

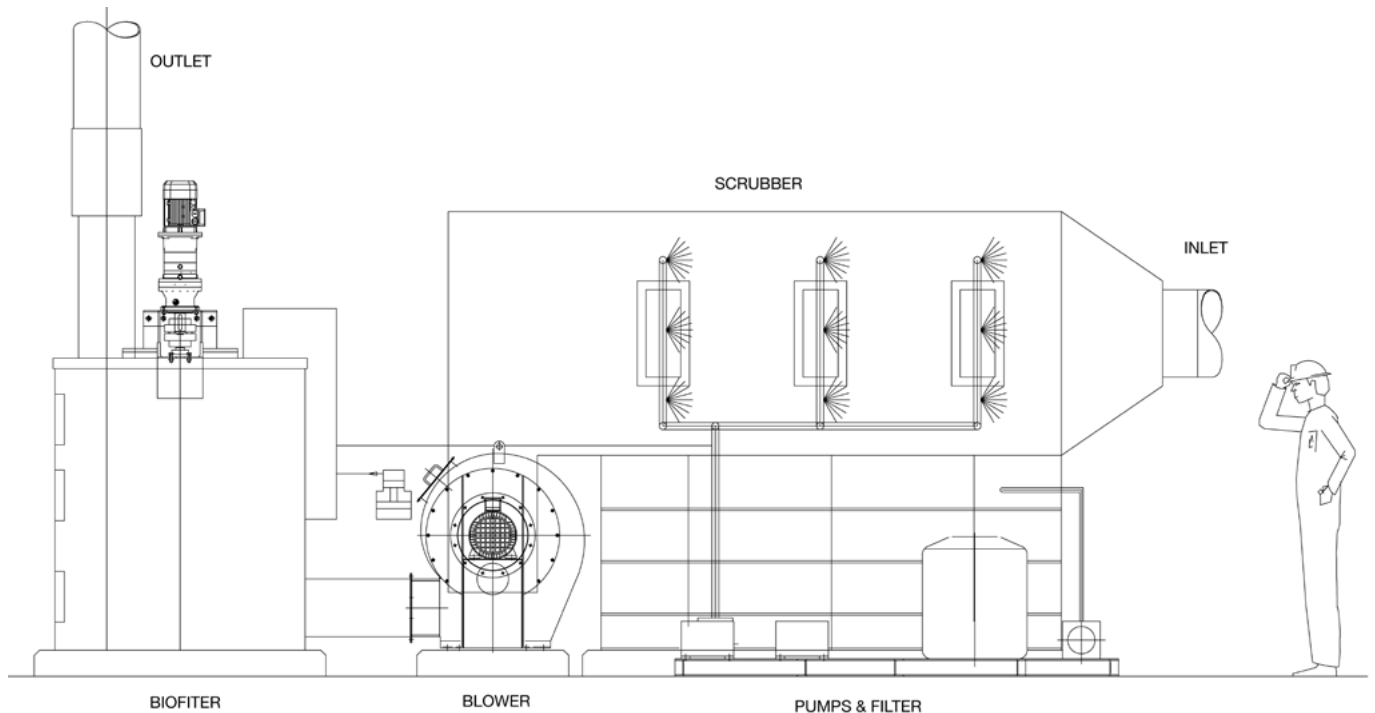


BBR Enviro Systems

Odour Control
W-SERIES

we clean air.





Typical Section

BBR Enviro Systems developed the W- Series for odour control in typical wastewater applications where the main pollutant is hydrogen sulphide. Other pollutants, occurring in lower concentrations, which are also removed by the system include:

- Total Reduced Sulphur (TRS) compounds including mercaptans, dimethyl sulphide, dimethyl disulphide.
- A variety of Volatile Organic Compounds (VOC's).
- Ammonia and Sulphur dioxide.

The W- series uses a two phase approach for the removal of pollutants:

Phase 1 – Ozone Scrubber

- Hydrogen sulphide is absorbed into the scrubber brine.
- A caustic soda buffer solution ensures complete dissolution of the hydrogen sulphide.

- Ozone is used as the oxidant. It is generated from air with no hazardous by products.
- Ozone is introduced into the solution where it oxidises the dissolved H₂S to sulphate.

Phase 2 – Fluidised-bed Biofilter

- TRS compounds are removed (mercaptans >90%, sulphides >85% and any remaining hydrogen sulphide >99% or 0.1ppmv.
- VOC's are removed >90%
- Pollutants are oxidised by bacteria to form a harmless bio-sludge. The bio-sludge waste falls to the bottom of the filter and is drained away from the plant on a continuous basis.
- The media humidity is controlled to optimise phase transition of pollutants.



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Odour Control W-SERIES

The W-series is the smallest and most cost effective system available for its application. This is mainly due to three factors:

1. We combine two processes into one system, thereby targeting specific pollutants more effectively.
2. Ozone scrubbing is a very efficient way of removing hydrogen sulphide from an air stream.
3. Our patented fluidised-bed biofilter has at least 20 times more active surface area per unit volume than the most efficient static bed biofilters.

Other advantages over using only biofiltration include:

Reduced start-up delays and downtime

- The scrubber is a purely chemical process, so there is no start-up period for removal of the main pollutant, hydrogen sulphide (>99%).

Replacement of the Biofilter media is not necessary.

- The media consists of inert PVC pellets, which provide a growing surface for the bacteria. It does not compact or decompose.
- There is no deterioration of the active biomass over time, because waste bio-sludge is removed from the media on a continuous basis.

Handles peaks and variations better

- The scrubber buffer solution absorbs the peaks and variations in the inlet hydrogen sulphide concentrations (up to 500ppmv).

Other sources of hydrogen sulphide where the W-series is effective include: petroleum refineries; unrefined petroleum product depots; natural gas plants; petrochemical plants; oil sands plants; pulp and paper plants that use the Kraft pulping process and stock feedlots.



Our 750m³/hr Evaluation Unit is available for trial installations.

System Requirements:

Power Supply: 380V AC

Water Supply: 3/4" connection to potable or clear effluent supply (minimum 3 bar).

Caustic (45% solution) consumption: Varies between 0.3 to 1.5 litre/10,000m³ of air treated and is dependant on the hydrogen sulphide concentration.

Wastewater drain: 110mm sewer connection or similar

Spatial:

Model	Capacity	Footprint	Height
BBR3000W	3,000 m³/hr	6 x 2.5 m	2.5 m
BBR6000W	6,000 m³/hr	6 x 5 m	2.5 m
BBR12000W	12,000 m³/hr	6 x 15 m	2.5 m