

BIONUT COMPACT FILTER FOR SECONDARY TREATMENT FROM 21 TO 200 PEOPLE EQUIVALENT

Bionut®

6054-FS

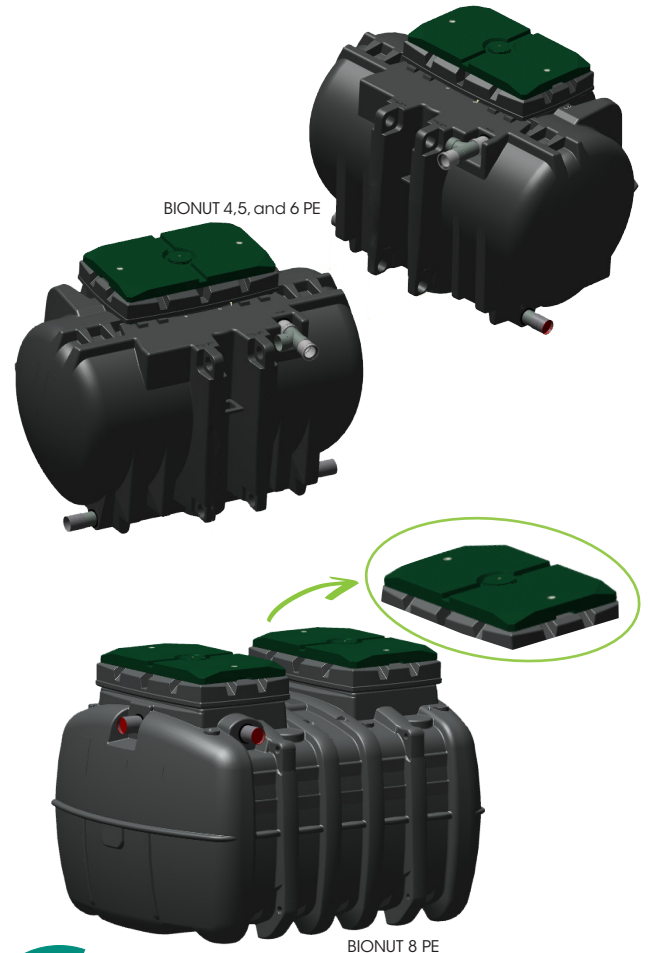
1 Use

On December 20, 2019, SIMOP obtained new approval (2019-010-ext01 to ext13) for its "BIONUT2 FS" range of filters from 4 to 20 p.e., for secondary treatment only. This approval offers a more flexible and cost-effective solution for rehabilitating traditional wastewater treatment systems in the event of faulty or end-of-life treatment.

Provided that the septic tank is still in good condition (structurally and operationally) and correctly sized, this new approval only allows the installation of a compact filter with "hazelnut shell" filter media. A single filter is sufficient for 4, 5, 6 and 8 PE systems.

From 10 P.E. to 20 P.E., sets of 2, 3 or 4 filters in parallel are installed at the outlet of the all-water tank, using the distribution manifold and floating trough supplied as standard.

More specifically, existing all-water pits must comply with Construction Products Regulation 305/2011 with regard to CE marking in accordance with standards NF EN 12566-1+A1 and 12566-4+A1. They must also have characteristics at least similar to those used in complete BIONUT systems, in terms of volume, compliance with leak tests, material durability and hydraulic efficiency of the prefilter. This information is recorded on the manufacturers' DDPs (declarations of performance).



WASTEWATER TREATMENT

2 Operation

Biological treatment using a compact filter based on hazelnut shells. Pre-treated water (from an all-water tank) flows into the tank's integrated trough flush. This flush feeds the distribution manifold to optimize water distribution over the entire filter surface.

The water then percolates through the filter media, made of hazelnut shells on which aerobic bacteria settle to purify the water. The oxygen supply required for bacterial growth is provided by an opening in the rectangular lid equivalent to a 100mm diameter. Secondary ventilation is provided by a T-piece at the filter inlet (adjustable upwards for connection to the 45° DN100 PVC elbow supplied with the filter).

The treated water is then discharged via a drain at the bottom of the compact filter: either into the ground, or into the natural surface water environment (subject to authorization).



