

SIMOP
EQUIPMENTS FOR ENVIRONMENT

Give the best back to earth

WASTEWATER TREATMENT

Bi  **nut**®

Treatment solutions
ECO-RESPONSIBLE

Solutions from 4 to 20 PE



Compact filters
made from recycled and
compostable hazelnut shells!



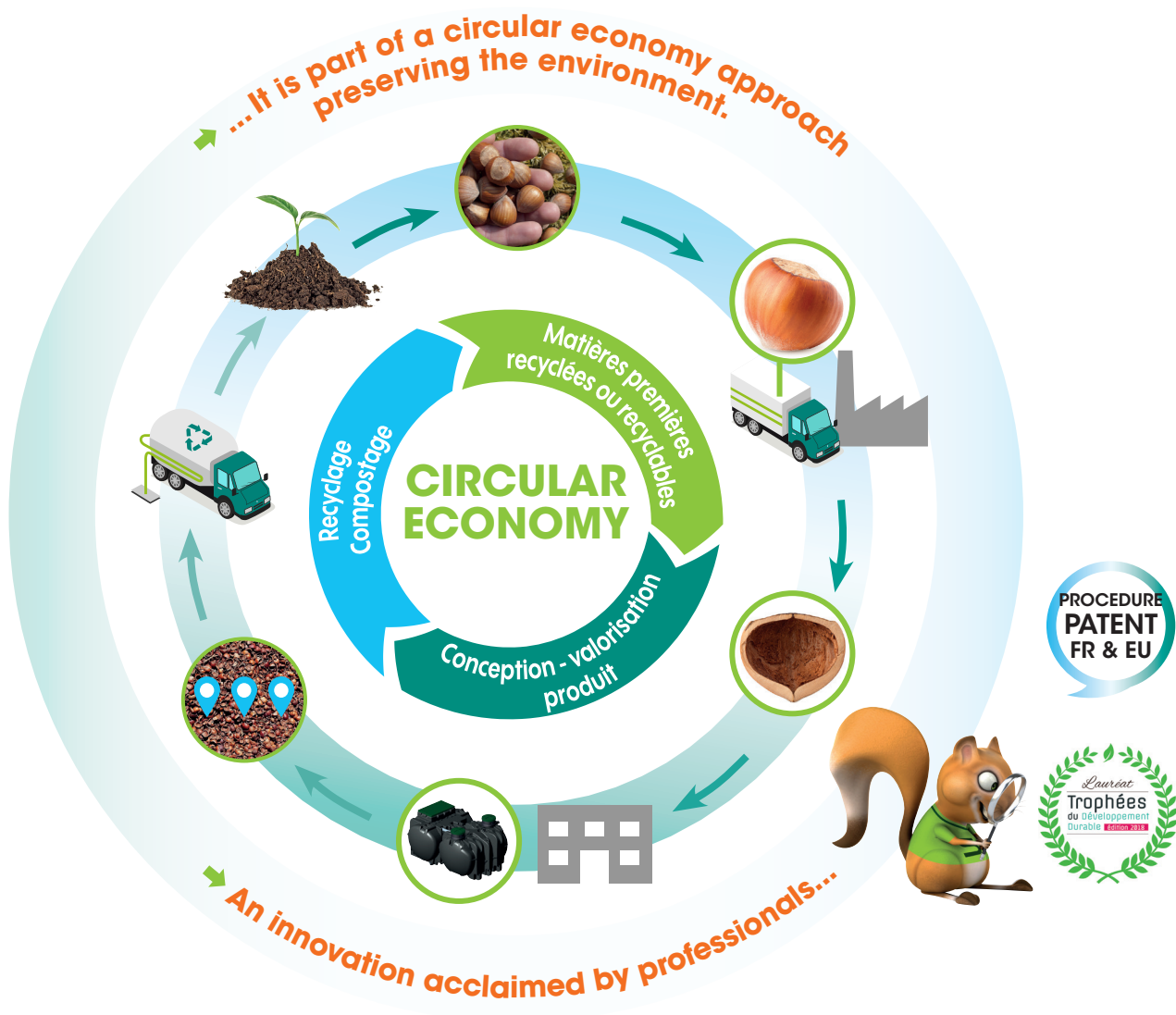
Redonnons le meilleur à la terre

Choosing a solution eco-responsible non-collective sanitation!

Bionut is designed for domestic wastewater from single-family homes or groups of dwellings. The Bionut system comprises an all-water tank and a compact filter with a sustainable, ecological plant-based filter medium, in line with our sustainable development policy geared towards the circular economy.

An innovative filtration process, made from recycled hazelnut shells, with multiple benefits....

- 100% French manufacturing and 100% French-owned company
- System patented in France and Europe
- Hazelnut shells from French production (low carbon footprint)
- Ecological recovery of waste from the agri-food industry
- 100% natural bio-media without chemical treatment
- No settling of the filter over time



Summary

PRESENTATION OF THE UNIT

- **Non-collective treatment solutions for seasonal and permanent homes**..... 4
- **Major benefits for both installer and user!** 5
- **Efficient operation with patented filtration system**..... 6
- **A concentrate of innovations** 7
- **Composition of the unit from 4 to 20 PE** 8
 - Low- and high-outlet filters..... 8
 - BIONUT compact filter for secondary treatment..... 10
- **Reference table for all units**..... 11
- **Main dimensions of unit components**..... 12
 - Pack monobloc 4, 5 and 6 PE versions..... 12
- **Septic tanks** **13**
 - Compact filter alone 4, 5, 6 and 8 PE 14
 - Accessories and complementary equipment..... 15
 - Extensions 15
 - Distribution box 15
 - Bucket flush 15
 - Lifting station 16
 - Accessories overview table 17

INSTALLATION OF THE UNIT

- **Common installation rules** 18
 - Soil type and topography 18
 - Installation site 18
 - Possible outlets..... 18
- **Pack version: comfort and ease of installation** 19
 - Faster unloading..... 19
 - Simplified installation 19
 - Greater installation flexibility..... 19
 - Easy in-line installation with fast, simple unpacking 19
- **Installation instructions for the quality and durability of your unit** 20
 - Laying on simple ground 20
 - Installation in difficult terrain: water table, hydromorphic or clay soil 20
 - Installation on unstable and/or silty ground 21
 - Installation of the filter with upper outlet with an independent lifting or discharge station 21
 - Hydraulic connection 22
 - Ventilation device 22
- **Examples of installation**..... 23
 - Pack (4 to 6 PE) 23
 - Parallel packs..... 23
- **A network of partners for total peace of mind** 24
 - A network of partner installers 24
 - Commissioning 24
 - Maintenance 24
 - Warranty 24
- **Requirements and regulations** 25
- **Reminder of current regulations** 26

Non-collective treatment solutions suitable for seasonal and permanent homes

➔ **BIONUT New Generation: a compact, ready-to-install, stand-alone device**

BIONUT New Generation are treatment systems for domestic wastewater from **single-family homes** or **groups of dwellings**. Since they require no electricity, they are self-sufficient and can handle intermittent operation by **second homes**.

These systems comprise an all-water tank for effluent pre-treatment, and a compact filter made from recycled hazelnut shells for biological treatment, which reproduces the natural purification of water through the soil.



Residence
main



Residence
secondary



Grouped housing
(small collective)

Major advantages for the installer and the user!

An installation + worry-free



A practical + solution



A + economic system



ASSISTANCE
À LA MISE
EN SERVICE
OFFERTE



- Less work than conventional spreading (reduced footprint from 120 to 10 m2)
- No power supply required
- Eligible for eco-loan
- Low maintenance costs
- 0 work when renewing the shells

- Ready to install
- Pack monobloc
- Groundwater resistance
- Suitable for intermittent use (second homes)
- Easy media renewal
- 2 possible exit points

An environmentally friendly + system + sustainable



An environmental system: +



- Natural, renewable filter media
- Recycled and recyclable material (hazelnut shells used as filter media, then sent to composting center at end of life)
- Code déchet spécifique : 19 08 99 mention "coquilles de noisettes usagées" (used hazelnut shells)

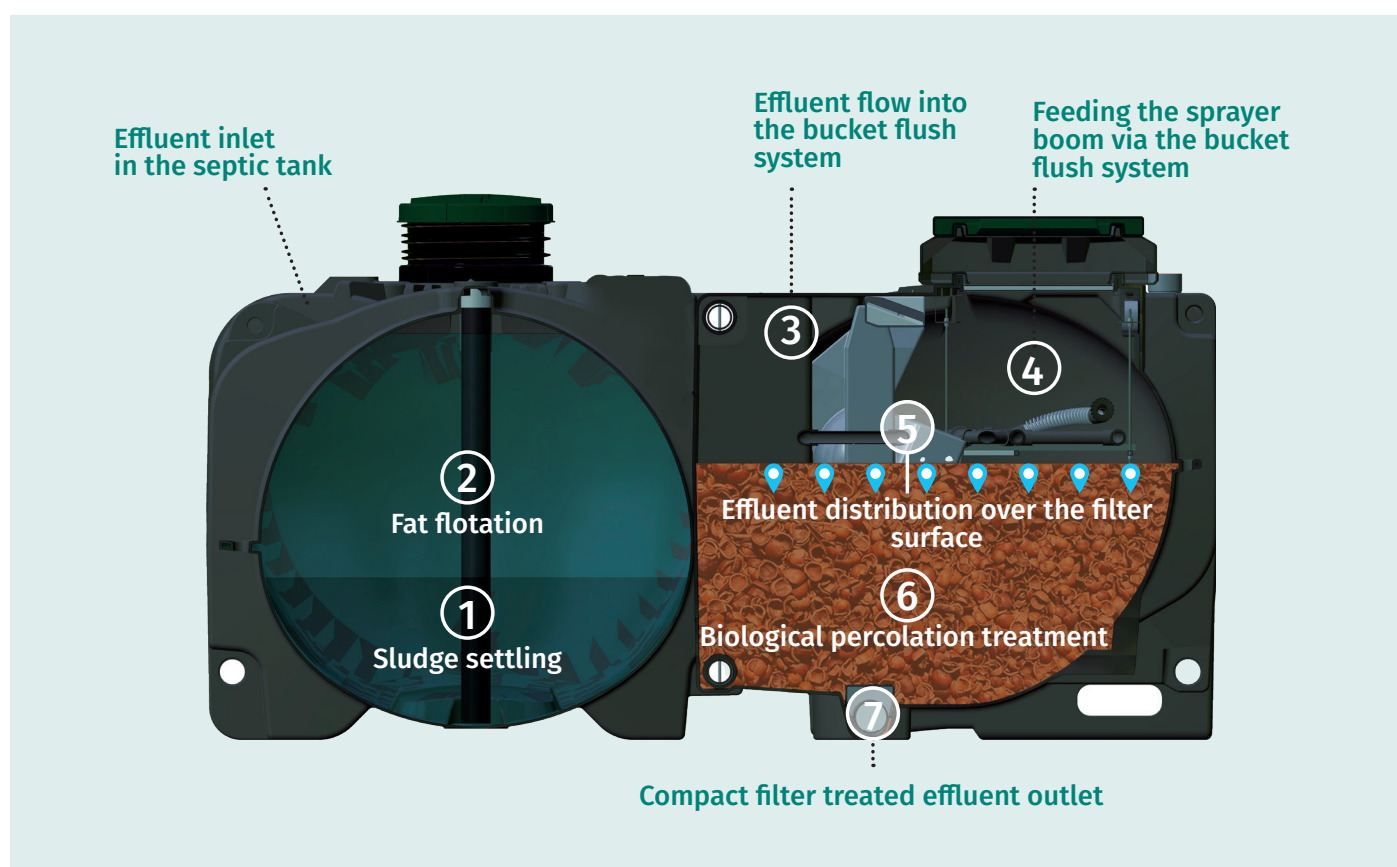
- 100% French product: innovation, design and manufacture by SIMOP in partnership with the Ecole des Mines d'Alès, hazelnuts produced in south-west France
- Low carbon footprint
- Less landscape impact
- No power consumption
- Homogeneous, high-performance, sustainable purification system

Efficient operation with a patented filtration system

→ 2-stage operation:

- pre-treatment, carried out by the all-water tank,
- biological treatment, using a compact filter based on hazelnut shells.

