BISAN, INC.
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Municipal & Wastewater Treatment Applications

Solutions for Air Pollution & Odour Control
EnvirO$_2$ systems provide a low capital, less energy intensive, environmentally beneficial solution for air emission control.

Bisan's **EnvirO$_2$** systems offer the flexibility of odour and air emission control systems utilizing a combination of different schemes and equipment to achieve the desired discharged air quality. We offer a complete line of odour control equipment and systems to handle a wide range of air quality and air emission control needs.

Odour Control

Odour identification and control is often subjective and difficult to quantify. BISAN provides systems that effectively and economically control ALL types of odorous compounds (H2S, Organics, VOCs) emanating from:

- Wastewater Treatment Facility Processes
- Lift Stations
- Sewer Gas Vents
- Animal & Food Processing
- Additional non-regulated VOC sources

Bio-Filtration

The Bio•SUMP
A lightweight, modular bio-oxidation system designed to meet the demands for smaller municipal odour control applications, such as lift stations, sewer vents, and other small, contained processes that emit nuisance odours.

The Bio•S, Bio•F Biofilter Systems:
A single stack or a multi-vessel unit, sized to accommodate all airflows and concentrations of mixed air stream contaminants. Includes a prehumidification and treatment area with the patented Bio•SPHERES organic media.

The Bio•T Bio•Tricklers:
BISAN has developed a unique type of biofilter system utilizing a non-bio type media comprising of a matrix of PP/PE blocks offering a unique atmosphere for the growth of biomass (Bacteria colonies) which in turn removes odour from the air stream. Our unique design utilizes a matrix of PP/PE blocks to allow for the growth of bio-mass on the non-organic media (Note: Other systems that are based on biological media is subject to decay and blockage). This offers a longer life and better performance with even abnormally high concentrations of H2S and other pollutants. Back flushing and regeneration is also possible without the need to remove the media.

Conventional Treatment

Wet Scrubbers (Enviro$_2$-scrub)

Used for high pollutant concentration applications utilizing a different type of chemical scrubbing media to remove pollutants from air streams. The most common application is caustic scrubbers to remove H2S odour from air streams at pumping stations and waste treatment facilities.
Bisan has extensive experience in designing and supplying chemical scrubbers for a variety of applications such as odour control, air stripping, degasification and many others. Types of chemical scrubbers include:

- Vertical single and multi stage types
- Horizontal multi stage
- Venture type
- Emergency Chlorine Scrubbers

Dry (Activated Carbon) Scrubbers (Enviro$_2$-Carb):

Activated carbon units are typically used for low pollutant concentration applications and in most cases as a polisher filter installed after wet scrubbers. Types offered:

- Caustic impregnated and regenerable and water regenerable type
- Manually regenerated
- Automatic regeneration systems
- Thermal regeneration systems

Thermal (regenerative, catalytic etc) Oxidizers:

Thermal oxidizers are used for applications with high VOC concentrations where the level of VOC's themselves can support combustion without the use of fuel. Such applications include pipeline venting, tank venting, solvent cleaning station venting and chemical sterilization processes.
For lower VOC concentrations we offer one of the most compact regenerative type thermal oxidizers. Other equipment includes catalytic type Thermal Oxidizers.

Combining Technologies

Biological treatment technologies can be combined when higher levels of H2S are present in mixed air stream applications (e.g. Headworks; Clarification, Biological & Solids Processes; and Collection Facilities). Combining a Bio-scrubber to treat high concentrations of H2S followed by an organic biofilter for the additional odour compounds and VOCs provides a complete odour control solution with significantly lower operating and labor costs compared to chemical scrubbers. The modularity of the combined system ensures a long media life and reduced footprint over conventional biofilter technologies.