

Bioflo™

Biofilters for the waste industry



EXEON
CLEAN AIR FOR INDUSTRY

*Biofilter and bio-trickling
filter systems*

BIOFLO™

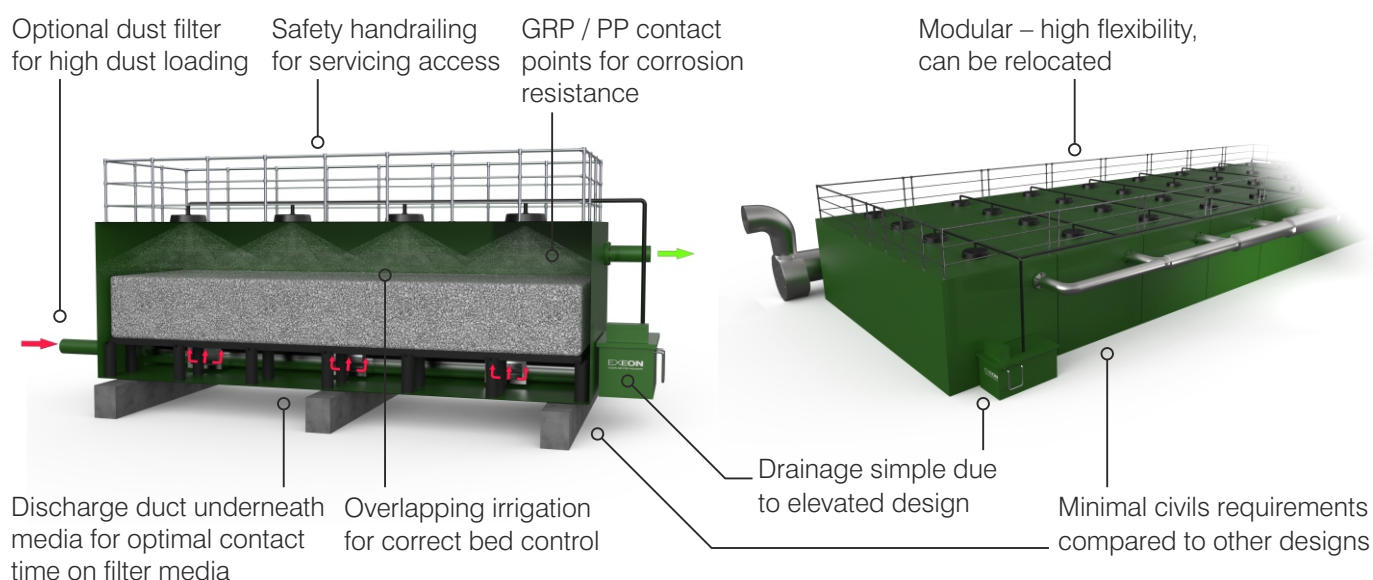
Exeon's Bioflo™ range of biofilter systems are designed for absorption of vary odours and emissions across a wide range of waste, sewage and general industrial applications.

We utilise specific bacteria specially cultivated for the application for minimal commissioning times. When suitable final effluent is not available, then nutrient dosing can be employed to maintain moisture levels with potable water.

BIOFLOW MODULAR

Airflows 1,000 - 100,000 m³/hr

A strong modular steel unit suitable for larger flows.



BIOFLOW COMPACT

Airflows 10 - 1500m³/hr

A compact 'plug and play' polypropylene unit for venting applications



Biofilters - Benefits:



Running costs - Biofilters are, when specified correctly, able to give a very low operating cost for controlling emissions, as the emissions 'feed' the filter bed. They can have very low operating costs when compared with activated carbon adsorbers on certain applications.



H₂S control - amongst other chemicals, Biofilters have a typical control of H₂S of around 95%.



Odour control - typically up to 90% odour reduction on organic sources.

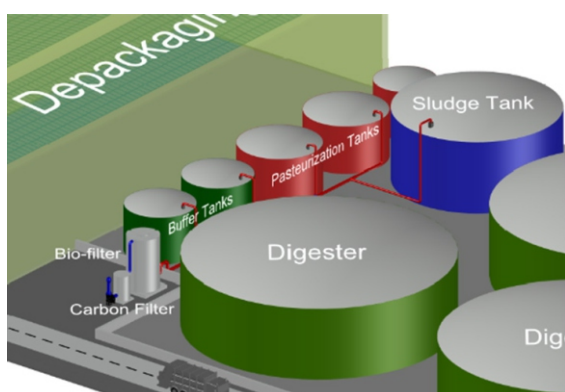


Suitable for high moisture - Biofilters require irrigation so high moisture discharge is a benefit.