Exit from the all-water pit, the pre-treated water arrives in the **bucket flush** integrated into the **compact filter**, which feeds the **distribution ramp** distributing water over the entire surface of the filter. The water then percolates through the **filter mass**, made of **hazelnut shells**, on which are fixed **aerobic bacteria** which will ensure the treatment of the water until its outlet.



→ focus on hazelnut shell filtration

In partnership with the Ecole des Mines d'Alès, SIMOP has developed a bio-media medium using hazelnut shells.

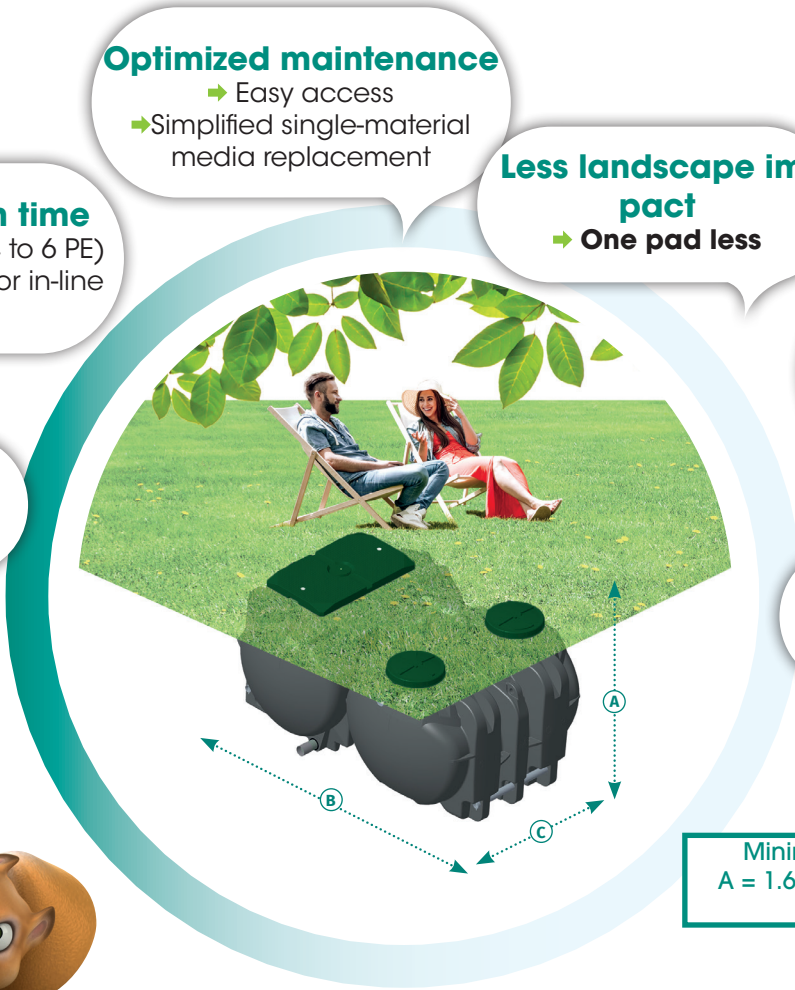
But why the hazelnut shell?



- 100% natural bio-media,
- No decomposition of the media in the filter over time,
- Ecological recovery of waste from the agri-food industry,
- Resource from French production (very low carbon footprint),
- Favors bacterial development,
- Compostable.

A concentrate of innovations

➔ **BIONUT New Generation: developments to simplify sanitation**



Optimized maintenance

- ➔ Easy access
- ➔ Simplified single-material media replacement

Less landscape impact

- ➔ One pad less

Field adaptability

- ➔ Reinforced tanks as standard

Ready to install

- ➔ New accessories included

Less installation time

- ➔ Pack monobloc (4 to 6 PE)
- ➔ Quick unpacking for in-line installation

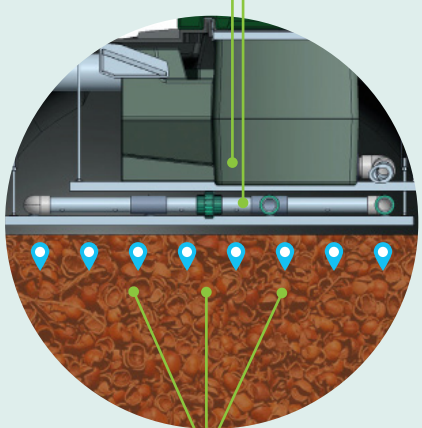
Even more reliable

- ➔ New bucket flush

Minimum footprint (4 to 5 PE)
A = 1.64 m / B = 2.92 m / C = 2.30 m

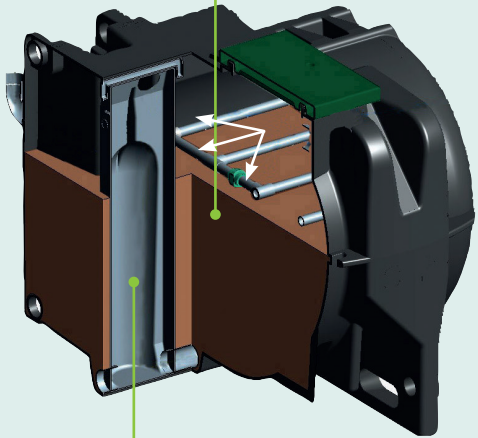
➔ **Designed for optimum filtration and simplified maintenance**

New bucket flush and distribution ramp



Homogeneous effluent distribution over the entire media surface

Easy access for maintenance



Integrated sampling port

Composition of the unit from 4 to 20 PE (*inhabitant equivalent)

➔ Low outlet unit



Article	BIONUT2 /6054/04	BIONUT 2 /6054/05	BIONUT2 /6054/06	BIONUT2 /6054/08	BIONUT2 /6054/10	BIONUT2 /6054/12	BIONUT2 /6054/16	BIONUT2 /6054/18	BIONUT2 /6054/20
PE capacity	4	5	6	8	10	12	16	18	20
Total number tanks	2			3			4		5
TREATMENT primary (septic tank)	Reference	FTE03000BI		FTE2/6009/04	FTE2/6009/05	INR06000	INR08000	FTE2/6309/10	
	Useful volume (m³)	3		4	5	6	8	10	
	Weight septic tank (kg)	155		190	225	306	404	580	

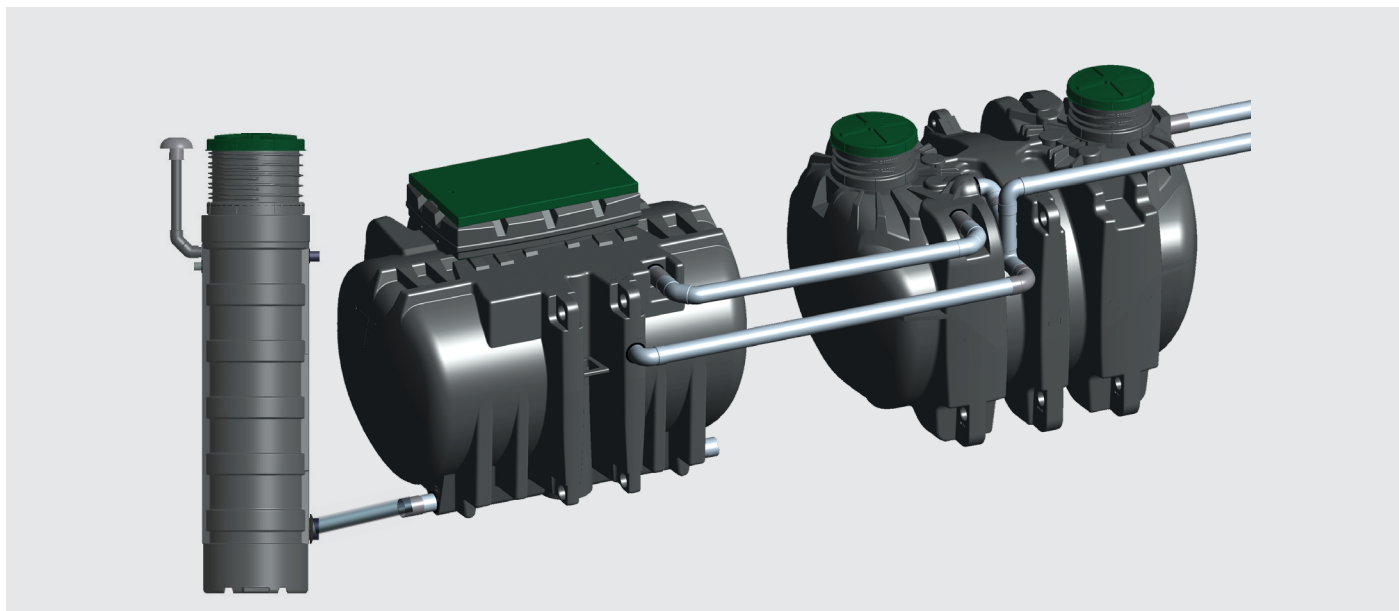
Reference	1 x BIONUT2/04	1 x BIONUT2/05	1 x BIONUT2/06	1 x BIONUT2/08	2 x BIONUT2/05	2 x BIONUT2/06	2 x BIONUT2/08	3 x BIONUT2/06	4 x BIONUT2/05
COMPACT FILTER (FC)	Massive useful height (m)	0.75		0.75		0.75	0.75	0.75	0.75
	Compact filter weight (kg)	208	221	275	596	554	550	831	1 192
	Total weight shells (kg)	569	662	1 112	1 138	1 324	2 224	1 986	2 276
	Total weight Compact filter + shells (kg)	777	883	1 387	1 554	1 766	2 774	2 649	3 108

Total unit weight* (in tonnes) Septic tank + compact filter + shells (kg)	960	1060	1 572	1 954	2 184	3 178	3 367	4 018
Maximum backfill height on septic tank (m)	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3
Maximum backfill height on compact filter (m)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

 Pack weight * Without bucket flush or distribution manhole

Composition of the unit from 4 to 20 PE (*inhabitant equivalent)

