Bio-trickling Filters

Sustainable odour control

Technology for a Sustainable Future

ERG Bio-trickling filters provide a high efficiency,sustainable odour control system for small to medium flows. Used as stand-alone packages, or with Dry Media polishing filters, ERG's bio-trickling filters provide trouble-free odour control for highly contaminated, small to medium air flowrates (<15,000m^3/hr) emanating from waste water treatment processes.

Filled with durable, bio-inert pumice media, they are specifically designed to provide outstanding value for money and simple operation.

ERG has successfully installed over 50 bio-tricking filters and bio-scrubbers in the UK. Performance exceeds 99% H_2S removal efficiency in most cases and, in combination with carbon filters, an odour discharge of <1,000 ouE/m^3 is guaranteed and comfortably achieved.

A specially selected cocktail of bacteria, enzymes and nutrients are pre-seeded into the bio-trickling filter to ensure there is a rapid development of the odour neutralising bacteria which colonise the pumice bio-media. The bacteria digest the odour-causing compounds, which typically include H_2S, mercaptans, organic sulphides, soluble VOCs and ammonia. The optimised environment for bacterial activity is maintained by controlled irrigation with filtered final effluent, or water dosed with low level nutrients if no final effluent is available.

Designed and built to BS4994 and fully compliant with WIMES 8.05, our bio-trickling filter systems offer assured performance and competitive costing.

All our systems are custom-designed for the odour control duty required, and include installation of:

- vessel and biomedia, with optional access structure, non-slip surface and handrails (for walk-on, rectangular vessels)
- irrigation system including strainers, instrumentation and dosing package if required
- air extraction fans and ductwork
- electrical control panel
- downstream carbon filter for enhanced performance

ERG Air Pollution Control

www.ergapc.co.uk

CERTIFIED ISO 9001 UKAS MANAGEMENT SYSTEMS 001

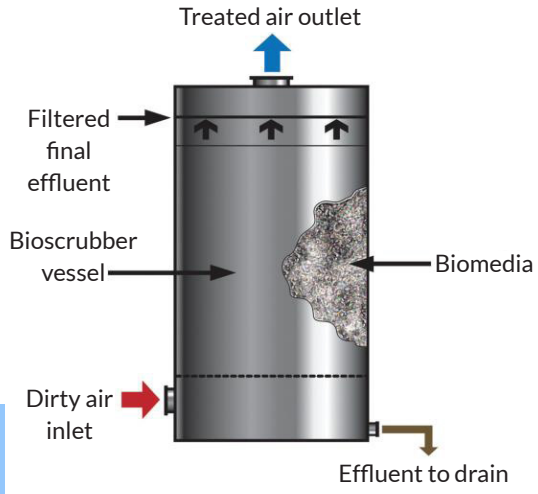
Bio-trickling Filters

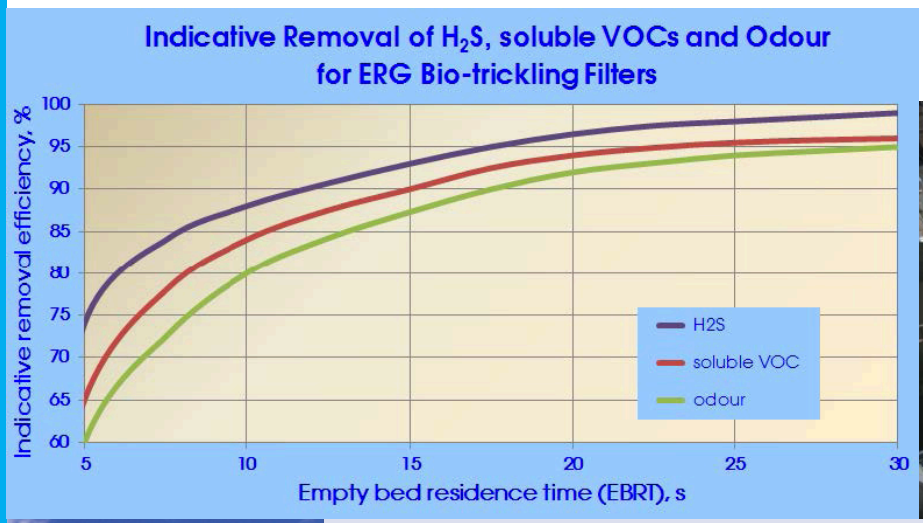
Sustainable odour control

Technology for a Sustainable Future

Key advantages of ERG's bio-trickling filters are:

- All systems are bespoke and designed to match the system requirements.
- The standard range of cylindrical vessels is used for flowrates up to 3,000 m^3/hr and modular sectional tanks for flowrates up to 15,000 m^3/hr or larger if required.
- The inert pumice stone bio-media lasts for 20 years. The pumice does not decay or suffer from acidification or compaction ensuring contamination removal remains constant for the life of the filter.
- The units are highly compact with a small footprint when compared to woodchip biofilters - they typically use a bed depth up to 4m and residence times of 20 to 30 seconds depending on client specifications.
- They are able to reliably treat high levels of contamination (over 200ppm H_2S) and achieve removal efficiencies of >98% H_2S removal and >95% odour removal in a single tower.
- The operating costs are low when compared with other odour removal technologies.
- The vessels are designed to allow easy maintenance access to the spray nozzles and inspection of the media. Media replacement is achieved using removable hatches.
- The absorption of the contamination (mainly H_2S and sulphurous compounds) into the bio-film around the pumice, and subsequent biological aerobic degradation, forms sulphuric acid effluent which is stable and will not convert back to H_2S when it is released to drain. The bio-trickling filter is optimised to ensure an acceptable pH in the effluent stream.
- If filtered final effluent is not available, ERG can provide a nutrient dosing system using a proprietary eductor piston dosing pumps (Dosatron® or equivalent).





ERG Air Pollution Control

ERG (Air Pollution Control) Ltd

Bridge House Environmental Centre
Five Oaks Road, Slinfold, Horsham
West Sussex, RH13 0QW, UK

T +44 1403 290 000
E info@ergapc.co.uk
W www.ergapc.co.uk