

CASE STUDY: Solvent Emission from a Flexographic Printer

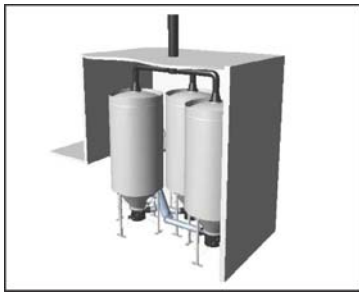
Problem

A manufacturer of packaging material with 5 printers (2 Windmueller & Hoelscher Soloflex and 3 older machines) and 1 solvent laminating machine has a solvent emission. To comply with the solvents emission Directive (1999/13/EC) this company had to reduce their emission.

The flexo printer has an airflow of 15.000 m³/h and uses 60 ton of solvents per year, of which 75% ethanol, 15% Ethyl Acetate and 10% n-Propanol (and others).

Technology evaluation

The technique had to meet the company's philosophy. This means that all new techniques at least have to have the lowest operational cost, lowest maintenance cost and the highest equipment reliability. Besides considering the VOCUS from Pure Air Solutions the company evaluated:



Water based inks: in a series of projects with printing on water inks they failed to achieve satisfaction in their pressroom and with their clients. To many investments needed to be done to achieve the same quality as with their current products.

Thermal Oxidation: this is an effective technique for reducing VOC emissions. in this case thermal oxidation will result in a large natural gas consumption, which results in high operational cost.

Recuperation: Because of the low solvent consumption recuperation was not cost effective for the company.

The solution

In comparison with other techniques, the flexo printer calculated that the VOCUS has the lowest total cost of ownership. Because of the relatively low concentration and the discontinuous process of the company, the VOCUS was the most cost effective solution due to the low energy consumption and low investment cost.

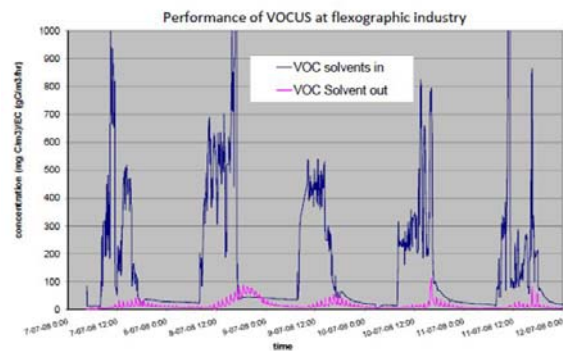
Finally the company decided to purchase the VOCUS for three reasons:

1. Complying to the European VOC solvent directive 1999/13/EC by treating the VOC solvents emissions;
2. Saving Euro 50.000 – 75.000,- per year on natural gas costs needed for Thermal Oxidation;
3. Implementing a green technology to increase the green & durable image of the company

The VOCUS in operation

The VOCUS is in full scale operation since 2007. The performance of the installation is checked on a daily basis with an internet connection between the systems control panel and the Pure air solutions service desk.

The performance graph shows a representative situation at a production week in the company. The performance of the VOC solvent treatment is plotted against the time. The outlet concentration is continuously below 100 mg C/m³ per hour at a monthly operational costs around € 8.500.



Why Choose Pure Air Solutions?

Pure air solutions is operating world-wide in the area of air pollution control. We have grown to be one of the leading companies in solvent emission control. Our success is based on knowledge, creativity, high level of support and a strong relationship with our customers. This enables us to offer high quality products and to find the best balance between quality, cost, removal efficiency, scope of supply and guarantees. It is this balance that results in satisfied, returning customers.