

X-Perco®

Passive Wastewater Treatment

Technical Guide WW 1

With already 3000 installations across the world, X-Perco is the new revolution in wastewater treatment.



03.25 | WASTEWATER | WW01 X-PERCO

Applications

Residential and Holiday Homes

Small communities

Schools

Camping grounds

Product Attributes

Single tank installation

Passive Gravity Filtration

No electricity required for treatment process

Ecological and sustainable

Discrete low visual impact

100% natural Xylit filtration

Robust, durable & self compacting concrete construction

Flexible disposal applications

Sustainability

Customisable for climate-resilient infrastructure

Quality/Environment/Health & Safety

PIA Quality Tested (Germany)

ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018

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The X-Perco, a passive innovative design by Eloy Water (Belgium). Performance with little or no power, and unrivaled robustness. Designed to handle the fluctuations of permanent or intermittent occupancy, the X Perco system is the recommended solution for a home, holiday house or commercial application.

Four unique qualities

- Natural, passive, durable and high strength activated carbon filtration
- Powerless high performance treatment
- Single Tank - Robust and lightweight concrete
- Water distribution is through a patented rotating Aquacan to a pipe network equally supplying the filter media

Xylit (Activated Carbon) - A 100% ecological and sustainable media

Naturally formed over millions of years, Xylit is a source of activated carbon comprised of natural wood fiber extracted from the ground. Xylit is derived from Lignite, harvested and graded in Germany under patent.

The Xylit filtering media boasts many unique properties:

- High strength fibre which retains its integrity and guarantees an excellent service life. (10 Year guarantee)
- Large surface area that fosters the development of a dense bacterial biofilm, occurring more rapidly than with any other filtering media
- Simple to maintain
- Compostable

Designing

The Xylit offers very reliable treatment, especially during fluctuating or infrequent occupancy. Ideal for holiday homes.

The natural properties of the Xylit maintains biological activity for long periods without intervention. The unique potential of the Xylit makes the X-Perco a dependable choice for sustainable wastewater treatment.



FIG. 1 Xylit



FIG. 2 Drip irrigation pipe prior to bark being laid.

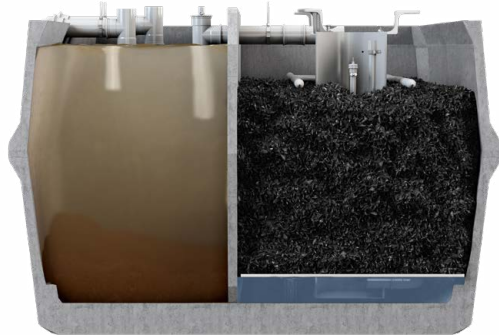


FIG. 3 X-Perco

The X-Perco®

Product Range

- 1.8 m³/day (approx 0-5 bedroom)
- 3.0 m³/day (approx 5-7 bedroom)
- Commercial application up to 30 m³/day

Features

- Can be retrofitted to an existing septic tank
- Passive Filtration treatment
- Flexible disposal option
- Simple to service

Distribution options

- Flout passive dosing system (no power)
- Pump Station

Land Application

- Drip irrigation into landscaped garden bush or trees
- LDPE into sand trenches
- ETS Beds
- Sand beds

Components

1. Primary Tank
2. Xylit Filter
3. Gravity, pump or passive dose disposal system

Process

Primary Tank

1. Wastewater arrives into the primary septic tank by gravity from the building. The solid matter will settle on the floor of the primary septic tank to be “degraded” by anaerobic bacteria. The suspended (*floating*) matter such as fats and oils will form a “crust” at the surface. The outlet of the primary septic tank is fitted with an approved biological filter to prevent suspended matter from passing through to the second (*treatment*) compartment.

Xylit Trickling filter

2. The pre-treated and filtered waste enters the Xylit filter bed by gravity into the distribution device (*Aquacan*). The Aquacan fills and alternately disposes into a network of perforated pipes to evenly distribute over the Xylit filter bed.
3. The “pre-treated” waste water slowly trickles through the Xylit media, where the population of digesting bacteria develop to digest and purify the waste liquid.
4. Oxygen is supplied to the filter by a network of 100mm diameter pipes. This is achieved with No power.