3 Maintenance

BIONUT2 compact filter

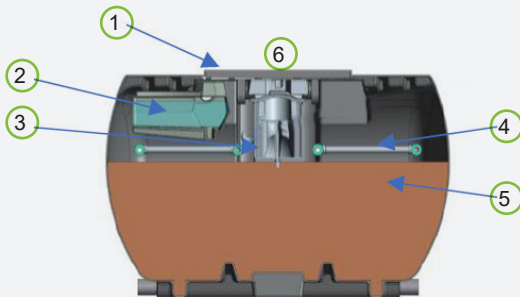
Quick and easy maintenance, refer to the user's guide.

BENEFITS



• An economic step:

- low landscape impact
- easier media renewal (single-material bulk filter)



1. Closing plug
2. Bucket flush
3. Ventilation / sampling port (cavity for water extraction if necessary)
4. Distribution ramp
5. Hazelnut shells (gravel pack)
6. Fresh air intake through opening in lids.

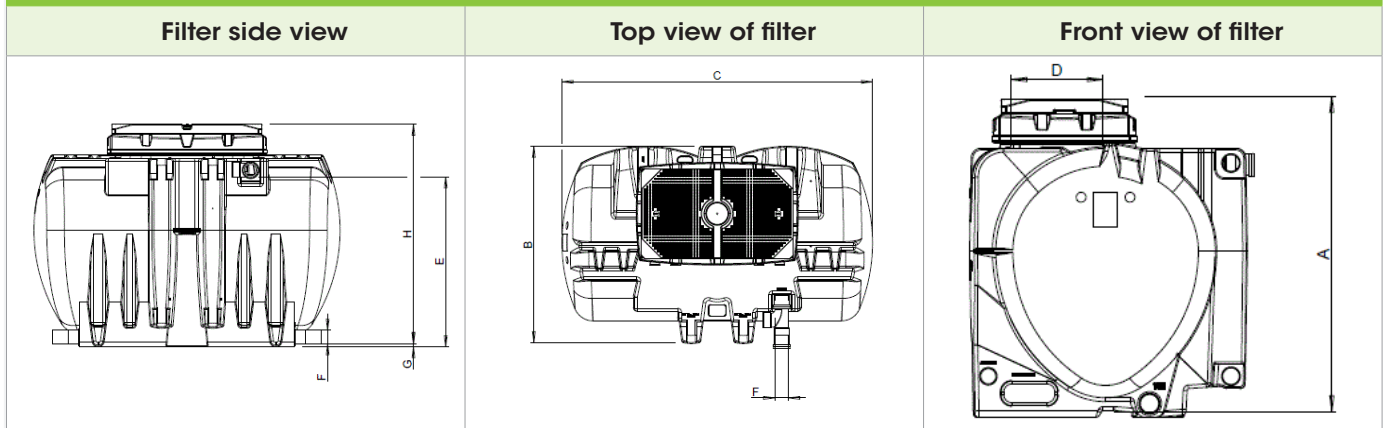
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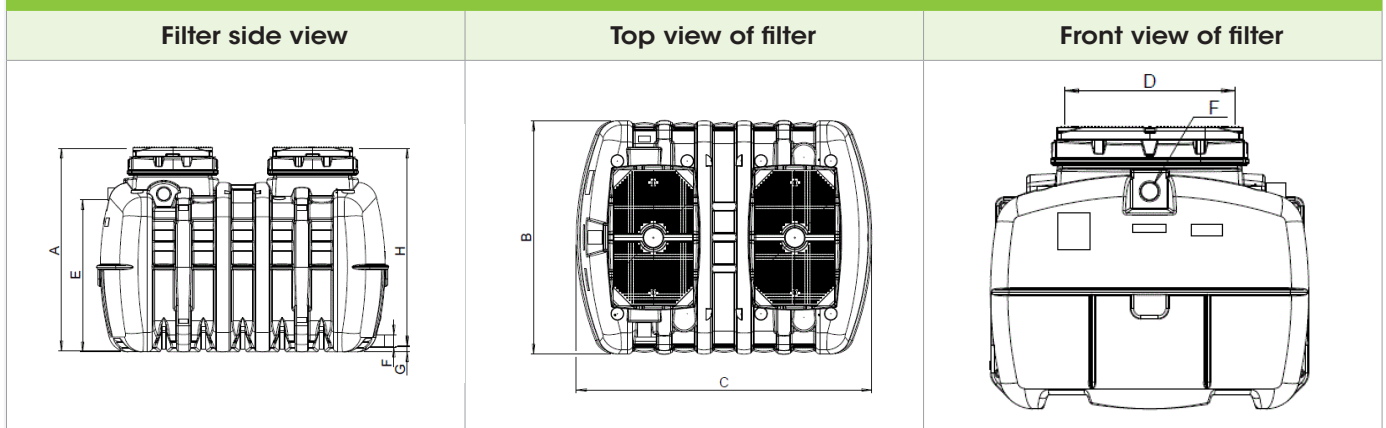
6054-FS

