block seepage elements can be used for soils with sufficient permeability. With its large holding capacity peak inflows are buffered and the water can seep slowly through the side walls into the underground. DELPHIN® block seepage elements are designed in accordance with the standard of DIN 4261-5.



Buoyancy protection DELPHIN® ATS compact

If the tank of a small treatment plant is going to be installed at places with a high subterranean water level and therefore will be immersed into the water for more than 40 cm, a buoyancy protection must be attached to the treatment plant. The DELPHIN® ATS compact buoyancy protection consists of galvanized steel tube profiles and geotextile loops. The geotextile loops are easily put over the steel tubes after those have been connected to the massive eyes, which are part of the bottom of each DELPHIN® compact tank.

Quality for Generations

“One should buy a treatment plant only once and then the matter should be off the table.
 A DELPHIN® compact is the right plant for that!”



Your specialist dealer