➔ High outlet unit

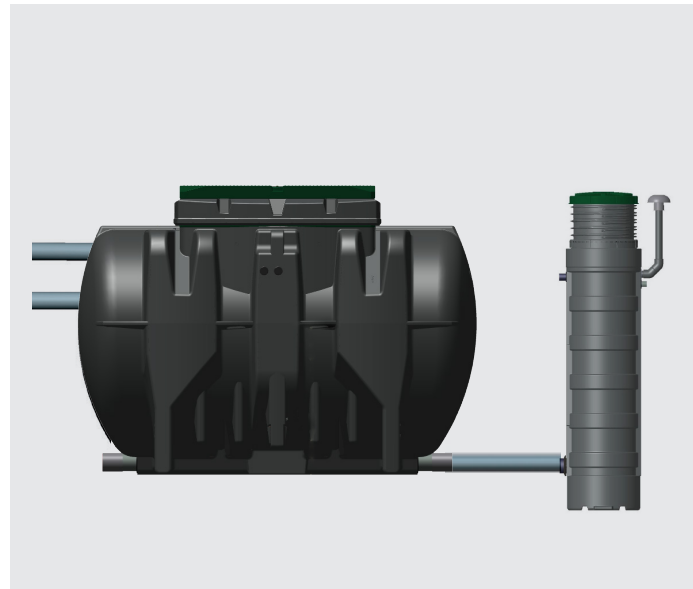
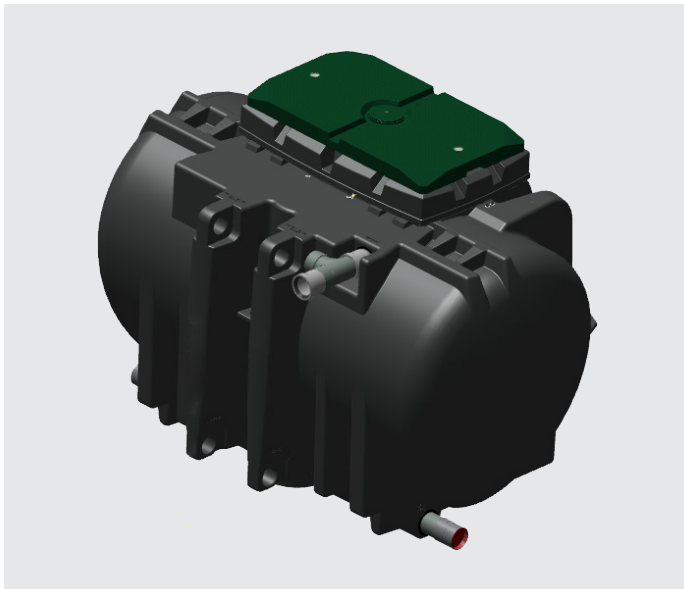


When the terrain does not allow for a low-level outlet (outlet located higher than the compact filter outlet level), the **RELBIONUT-B2** is required to lift the effluent (see page 16).

HIGH OUTLET									
PE capacity	4	5	6	8	10	12	16	18	20
References for the complete unit	BIONUT 2/ 6054/04SH	BIONUT 2/ 6054/05SH	BIONUT 2/ 6054/06SH	BIONUT 2/ 6054/08SH	BIONUT 2/ 6054/10SH	BIONUT 2/ 6054/12SH	BIONUT 2/ 6054/16SH	BIONUT 2/ 6054/18SH	BIONUT 2/ 6054/20SH
Composition of the unit :									
Basic unit	BIONUT 2/ 6054/04	BIONUT 2/ 6054/05	BIONUT 2/ 6054/06	BIONUT 2/ 6054/08	BIONUT 2/ 6054/10	BIONUT 2/ 6054/12	BIONUT 2/ 6054/16	BIONUT 2/ 6054/18	BIONUT 2/ 6054/20
Lifting station	RELBIONUT-B2								
Technical data sheet	FT 5170								



BIONUT compact filter from 4 to 20 PE for secondary treatment



➔ Low outlet unit **BIONUT2/6054/04FS** at 20 FS

Article	BIONUT2 /6054/04FS	BIONUT 2 /6054/05FS	BIONUT2 /6054/06FS	BIONUT2 /6054/08FS	BIONUT2 /6054/10FS	BIONUT2 /6054/12FS	BIONUT2 /6054/16FS	BIONUT2 /6054/18FS	BIONUT2 /6054/20FS
PE capacity	4	5	6	8	10	12	16	18	20
TOTAL NUMBER TANKS	1				2		3		4

Reference	1 x BIONUT2/4	1 x BIONUT2/5	1 x BIONUT2/6	1 x BIONUT2/8	2 x BIONUT2/5	2 x BIONUT2/6	2 x BIONUT2/8	3 x BIONUT2/6	4 x BIONUT2/5
COMPACT FILTER (FC)	Total floor area (m ²)	2.47	2.84	3.8	4.94	5.68	7.6	8.52	9.88
	Massive useful height (m)	0.75		0.75		0.75	0.75	0.75	0.75
	Length C (m)	2.24	2.24	2.38	2.24	2.24	2.38	2.24	2.24
	Width B (m)	1.54	1.74	1.88	1.54	1.74	1.88	1.74	1.54
MAXIMUM BACKFILL HEIGHT ON COMPACT FILTER (M)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

➔ High output unit **BIONUT2/6054/04FSSH** to 20 FSSH

References of the complete unit	BIONUT2 /6054/04FSSH	BIONUT2 /6054/05FSSH	BIONUT2 /6054/06FSSH	BIONUT2 /6054/08FSSH	BIONUT2 /6054/10FSSH	BIONUT2 /6054/12FSSH	BIONUT2 /6054/16FSSH	BIONUT2 /6054/18FSSH	BIONUT2 /6054/20FSSH
PE capacity	4	5	6	8	10	12	16	18	20
Composition of the unit :									
Basic unit	BIONUT2 /6054/04FS	BIONUT2 /6054/05FS	BIONUT2 /6054/06FS	BIONUT2 /6054/08FS	BIONUT2 /6054/10FS	BIONUT2 /6054/12FS	BIONUT2 /6054/16FS	BIONUT2 /6054/18FS	BIONUT2 /6054/20FS
Lifting station	RELBIONUT-B2								
Technical data sheet	FT 5170								

Reference table for all units

→ Compact filters filled with hazelnut shells at the factory.
Low outlet BIONUT2/6054/04 **at 20** and **high outlet (SH)** BIONUT2/6054/04SH **to 20SH**

Capacity	Standard low outlet	Standard with lifting station
4 PE	BIONUT2/6054/04	BIONUT2/6054/04SH
5 PE	BIONUT2/6054/05	BIONUT2/6054/05SH
6 PE	BIONUT2/6054/06	BIONUT2/6054/06SH
8 PE	BIONUT2/6054/08	BIONUT2/6054/08SH
10 PE	BIONUT2/6054/10	BIONUT2/6054/10SH
12 PE	BIONUT2/6054/12	BIONUT2/6054/12SH
16 PE	BIONUT2/6054/16	BIONUT2/6054/16SH
18 PE	BIONUT2/6054/18	BIONUT2/6054/18SH
20 PE	BIONUT2/6054/20	BIONUT2/6054/20SH

→ Empty compact hazelnut shell filters
Low outlet (SN) BIONUT2/6054/04SN **to 20SN** and **high outlet (SN SH)** BIONUT2/6054/04SNSH **to 20SNSH**

Capacity	Complete filtering system with compact hazelnut vacuum filter, low outlet	Complete filter system with hazelnut-empty compact filter and lift station	Number of bags NUT-SAC (20 kg)
4 PE	BIONUT2/6054/04SN	BIONUT2/6054/04SNSH	29
5 PE	BIONUT2/6054/05SN	BIONUT2/6054/05SNSH	29
6 PE	BIONUT2/6054/06SN	BIONUT2/6054/06SNSH	34
8 PE	BIONUT2/6054/08SN	BIONUT2/6054/08SNSH	56
10 PE	BIONUT2/6054/10SN	BIONUT2/6054/10SNSH	57
12 PE	BIONUT2/6054/12SN	BIONUT2/6054/12SNSH	67
16 PE	BIONUT2/6054/16SN	BIONUT2/6054/16SNSH	112
18 PE	BIONUT2/6054/18SN	BIONUT2/6054/18SNSH	100
20 PE	BIONUT2/6054/20SN	BIONUT2/6054/20SNSH	114

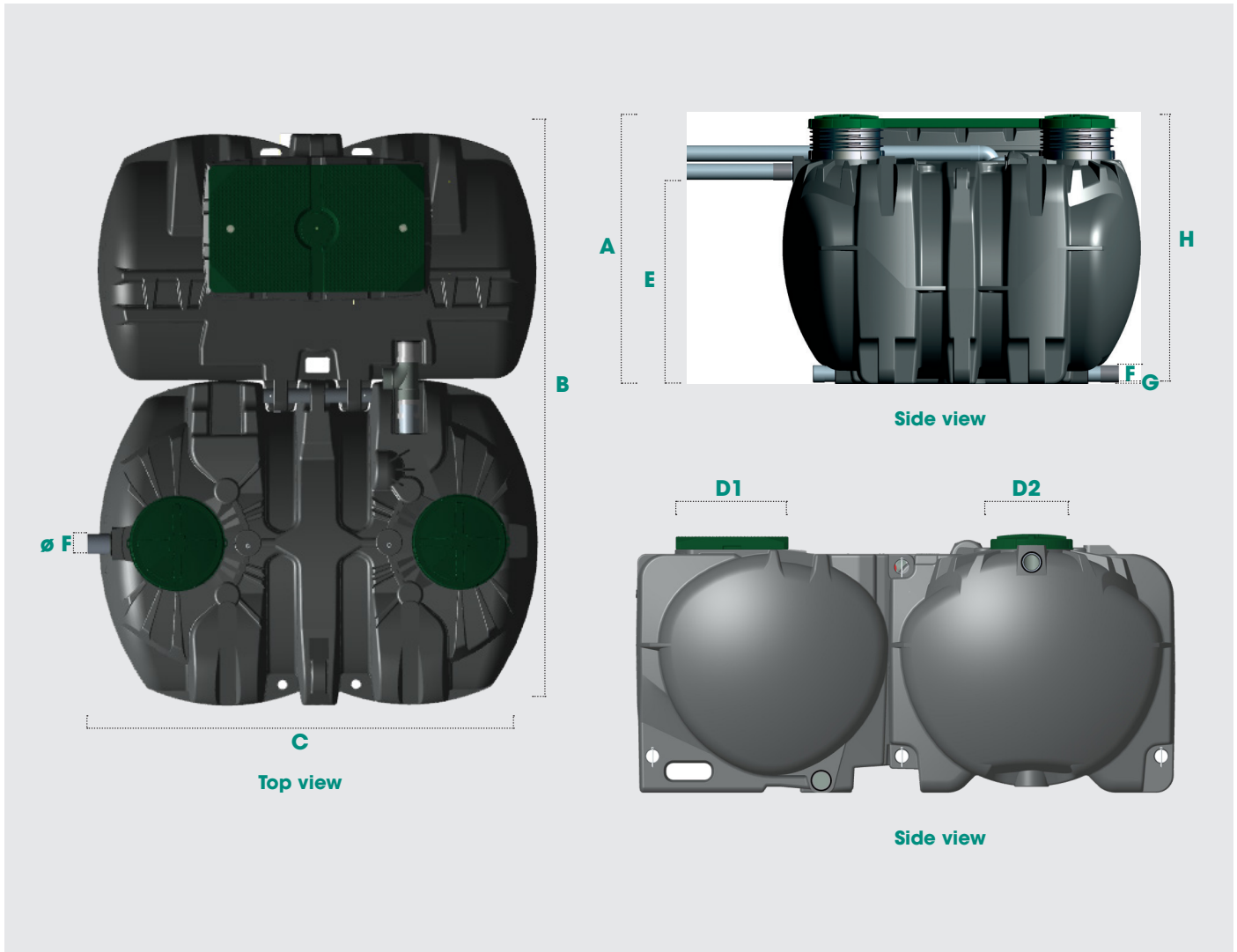
The 20 kg bags of shells are packed per 800 kg, on 100 x 120 cm pallets.