Distribution

5. The treated water leaves the filter by gravity from the floor of the filter tank into the dose flout (*no power*) or pump chamber
6. The treated water is gravity dosed or pumped into the land application (*disposal*) area
7. The land application area is chosen for its potential for gravity or pumped distribution. The treated waste can be distributed through drip irrigation, LDPE or UPVC piped trenches.
8. The X-Perco has a small battery operated alarm that will activate in the unlikely event the water level in the filter is raised.

Treatment Performance

BoD₅ < 20 mg/litre
 SS < 30 mg/litre

Unique dosing and distribution device

The unique and innovative flow distribution Aquacan and pipe network guarantees optimal distribution of the influent over the filter media. The flow can be simply adjusted during installation or servicing to suit the required application within the maximum design flow.

Lightweight concrete tank

The X-Perco tank is constructed from reinforced fiber, self-compacting concrete. This revolutionary concrete guarantees long service life and light weight construction. The X-Perco tank is easy to handle, simple to install, and can be installed in groundwater. Its highly robust nature allows for the passage of foot traffic and mowers or can be designed to carry light vehicles.

- Ultra strong
- Reinforced fibre concrete
- Light vehicle traffic up to 3.5 T allowed (with design)
- Discrete low visual impact
- Groundwater installation possible
- Easy access to internal components

Guarantee!

We offer:

- 10 year guarantee X-Perco concrete tank
- 10 year guarantee xylit filtering media
- 2 year guarantee internal components (Aquacan distribution system).

Note:

¹ See the warranty certificate.

² Valid on systems up to 3 m³/day. Subject to compliance with the installation, treatment application, appropriate water volume and pollution load.

³ Excluding parts subject to wear and tear.

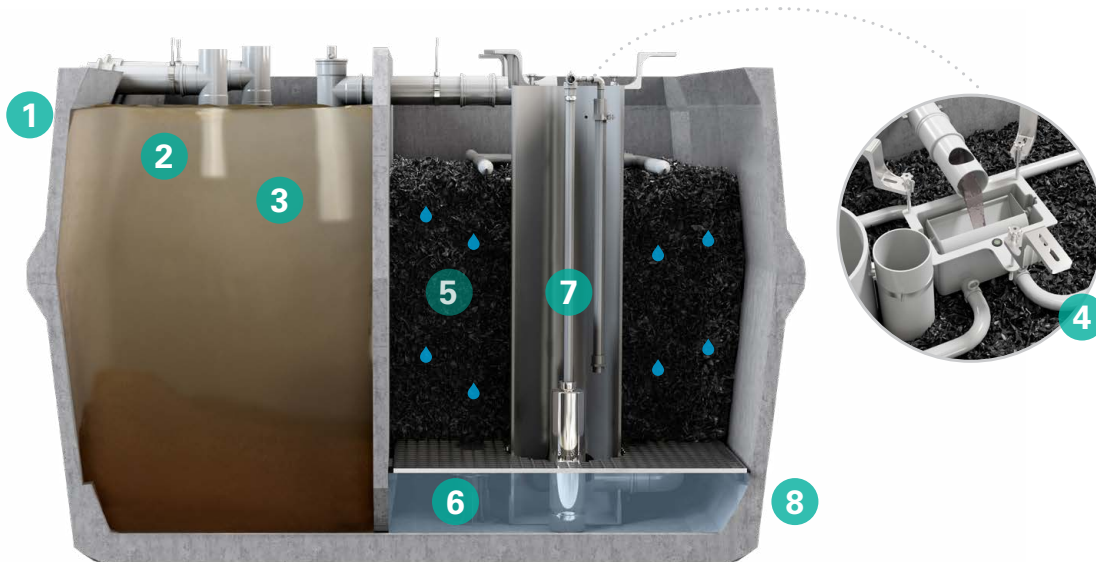


FIG. 4 X-Perco Components

- | | |
|--------------------------------|------------------------|
| 1. Inlet pipe | 5. Xylit filter bed |
| 2. Ventilation pipe | 6. Pump volume chamber |
| 3. Biological outlet filter | 7. Pump chamber & pump |
| 4. Aquacan distribution system | 8. Gravity outlet |

Eloy Water Network

Eloy Water is a Belgian Company which has been a designer, producer and distributor of purification systems for the treatment of domestic and industrial wastewater since 1965. Specialising in the treatment and the reuse of wastewater from single domestic dwelling to medium size communities, Eloy Water has always invested in the development and integration of the latest technologies into its production.

With a presence in 25 countries, Hynds Pipe Systems Ltd is the exclusive distributor of Eloy Water products in New Zealand.

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