View of compact filters

For BIONUT2/04, 05 and 06 models



For BIONUT2/08 models



Features and dimensions of compact filters

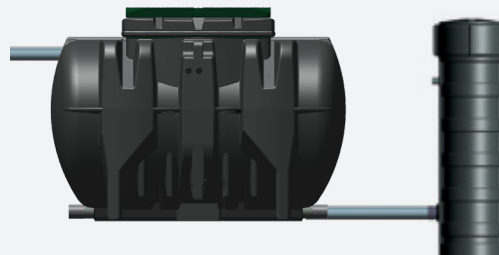
| Article | BIONUT2 /6054/04FS | BIONUT 2 /6054/05FS | BIONUT2 /6054/06FS | BIONUT2 /6054/08FS | BIONUT2 /6054/10FS | BIONUT2 /6054/12FS | BIONUT2 /6054/16FS | BIONUT2 /6054/18FS | BIONUT2 /6054/20FS | | |
|---|---|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------|--|
| PE capacity | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | | |
| TOTAL NUMBER OF 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 | | |
| Total floor area (m ²) | 2.47 | | 2.84 | | 3.8 | | 4.94 | | 5.68 | | |
| Massive useful height(m) | 0.75 | | | 0.75 | | | 0.75 | | 0.75 | | |
| A (m) | 1.61 | | | 1.65 | | 1.61 | | 1.65 | | 1.61 | |
| B (m) | 1.54 | | 1.74 | | 1.88 | | 1.54 | | 1.74 | | |
| C (m) | 2.24 | | 2.24 | | 2.38 | | 2.24 | | 2.24 | | |
| D (m) | 0.47 x 0.92 (inside TH) - 0.65 x 1,10 (lid) | | | | | | | | | | |
| E (m) | 1.24 | | | | | | | | | | |
| F (∅ mm) | 100 | | | | | | | | | | |
| G (mm) | 18 | | | 43 | | 18 | | 43 | | 18 | |
| 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 | 0.6 | |

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→ High outlet filter (FSSH)

When the terrain does not allow for a low-level outlet (i.e. an outlet located higher than the compact filter outlet level), a lifting station is required to lift the effluent.



| 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 |
| TOTAL NUMBER TANKS | 1 | | | 2 | | | 3 | | 4 |
| 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 | | | | | | | | |

WASTEWATER TREATMENT

4 Performance

BIONUT2 compact filters benefit from ministerial approval (2019-010-ext01 to ext 13)

| Parameters | Regulatory thresholds of the modified September 7, 2009 order |
|------------------|---|
| BOD ₅ | 35 mg/l |
| TSS | 30 mg/l |

This performance is achieved under normal conditions of use, care and maintenance, in accordance with the user guide, and after a 6-week start-up period.

5 Installation and commissioning

• **Installation** : refer to P075 installation instructions and user guide.

• **Commissioning**:

Commissioning is an important operation to validate the correct operation of the installation. An Assisteaux visit is offered with the product, provided the T letter is returned or the product is registered on the Simop.fr website

6 Guarantee

SIMOP guarantees that BIONUT2 compact filter systems can treat domestic wastewater in compliance with regulatory requirements.

The tank is guaranteed for 10 years, provided the installation conditions have been respected. The warranty period begins on the day of installation.



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