→ Optional

Description	Reference
Lifting kit	RELBIONUT-B2
Anchoring accessories	KANCRB2 = 1 AD254 anchor bar + 2 BV170-8-100 pins
	CA3/10/3T/2 (set of 2 for one tank, without winch)
	CA3/10/3T/3 (set of 3 for FTE2/6309/10, without winch) CA3/6394/10T (individually, suitable for all tanks, with winch)
Lifting straps	SANGL/BIONUT (included and mounted on filters from 4 to 8 PE, straps are optional for filters above 8 PE)
Pack of risers	RHV/BIONUT2/456 to 20/SB OR SH - See FT-6062 for details

Main component dimensions of the components making up the plant (4 to 20 PE)

➔ Pack monobloc 4, 5 and 6 PE versions



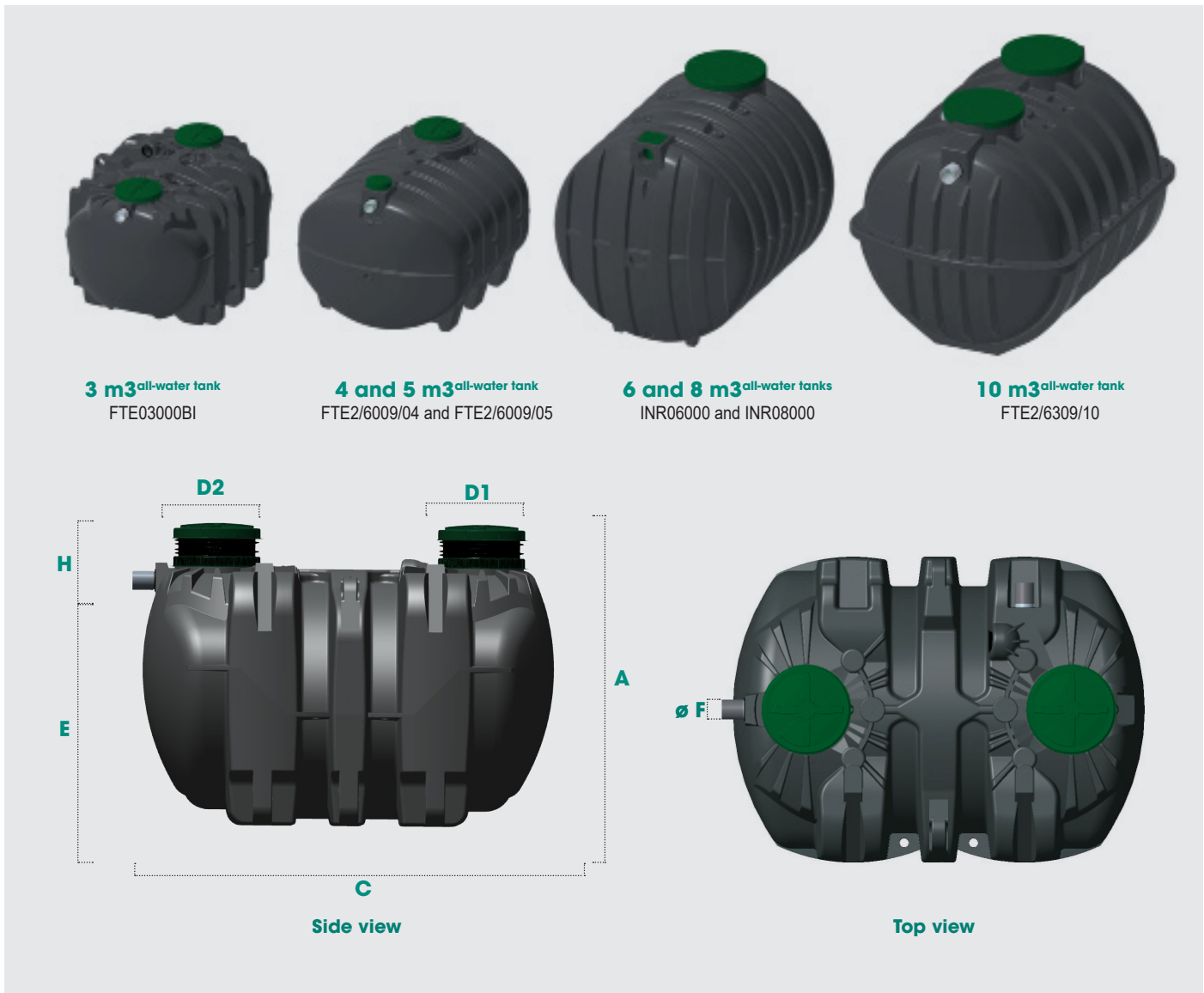
References	A	B	C	D1	Ø D2	E	Ø F	G	H
Bionut2/6054/04	1 639*	2 917	2 299	470 x 920 (inside TH) 650 x 1100 (lid)	400	1 280	100	18	1 621*
Bionut2/6054/05		2 917							
Bionut2/6054/06		3 117							

Dimensions in mm

* Including 150 mm minimum extension height required.

Main component dimensions of the components making up the plant (4 to 20 PE)

→ Septic tanks



3 m³ all-water tank
FTE03000BI

4 and 5 m³ all-water tank
FTE2/6009/04 and FTE2/6009/05

6 and 8 m³ all-water tanks
INR06000 and INR08000

10 m³ all-water tank
FTE2/6309/10

References	A	B	C	Ø D2 input	Ø D1 exit	E	Ø F	G	H
FTE03000BI	1 639*	1 660	2 299	400	400	1 280	100	1 250	389*
FTE2/6009/04	1 800*	1 810	2 287	200		1 365		1 335	384*
FTE2/6009/05	1 950*	1 977	2 390	200		1 500		1 470	384*
INR06000	2 295	2 202	2 114	-	600	2 037	160	1 987	308
INR08000	2 295	2 202	2 720	-		2 037		1 987	308
FTE2/6309/10	2 540	2 490	3 378	600		2 085		2 035	505

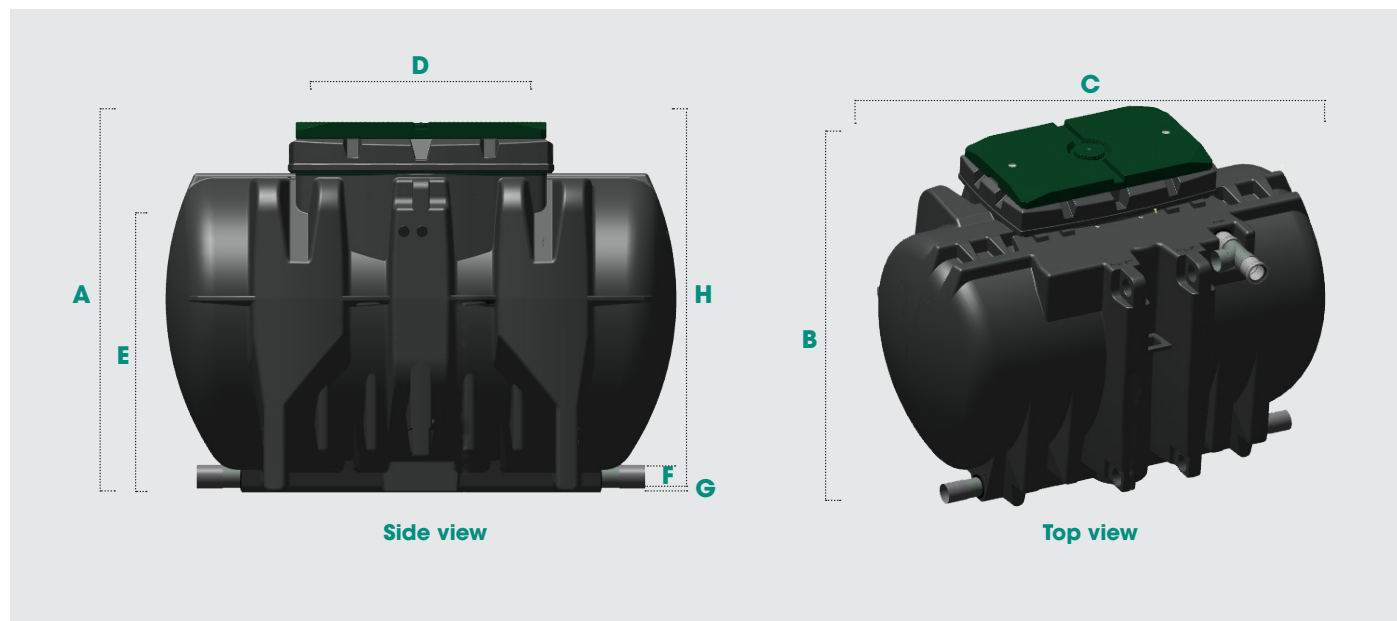
Dimensions in mm
* Including 150 mm minimum extension height required.



Main dimensions of the components making up the plant (4 to 20 PE)

➔ Compact filter alone 4, 5, 6 and 8 PE

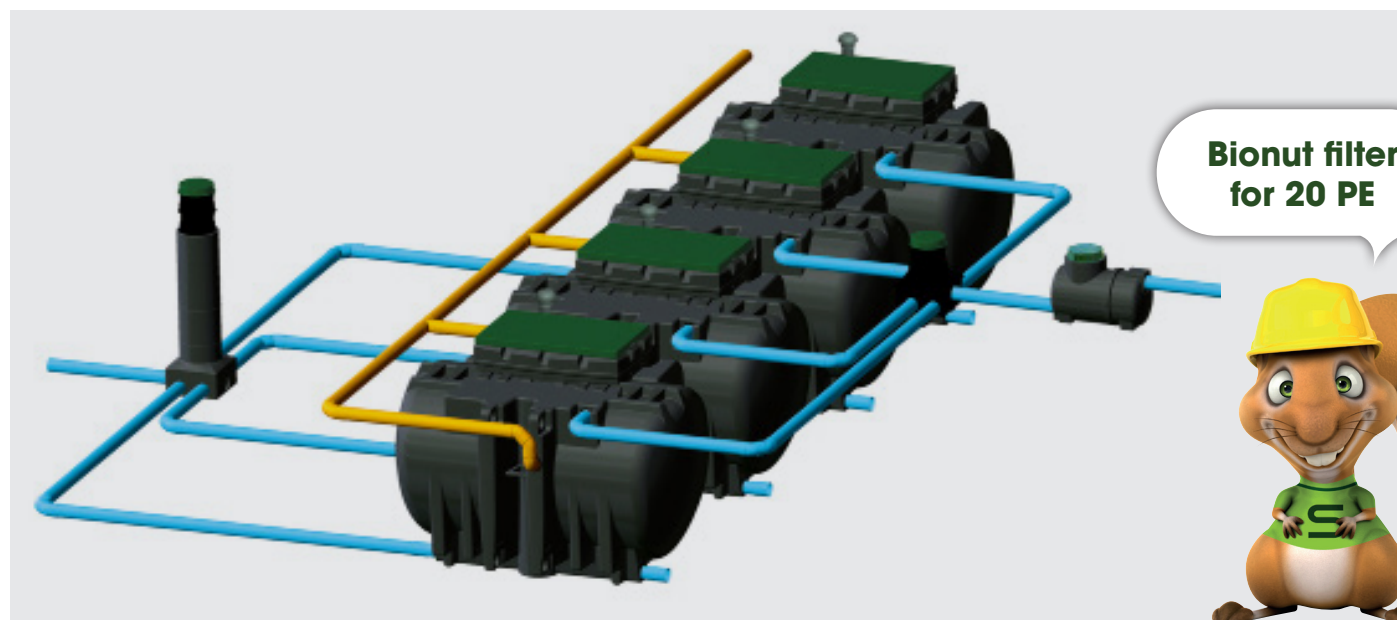
A set of risers is included for 4 to 8 PE units. For larger units, optional extensions must be ordered separately (see table p. 7).



