

EMISSION OF VOLATILE ORGANIC COMPOUNDS

Reducing the emission of volatile organic compounds (VOC) is gaining importance. VOC emissions are created during the production of semifinished as well as finished articles, and during the application of various products such as paint, lacquer, glue, and ink. Solvents are among others the factors contributing to the greenhouse effect. Thus, the European Union has passed a directive (1999/13/CE) specifying admissible maximum emissions. Companies ignoring this directive expose themselves to financial as well as legal risks, since their permit may be revoked.

Pure air solutions developed the VOCUS in order to help companies meet European emission limits in a cost-effective manner.

WE CAN HELP YOU

- Adapt your production to the Solvent Emissions Directive (SED)
- Maintain your product quality using solvent based raw materials
- Avoid adjustments and high investments in your production process
- Maintain flexibility in terms of production planning

A TARGETED SOLUTION

The VOCUS is a specifically designed innovative unit used to remove volatile solvents. It consists of a reactor filled with synthetic packing. Attached to this packaging are micro-organisms that are sprayed with water.

The contaminated air flow passes through the reactor via a conical pressure chamber. Inside the reactor, the solvents are absorbed by the water and are converted to water and carbon dioxide by micro-organisms.

Small amounts of nutrients are added to obtain a better result. Besides, factors such as acidity, temperature, and salt concentrations also influence the biological system. It is for this reason that these factors are controlled via the ingenious PureControl control system.

The patented design makes for a very compact unit. Last but not least, the VOCUS saves your company the high cost of natural gas or activated carbon frequently needed in conjunction with other systems.

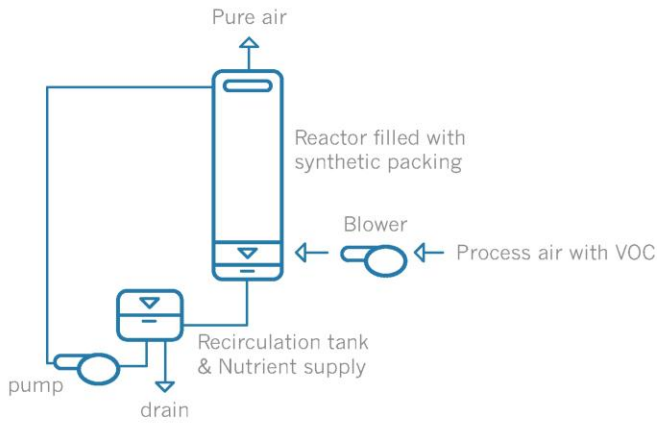


AREAS OF APPLICATION

- Painting, coating and varnishing application
- Furniture industry and wood processing
- Flexographic/rotogravure printing industry
- Shoe industry
- Surface treatment for metals
- Self-adhesive coatings and glues
- Pharmaceutical products
- Conversion of rubber
- Extraction and refinery of vegetable oils and animal fats

THE INNOVATIVE ASPECTS

- Owing to its construction and its height, the VOCUS needs 10 – 20 times less surface area than conventional technologies;
- Conical pressure chamber at the bottom guarantees optimum air distribution and keeps up the correct biomass volume;
- The fully automatic (remote) control guarantees optimum conditions inside the system and generates data for optimum control as well as information flow to third parties (appropriate authorities);
- The design and the carrier material make it possible for the unit to withstand very high loads. It is therefore compact and achieves high efficiency at very low cost.



COMPETITIVE EDGE

- Use of solvents
- No change of the production system
- Maintaining the product quality
- High production capacity
- Low investments and operating costs
- You know exactly what you will be paying

SPECIFICATIONS AND BOUNDARY CONDITIONS

Size	the VOCUS is available with different diameters and heights (up to 14 m)
Carrier material	different volumes of random packed synthetic materials with a variety of shapes
Efficiency	between 80% and 99% depending on the requirements, the composition, and the air conditions
Volumetric flow	between 1.000 and 500.000 m ³ /h air may be processed by one or more units
Temperature	between 15 and 40 °C. Air is being conditioned at different temperatures
Concentration	100 - 5.000 mg VOC / Nm ³ are purified perfectly by the VOCUS
Auxiliaries	Nutrients for nourishment and extra water to compensate for the drain water
Energy	the VOCUS is characterised by its low energy consumption (< 1 kWh / 1.000 Nm ³)

BIOTRICKLING

The Vocus process is based on biotrickling. Biotrickling is a very efficient technique for Odour and VOC removal. A biotrickling filter uses biomass (bacteria) to treat airstreams. Biotrickling is a robust process that requires certain conditions so that reliable operation is ensured and controlled. Optimized conditions are created in the system by controlling certain parameters such as temperature, pH and salt content.

TECHNICAL BENEFITS

- Robust & proven technology
- Limited surface requirements
- Quick assembly & installation
- Low operating expenses
- Modular, flexible system
- Simple, low-risk operation



OUR PRODUCTS AND SERVICES

- Modulair biofilter
- Custom made biofilter
- Vocus
- Sulphur
- MP-X gas scrubber
- MP-V gas scrubber
- OCC solution
- Venturi scrubber
- Heat exchanger
- Precon
- Refillings
- Dispersion and process modeling
- Monitoring and service