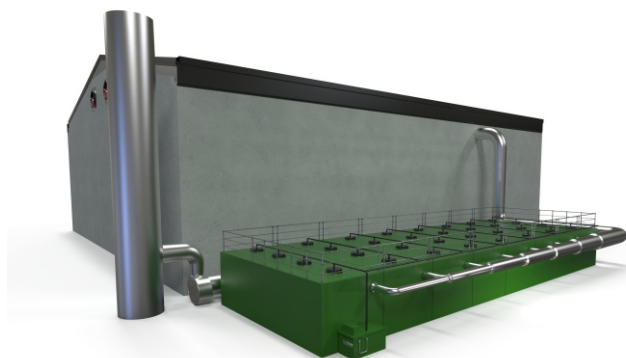
Long life-time - with correct media selection they can easily last 15-20 years+ without need for change. High quality media with a typical lifespan of 15+ years.

TYPICAL APPLICATIONS INCLUDE



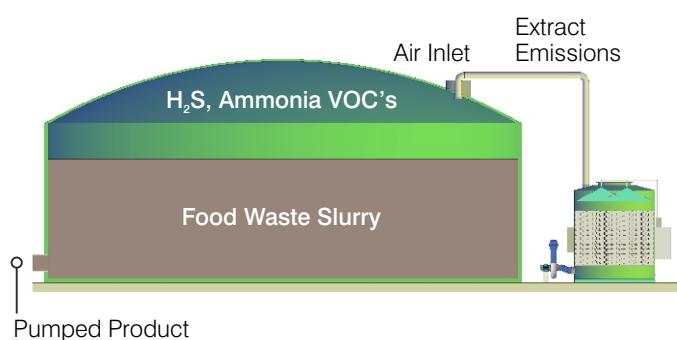
Applications of high concentrations of H₂S, mercaptans and other waste defined emissions

Odour control for buffer, sludge, sewage and pasteuriser vessel venting and other venting with high H₂S concentrations.



High humidity concentration extracts from manufacturing processes

Concentrated extracts from processes, including with high humidity.



Venting from tanks and storage units on waste sites and effluent plants

Prefiltering of highly loaded ventilation extracts.

Biofilters - dispelling the myths:

There is a history of poor design and installation of Biofilters, particularly in the waste industry, and as a consequence they can be considered inadequate for emission control. This is incorrect and we can help explain where they are appropriate.

These issues have mainly resulted from poor application, inadequate design, and a failure to carry out ongoing servicing. The below table highlights some of these issues and how they can be resolved.

CHALLENGE	ISSUE WITH APPLICATION OF BIOFILTER	SOLUTION
Stringent control of odours or emissions on the process - <1000ou/m³ for example	Biofilters are less efficient than other technologies so will not necessarily reach this level of control. In addition, they release a mild odour from the media bed.	A secondary filter, such as a secondary carbon polishing filter, can be required for additional filtration.
Emission contaminant contains chemicals which kill biofilm	Biofilters have a 'living' media bed and are not suited to substances which are poisonous, or inorganic chemicals.	Use alternative abatement technology for these applications.
Woodchip or other short-life material used on media bed	Biofiltering is an active process and degenerates beds such as woodchip. Typically woodchip will last around 12 months.	Use Pumice stone or Coir.
Open Top biofilter	These have multiple issues as detailed below but the largest problem is the protection of the bed.	Open-top biofilters do not maintain performance and should be covered to protect from weather, animals etc.
Inadequate irrigation	A biofilter should have irrigation covering the complete surface / overlapping. Open top biofilters do not have this so typically struggle with dry areas of the bed and subsequent emission bypass.	Used close top biofilters with correct overlapping irrigation.
Incorrect distribution of air across the bed causing tracking	If the airflow is not spread correctly across the bed, the air will not have sufficient contact time on the media bed to remove emissions.	The air should be ducted across the filter media bed for correct distribution to ensure correct dwell times.
Poor ongoing maintenance, sometimes due to systems that are very difficult to service	Design of unit, and operator neglect.	Ensure good access, and that specified maintenance regime is maintained. Good supplier training is vital.