References		A	B	C	Ø D	E	Ø F	G	H	
Bionut2/04	Unpacked	1 610*	1 537	2 240	-	1 238	100	18	1 592*	
Bionut2/05		1 610*	1 537	2 240	-					470 x 920 (inside TH)
Bionut2/06		1 610*	1 737	2 240	-					650 x 1100 (lid)
Bionut2/08 (2 lids)		1 650*	1 880	2 380	470 x 920			43	1 607*	

Dimensions in mm

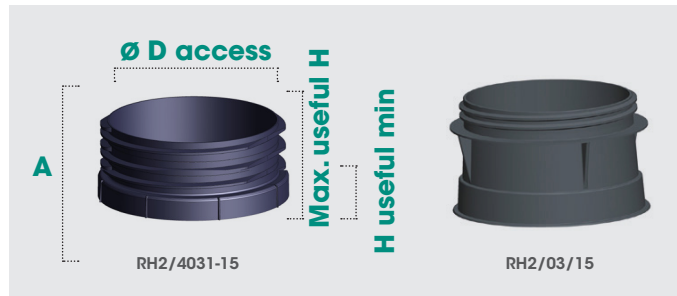
* Including 150 mm minimum extension height required.



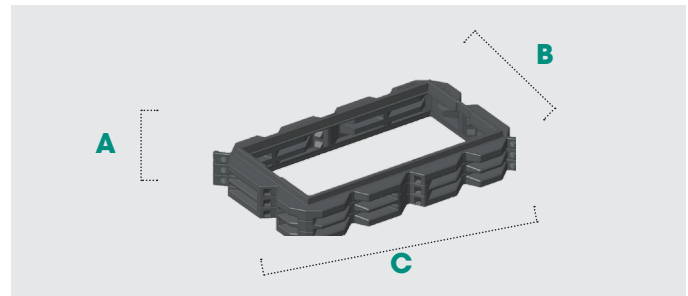
Accessories and complementary equipment

→ Extensions

Extensions for all-water tanks and compact filters are supplied as standard for 4 to 8 PE systems. They are optional for systems above 8 PE.



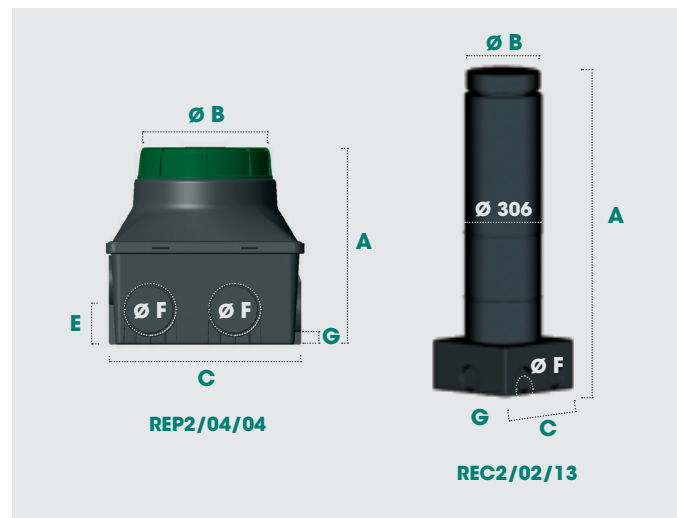
Reference	Designation	A	Ø D	H useful mini	H useful max
RH2/4031-15	Manhole extension to be screwed on, cuttable every 5 cm	207	400	50	150
RH2/03/15	Diffuser extension for all water pit or floating trough	200	220	150	150



References	Designation	A	B	C
RH2/15/B2	BIONUT 150 mm extension	150	740	1 170

Dimensions in mm

→ Distribution box



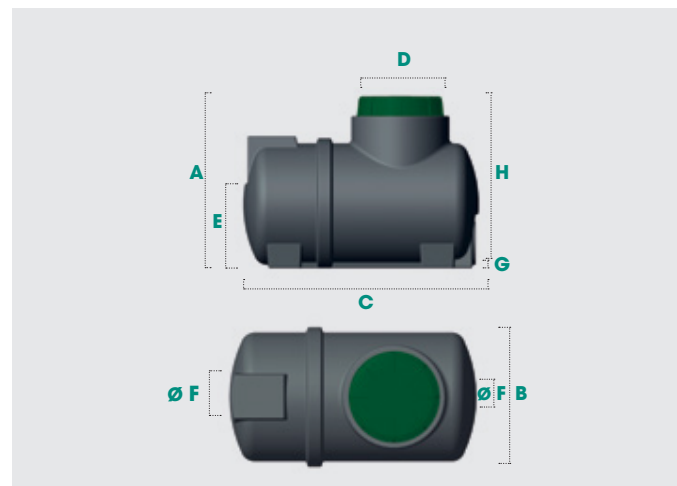
The REP2/04/04 is included in all multi-filter systems (from 10 PE). The REC2/02/13 collection manhole is available as an option, and is strongly recommended for multi-filter systems (> 8 PE.) to enable average sampling at the plant outlet.

References	A	Ø B	C	E	Ø F	G
REP2/04/04	400	235	400 x 400	75	100	20
REC2/02/13	1 300	220	400 x 400	-	100	10

Dimensions in mm

OPTIONS	
RH2/03/15	Screw-on extension Ø 235, height 150 mm

→ Bucket flush



Bucket flush is required and supplied as standard for more than 2 compact filters in parallel: 18 and 20 EH.

References	Volume	A	Ø B	C	Ø D	E	Ø F	G	H
AF2/6016/055	55 L	555	415	740	210	285	100	30	525

Dimensions in mm

OPTIONS	
RH2/03/15	Screw-on extension Ø 235, height 150 mm

Accessories and complementary equipment

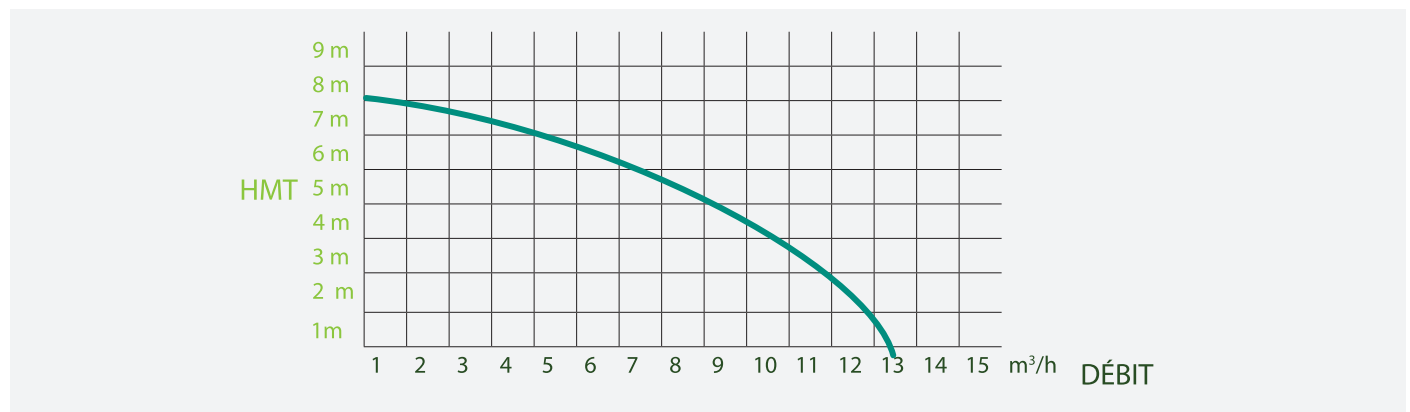
→ The independent lifting station

It is used to lift water from the upper outlet of the Bionut filter.



Composition of the lifting station:

- 1 cylindrical tank Ø 470 mm polyethylene (PE) interior
- 1 groundwater-resistant tank bottom.
- 1 screw-on PE cover
- 1 Ø 100 porthole seal with hole saw
- 1 cable entry Ø 50 ext
- 1 Ø 40 pressure PVC discharge pipe with elbow and union fitting
- 1 swing check valve.
- 1 male outlet Ø 40 ext
- 1 ventilation outlet Ø 50 ext
- 1 pump with built-in float switch and 10 ml cable, max. 35 mm solid body passage
- Height (A) increased by 119 mm (new)
- Adaptable with 300 mm extension (new)



References	A	Ø B	Ø C	Ø D	E	Ø F	G	H*	I	J	Pump	Power kW	Ampere intensity	Voltage volts
RELBIONUT-B2	1855	Ø 579	Ø 470	Ø 400	1595 max	Ø100	225	260	205	225	PLIFT5180/01	0.75	3.6	220
RH2/4031	Polyethylene extension Ø 400 height 250 mm													
AE141	Cable extension connection kit													
AE1613	Very high level audible alarm box													

* Do not drill beyond 26 cm

Bionut®

NOUVELLE GÉNÉRATION

Accessories overview table



Overview of optional extensions and extension packs.						
Each pack contains			RH2/03/15	RH2/4031	RH2/6030	RH2/15/B2
Height	In mm	Pack references	150	300	300	150
OUTLET LOW	4 EH	RHV/BIONUT2/456/SB		2		2
	5 EH	RHV/BIONUT2/456/SB		2		2
	6 EH	RHV/BIONUT2/456/SB		2		2
	8 p.e.	RHV/BIONUT2/08/SB	2	1		4
	10 p.e.	RHV/BIONUT2/10/SB	4	1		4
	12 EH	RHV/BIONUT2/12/SB	2		1	4
	16 EH	RHV/BIONUT2/16/SB	2		1	8
	18 EH	RHV/BIONUT2/18/SB	4		2	6
	20 EH	RHV/BIONUT2/20/SB	4		2	8
OUTLET HIGH	4 EH	RHV/BIONUT2/456/SH		3		2
	5 EH	RHV/BIONUT2/456/SH		3		2
	6 EH	RHV/BIONUT2/456/SH		3		2
	8 p.e.	RHV/BIONUT2/08/SH	2	2		4
	10 p.e.	RHV/BIONUT2/10/SH	4	2		4
	12 EH	RHV/BIONUT2/12/SH	2	1	1	4
	16 EH	RHV/BIONUT2/16/SH	2	1	1	8
	18 EH	RHV/BIONUT2/18/SH	4	1	2	6
	20 EH	RHV/BIONUT2/20/SH	4	1	2	8

Type and number of extensions per equipment

Septic tank only	4, 5, 6 PE	FTE03000BI Diffuser input		1		
		FTE03000BI Pre-filter outlet		1		
	8 EH	FTE2/6009/04 Diffuser inlet	2			
		FTE2/6009/04 Pre-filter outlet		1		
	10 EH	FTE2/6009/05 Diffuser inlet	2			
		FTE2/6009/05 Pre-filter outlet		1		
	12 EH	INR06000 Diffuser input				
		INR06000 Pre-filter outlet			1	
	16 EH	INR08000 Diffuser input				
		INR08000 Pre-filter outlet			1	
	18, 20 PE	FTE2/6309/10 Diffuser inlet			1	
		FTE2/6309/10 Pre-filter outlet			1	
	Auget	AF2/6016/055 (18 & 20 EH)	2			
	Manhole	REP2/04/04 (> 8 EH)	2			
Compact filter only	4, 5, 6 PE	BIONUT2/6054/04 - 05 - 06				2
	8 p.e.	BIONUT2/6054/08				4
	10 p.e.	BIONUT2/6054/10				4
	12 EH	BIONUT2/6054/12				4
	16 EH	BIONUT2/6054/16				8
	18 EH	BIONUT2/6054/18				6
	20 EH	BIONUT2/6054/20				8

Common installation rules

→ The nature of the soil and the topography of the site

The studies of the parcel must be carried out in accordance with the regulations in force in order to evaluate the constraints related to the nature of the ground.



Impermeable ground

Consult a specialized engineering firm to determine the type of drainage to be used (infiltration if possible, otherwise discharge to surface waters with authorization).



Unstable and/or silty soil

In the case of installation in unstable and/or silty soil, side fill should be made with sand stabilized at 200kg/m³.



Sloping ground (> 5%)

Avoid installing the tank at a low point in the ground, or install a drainage system upstream of the tank to evacuate run-off water. The tank must also be perfectly level. Depending on the nature of the soil, it may be necessary to build a retaining wall.



Passage and parking of vehicles, storage areas

If vehicles are to pass over or near the tank, or if there is a static load, a heavily reinforced concrete load-distribution slab should be laid on the undisturbed natural ground, with suitable hydraulic buffers. Backfill laterally with stabilized sand.

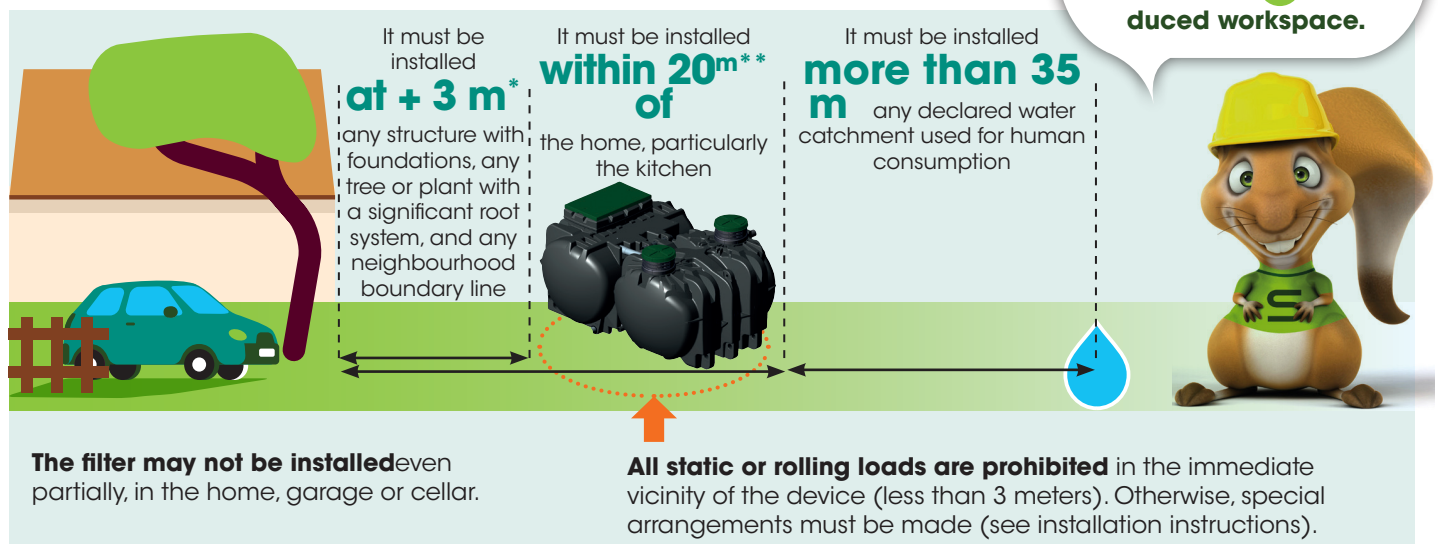


Flood zone

The Bionut New Generation range is not designed for installation in flood-prone areas.

→ Installation site

Implementation of the Bionut New Generation device must comply with the following recommendations:



* These distances are recommendations. For any derogation, the installation will be done under the full responsibility of the installer, after a specific study on the performance of the works, by a specialized engineering office. These conditions must be verified before backfilling during the execution control (in the sense of the control order). The steps and studies on the plot must be carried out in accordance with the regulations in force in order to evaluate the constraints related to the nature of the soil.

** Installation of a grease trap is mandatory if the distance is greater than 10 m.

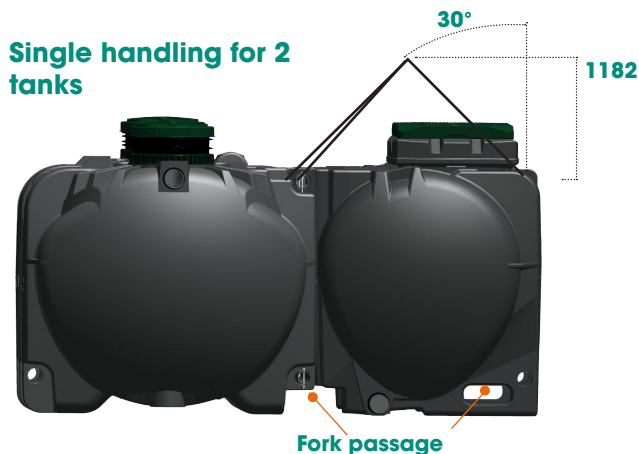
→ Possible outlets

Once the water has been treated, it is either **dispersed by infiltration** into the subsoil in place, or **reused for underground irrigation of plants**, or **drained and discharged into the surface water environment** (see regulations in force, page 26).

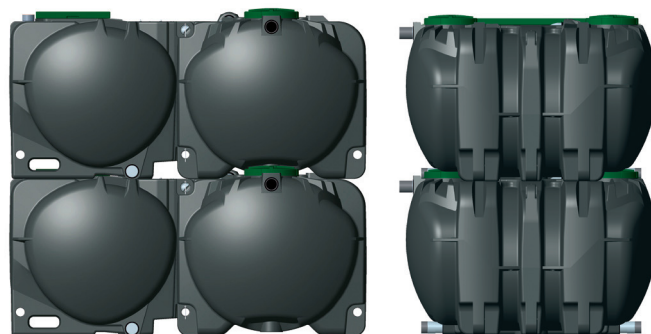
Accessories overview table

→ A faster unloading

During unloading and installation, the tanks must be lifted using handling equipment suited to their size. Use the lifting devices provided on the top of the tank (straps supplied for 4 to 8 PE tanks). The strength of each sling must be at least one tonne. The angle must be less than 30° from the vertical.



Stackable pack for easy transport (do not stack for yard storage)

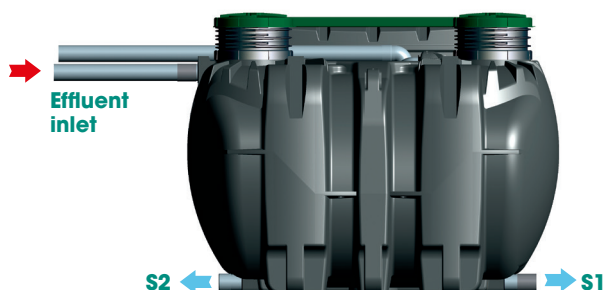


→ Simplified installation

As the tanks are factory-assembled, there's no need to **connect the septic tank to the compact filter**. Simply place the pack in the same pit, following the steps described for aligned installation (see installation instructions: distance to be respected between the 2 tanks). If the effluent must be diverted at an angle, use 45° elbows.

→ Greater installation flexibility

Choice of **2 outlets for treated water** opposite the inlet (S1) or on the same side (S2).

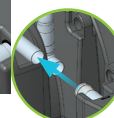
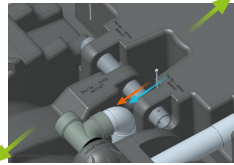
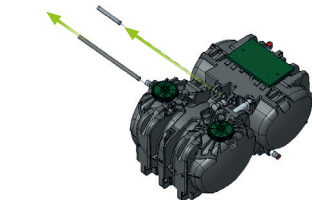
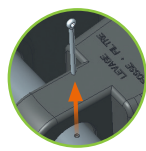
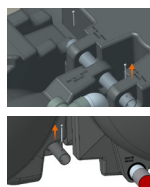


- Design pack**
- + easy uncoupling
 - =
 - landscape impact!
 - of exposure time!



→ Easy in-line installation with fast, simple unpacking

The two tanks are easy to separate in the event of ground constraints: **just 3 steps!**

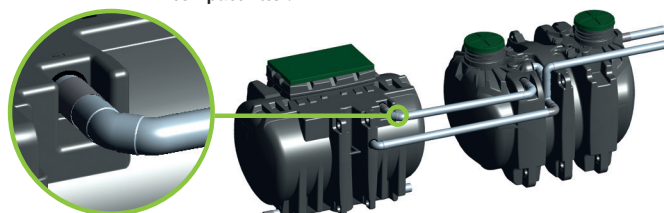


1 remove the 4 pins from the top and bottom connecting bars

2 Remove top and bottom connecting bars (use a ground if necessary)

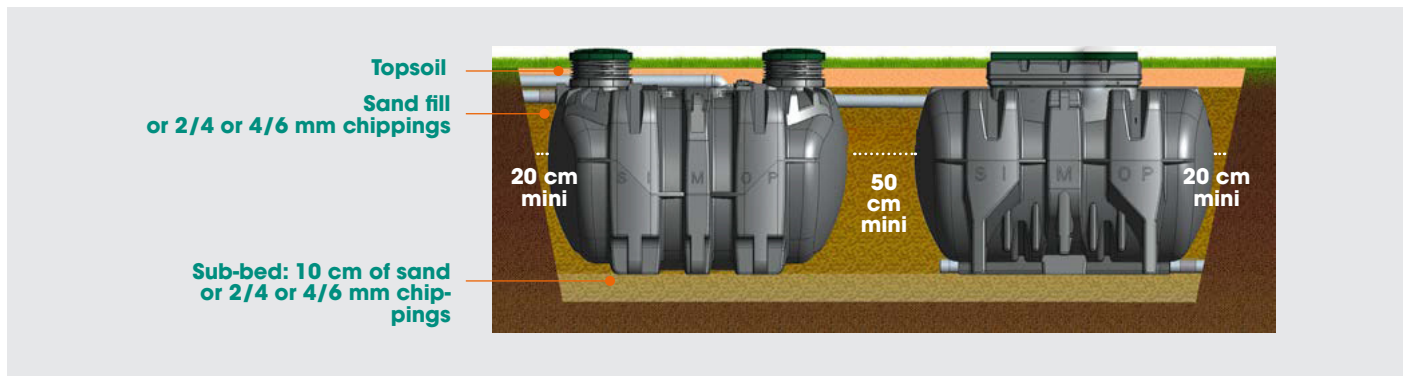
3 separate the two tanks, taking care to unbuckle them:
 → the PVC elbow of the secondary ventilation of the compact filter
 → the PVC sleeve tube, for water flow between the all-water tank and the compact filter.

→ For in-line installation of unpacked tanks: use 45° elbows and Ø100 PVC pipes to connect the water and air inlets and outlets of the two tanks.



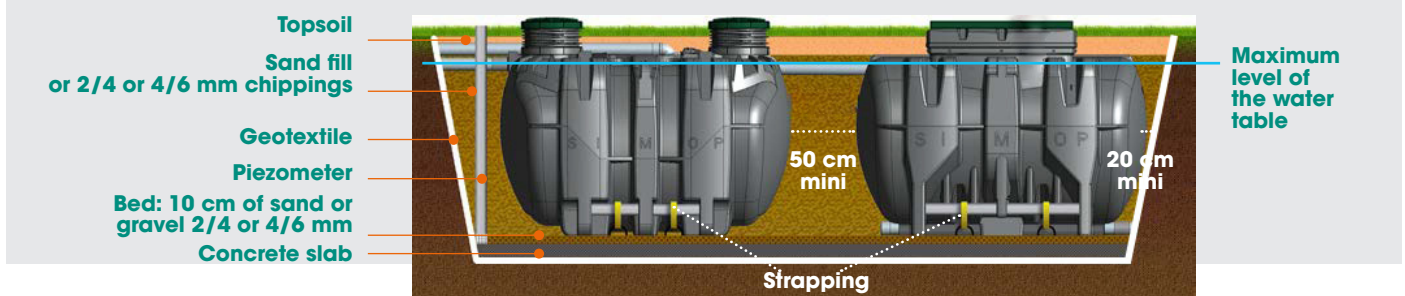
Installation instructions for quality and durability your unit

→ Laying on simple ground



- 1 Digging: the walls must be at least 20 cm around the tanks.
- 2 Cover the excavation by at least 10 cm with a perfectly level, compacted bed of 2/4 or 4/6 mm sand or gravel (rolled if possible).
- 3 Install the tanks, which should be spaced at least 50 cm apart, if the tanks are unpacked or for systems with a capacity of 8 PE or more.
- 4 Simultaneously fill the tank with clear water and backfill with sand or gravel up to the inlet water level. Proceed in 50 cm increments, compacting hydraulically.
- 5 Finish backfilling with soil up to the level of the covers. **Maximum backfill of 60 cm** for all systems, except for the 18 and 20 PE all-water tank (30 cm). With extensions, backfill with a maximum of 20 cm of soil, then with 2/4 or 4/6 sand or gravel.
- 6 Leave the lids on top of the tanks accessible to allow access to the inside of the tank.

→ Installation in difficult terrain: water table, hydromorphic or clay soil



- 1 Digging: the walls must be at least 20 cm around the tanks.
- 2 Lower the water table during construction.
- 3 Place a geotextile around the entire perimeter of the excavation.
- 4 Create a reinforced floor slab with a sufficiently strong, rigid welded mesh (as recommended by the design office) and prepare for tank strapping.
- 5 Install the tanks, which should be spaced at least 50 cm apart if installed in a row. Secure the tanks. Anchoring can also be achieved by casting the bottom of the tanks in concrete, up to 5 cm above the anchoring bars.
- 6 Install a piezometer (\varnothing 315 mm) to measure the water table and allow it to be lowered if necessary during emptying operations.
- 7 Simultaneously fill the tank with clear water and backfill with sand or gravel up to the inlet water level. Proceed in 50 cm increments, compacting the sand hydraulically.
- 8 Backfill with 2/4 or 4/6 mm sand or gravel up to the inlet water course, then finish with topsoil up to the level of the covers. **Maximum backfill without load-bearing slab: 60 cm.** With extensions, backfill with a maximum of 20 cm of soil, then with sand or gravel 2/4 or 4/6.
- 9 Leave the lids on the top of the tank accessible to allow access to the inside of the tank.

Installation instructions for quality and durability your unit

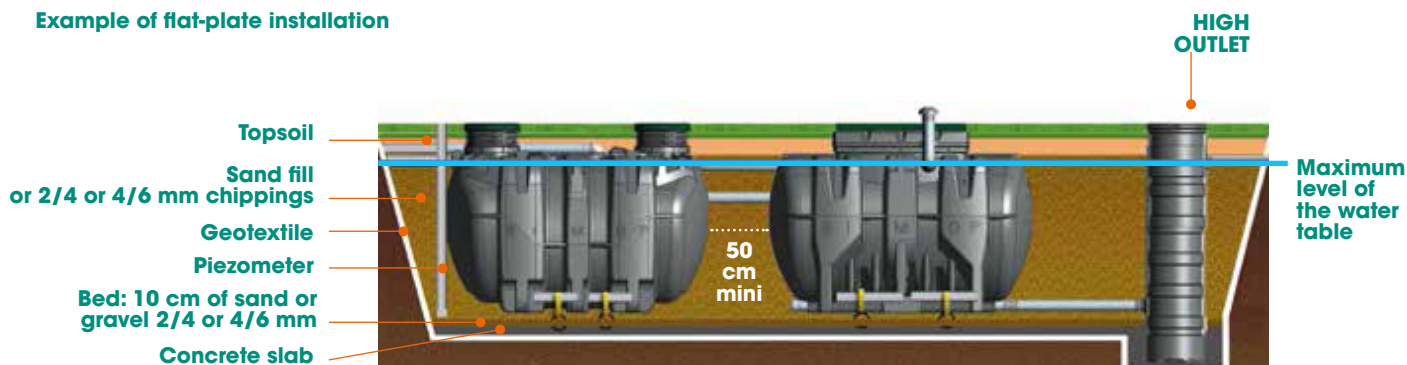
➔ Installation on unstable and/or silty ground

Follow the same steps as for a simple site, backfilling the sides and bottom of the excavation with sand stabilized at 200kg/m³.

➔ Installation of the filter at the upper outlet with an independent lifting or discharge station

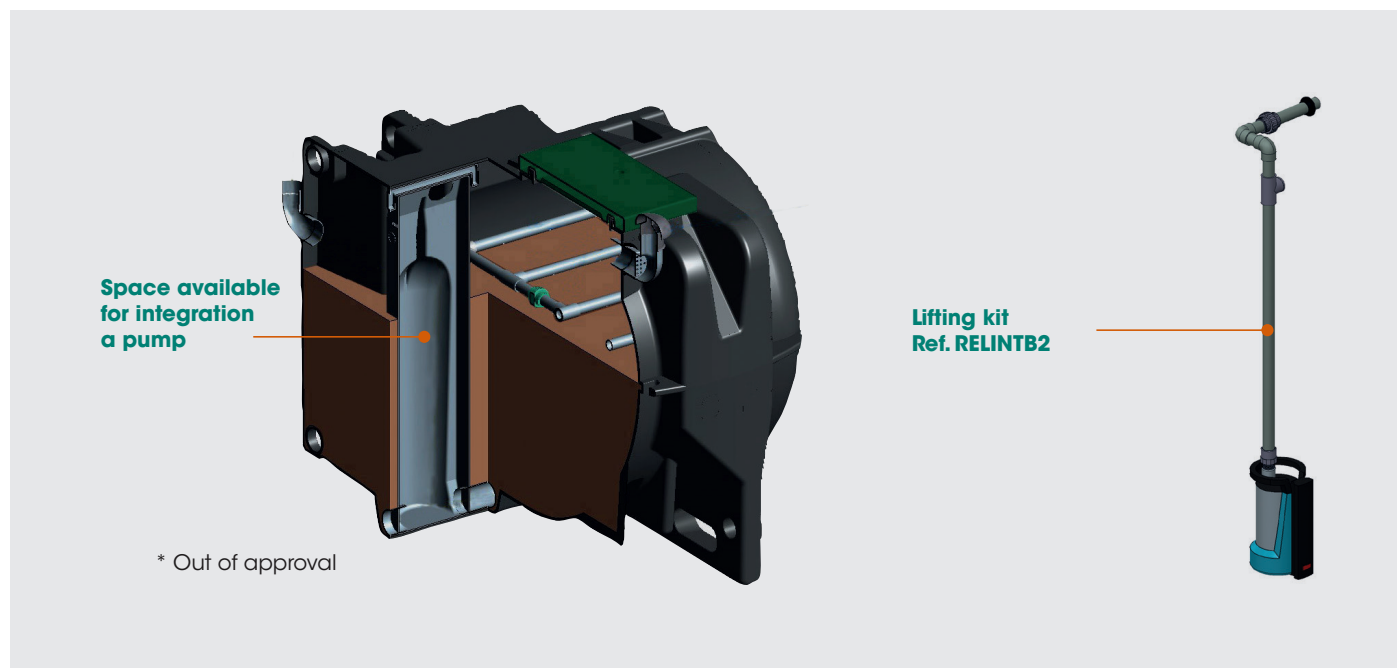
Follow the same steps as above, depending on the type of terrain.
 Allow a minimum clearance of 50 cm between the lifting station and the filter.
 For the Bionut lift, allow for a minimum 26 cm and maximum 45 cm reservation (depending on the inlet thread) in the excavation or concrete slab (depending on the terrain).

Example of flat-plate installation



➔ Pump integration possible

The sampling chamber can be used as a lifting device* by fitting a pump with a level detector.
 The physical characteristics of this pump need to be adapted to the site's altimetric configuration.
 Effluent pipe connections must be watertight.
 Authorization from your SPANC is required for this type of lift configuration.



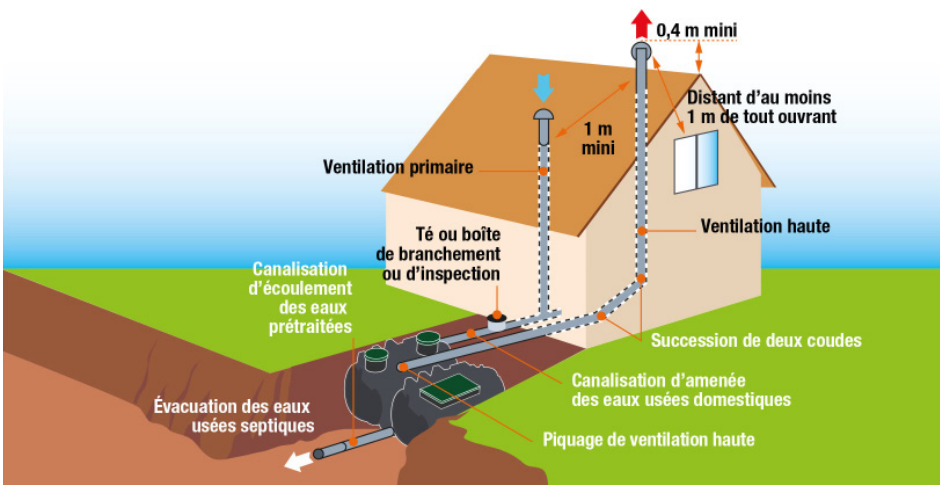
Installation instructions for quality and durability your unit

→ Hydraulic connection

The Bionut unit is delivered "ready-to-install". For packs or tanks, only the PVC inlets and outlets need to be connected. These connections are made by the company responsible for installation, following the instructions described in the user's guide. The effluent inlet pipe must have a minimum slope of 2%, and the treated effluent outlet pipe a minimum slope of 0.5% (caution: take account of soil compaction).

→ Ventilation device

Ventilation systems must comply with NF DTU 64-1.



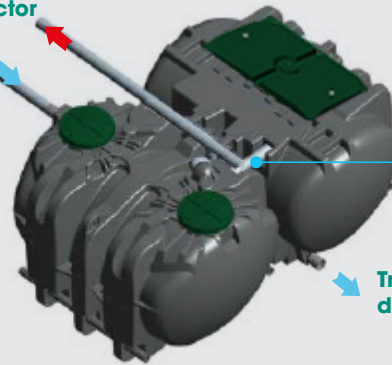
Pack installation

Secondary ventilation with air extractor

Wastewater and primary ventilation network

Pre-treated water

Treated water discharge



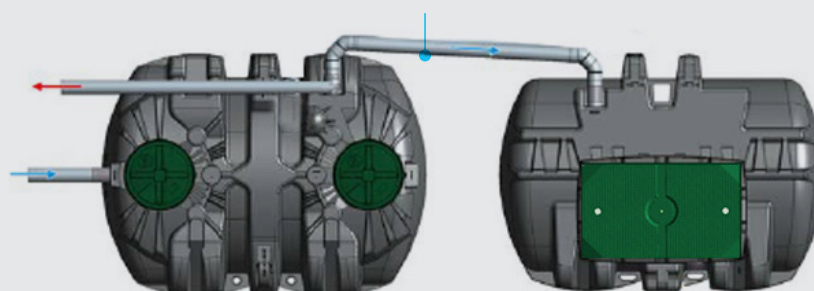
Aligned installation

Pre-treated water

Secondary ventilation to ridge outlet

Wastewater and primary ventilation network

Treated water discharge



Examples of installation

➔ - Pack (4 to 6 PE)



➔ - Parallel packs

Make two independent excavations, one for the pit and one for the beds.

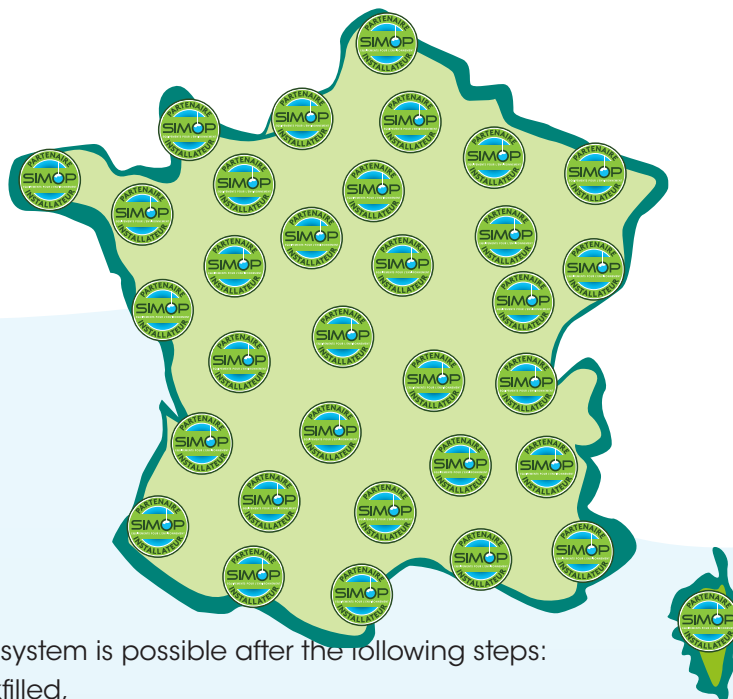
- **For 10 and 12 PE systems:** a REP2/04/04 distribution box (with side outlets) must be used to divide the flow into two identical streams.
- **For 15, 18 and 20 PE systems:** a REP2/04/04 distribution box (with side outlets), preceded by an AF2/6016/055 trough, should be used to divide the flow into three or four identical flows, depending on the number of massifs to be installed.
The distribution box and trough must be laid perfectly level on a bed of stabilized sand.



A network of partners for total peace of mind

→ A network of partner installers

Simop has selected installers throughout France who are trained and experienced in its equipment. Contact us via www.simop.fr for details of your nearest installer.



→ Commissioning

The commissioning of the system is possible after the following steps:

- tanks installed and backfilled,
- hydraulic connection completed,
- all-water tank filled with water,
- sockets and covers installed,
- connected ventilators.

SIMOP offers on-site assistance during commissioning, in order to guarantee users optimal operation of their wastewater treatment system.

Various points will be checked, such as :

- hydraulic connections,
- ventilation connections,
- system operation (see user guide).



→ Maintenance

SIMOP strongly advises you to take out **a maintenance contract** with a specialized company for the upkeep and maintenance of your wastewater treatment systems. The company **Assisteaux** is authorized by SIMOP to service and maintain its systems throughout France.



→ Warranty

SIMOP guarantees that the BIONUT® range of devices can treat domestic wastewater in compliance with regulatory requirements. The tank is guaranteed for 10 years and the electro-mechanical equipment for 1 year, provided the installation conditions have been respected. The warranty period begins on the day of installation.



Requirements and regulations



1

System supply compact treatment unit **4 P.E**
Pit : **3000 L**
1 FILTER
New Generation Bionut

2

System supply compact sanitation **5 EH**
Pit : **3000 L**
1 FILTER
New Generation Bionut

9

System supply compact sanitation **20 EH**
Pit : **10 000 L**
4 FILTERS
New Generation Bionut

3

System supply compact sanitation **6 EH**
Pit : **3000 L**
1 FILTER
New Generation Bionut

8

System supply compact sanitation **18 EH**
Pit : **10 000 L**
3 FILTERS
New Generation Bionut

The SIMOP type all-water tank receives all wastewater (domestic and black water) and traps solid matter. It retains, settles and then liquefies the sludge produced by the accumulation of solids (anaerobic digestion). This is a primary treatment that will pre-treat all wastewater. The tank is equipped with a pre-filter, both a filter element and a safety device. Water pre-treated by the all-water tank and pre-filter is conveyed by gravity to a trough and distribution box, which disperses the effluent towards the compact filter(s). In each filter, the water passes through a flexible trough and a distribution manifold. The water is then purified through a filter medium made from recycled hazelnut shells. No electricity or energy is required to supply water or oxygen. The natural, patented organic filter is made from 100% recycled hazelnut shells. It ensures biological treatment, filtration and retention of pollutants until their degradation. Filter medium: SIMOP BIONUT2 hazelnut shell biofilter.

4

System supply compact sanitation **8 EH**
pit : **4000 L**
1 FILTER
New Generation Bionut

7

System supply compact sanitation **16 EH**
Pit : **8000 L**
2 FILTERS
New Generation Bionut

6

System supply compact sanitation **12 EH**
Pit : **6000 L**
2 FILTERS
New Generation Bionut

5

System supply compact sanitation **10 EH**
Pit : **5000 L**
2 FILTERS
New Generation Bionut

Technical specifications are available on request.

Reminder of current regulations

Wastewater treatment can be carried out by means other than ground-based systems, which must be approved by the Ministries of Health and Ecology, following an assessment of their effectiveness and the risks to health and the environment.

To be approved, treatment systems must comply with :

- **treatment performance** : 30 mg/l for TSS and 35 mg/l for $_{BOD5}$
- **the general principles** defined by the modified order of September 7, 2009,
- **the technical specifications** contained in reference documents (DTU NF-64.1, NF EN 12566), and the fundamental requirements of Regulation No. 305/2011 of the European Parliament and of the Council of March 9, 2011 laying down harmonized marketing conditions for construction products and repealing Council Directive 89/106/EEC.

This assessment is carried out by a notified body in accordance with Article 9 of the Decree of July 8, 1992. This body is CERIB or CSTB.

On completion of this assessment, the notified body draws up a technical report containing a description sheet, the content of which is specified in the annex to the order.

The list of approved treatment devices and the corresponding technical data sheets are published in the Journal Officiel de la République Française by joint notice of the Minister for Ecology and the Minister for Health, for the information of consumers and economic operators.

These approvals cover wastewater treatment only. At the end of any treatment system, the treated water is :

- either **dispersed by infiltration** in the subsoil in place on the plot if its permeability is between 10 and 500 mm/h (**preferred**)
- **reused for underground irrigation of plants** not intended for human consumption, provided that

treated wastewater does not stagnate on the surface or run off.

- **drained and discharged into a surface water body** (a watercourse, a stormwater network or a grassed ditch), with the authorization of the owner or manager of the receiving body, if a study to be carried out by the petitioner demonstrates that no other solution is feasible.

Warning: discharge of domestic wastewater, even treated, is forbidden in a cesspool, in a lost well or in a disused well, to avoid any risk of polluting the water table.

Devices are approved by publication in the Journal Officiel. Any reference with an approval or approval number not published in the Journal Officiel has no legal value.

The models in the BIONUT New Generation range are **in the process of being approved** to the following :

- Annex ZA of standard NF EN 12566-3+A1+A2, domestic wastewater treatment plants ready for use and/or assembled on site.
- Order of September 7, 2009, setting the technical requirements applicable to non-collective sanitation installations receiving a gross organic pollution load less than or equal to 1.2 kg/d of $_{BOD5}$.
- Order of March 7, 2012, amending the order of September 7, 2009, setting the technical requirements applicable to non-collective sanitation facilities receiving a gross organic pollution load less than or equal to 1.2 kg/d of $_{BOD5}$.
- Order of April 27, 2012, relating to the terms and conditions for carrying out the inspection of non-collective sanitation facilities.
- NF DTU.64.1, for the ventilation system and lifting station.
- NF C 15-100 for electrical installations (in the case of an optional lift station).
- NF P 98 - 331 and NF P 98-332 for earthworks.

Bionut®



**The Bionut New Generation range,
it's also SOLUTIONS UP TO 200 PE!**

Simop, a wide range of environmental equipment:

Rainwater treatment

- Rainwater harvesting
- Oil separators
- Particulate clarifiers
- Pool equipment

Wastewater treatment

- Non-Collective Sanitation < 20 p.e
- Non-Collective Sanitation > 20 p.e
- Grease separators

Roads & networks

- Flooring products
- Road equipment
- Manholes
- Lifting stations

Find all our products on www.simop.fr

For all you need to know about wastewater treatment :
assainissement-non-collectif-simop.fr

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