



### Areas of Customer Support

EIS offer a comprehensive range of services for VOC abatement and odour control including:

- Process surveys to establish air volumes and solvent concentrations
- Olfactometric testing and dispersion modelling
- Optimisation of process exhaust flows
- Supply of turnkey VOC and odour abatement projects
- Re-builds and upgrades of existing RTO systems
- Relocation of existing thermal oxidisers and other abatement equipment
- RTO media replacement for lower pressure drop and increased air volume
- Service support on all types of thermal and catalytic oxidisers
- Enclosure and capture systems to reduce treatment exhaust volumes
- Design and installation of process ductwork
- Primary and secondary heat recovery
- Hazop studies
- Installation under CDM Regulations
- CE marked equipment
- Modem links available
- Comprehensive warranty packages
- Spare parts



### Turnkey Projects

EIS provide complete turnkey projects starting with the up-front engineering study, followed by the concept design and specification of the abatement system, followed by in-house manufacture.

Once completed the equipment is delivered to site for final installation and commissioning before hand over to the client.

EIS project manages everything, including civils, utilities, site wiring, and the interface controls between the process and the abatement system. We are there at the beginning and on into the future to assist our customers with any service or maintenance support they require.



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- Thermal Oxidisers
- Catalytic Oxidisers
- Rotary Concentrators
- Adsorption Systems
- Filtration Systems
- Heat Recovery
- Ductwork Design
- Biological Systems
- Absorption Systems

VOC AND ODOUR CONTROL SYSTEMS



printing • packaging • coating • can • coil • rendering • sewage





## Environmental Integrated Solutions

EIS, a division of the Intergrupp of companies based in Rochdale, is a dynamic company which has rapidly become globally competitive while at the same time responsive to the demands of the European market.

The philosophy for the growth of the company is based on a partnership with both existing and new customers. This partnership allows EIS to provide individually designed VOC and odour abatement systems which fully integrate with existing processes and comply with individual authorisation emission levels.

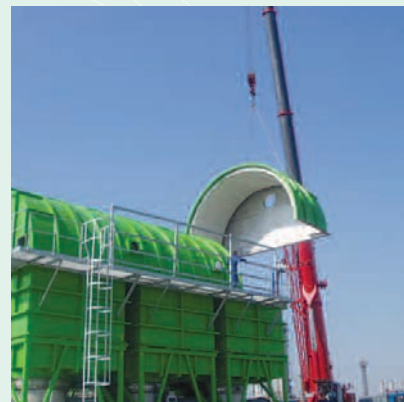
The available technology includes:-

- Thermal Oxidisers
- Catalytic Oxidisers
- Adsorption Systems
- Absorption Systems
- Heat Recovery Systems
- Filtration Systems

The workforce numbers thirty, made up of chemical, mechanical and electrical engineers, supported by a comprehensive team of qualified installation, commissioning and service engineers. Post sales service support includes training, both practical and theory, together with service contracts to suit the need of the individual company.

To maintain our commitment to quality, our project managers will ensure that each installation is engineered correctly, installed and completed to the agreed delivery schedule.

Once installed, our service engineers will carry out the final start-up and commissioning of the equipment to ensure full integration with the production process and compliance with the emission authorisation, prior to handover to the client.



## Regenerative Thermal Oxidisers

Regenerative Thermal Oxidisers or RTOs are the preferred technology for the abatement of manufacturing processes with a wide range of VOC concentrations and process exhaust volumes.

EIS offer a range of RTOs including single, double and multi canister units, the choice of which is dependant on the process condition and emission limits. Depending on the solvent concentration, each system can be designed for a thermal efficiency of 95% or more, to minimise the use of support fuel. At the design thermal efficiency and at an achieved solvent loading the RTO will be autothermal, No Flame Operation.

Heat recovery is achieved by using ceramic media in random or structured design in each of the canisters on a cyclic basis, to alternatively recover heat from the high temperature exhaust gases as they exit from the RTO or to preheat the incoming process exhausts as they enter.

The destruction of the VOCs is ensured by use of the three "Ts," Turbulence, Temperature and Time. Turbulence is achieved by the incoming exhaust stream passing through the randomly packed ceramic media into the combustion chamber. Temperature is the design temperature in the combustion chamber, typically 800°C or 1200°C for chlorinated compounds. Time, is how long the process gases are held in the combustion chamber to achieve destruction.

This high level of destruction is then maintained by careful selection of operating cycle time, inlet and outlet damper design and the use of a purge system.

The destruction efficiency of the RTO can be further enhanced by the use of twin seal dampers to minimise the possibility of cross contamination. To accommodate exhaust streams with high solvent loadings high solvent bypasses are available.

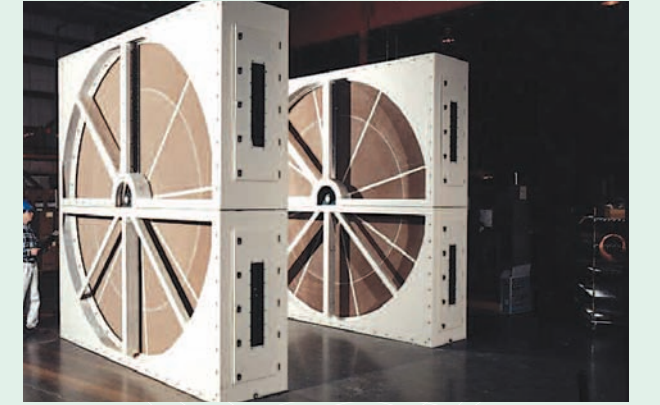


## Rotary Concentrators

Adsorption is a means of concentrating the contaminants in an exhaust stream, prior to their recovery or destruction. In an adsorption process, the VOC content is removed from the process exhaust and is concentrated into a much smaller stream. With a rotary concentrator, this is achieved by first adsorbing the VOC onto the surface of an adsorbent material, zeolite or carbon, and then desorbing it with a hot air supply. Both stages are carried out in separate segments of a continuously rotating wheel.

The treated process air is discharged to atmosphere whilst the smaller but highly concentrated exhaust from the desorption part of the wheel is processed in a thermal or catalytic oxidiser.

Rotary Concentrators can be installed in parallel to accommodate a full range of exhaust volumes.



## Carbon Systems

Activated carbon is used to control emissions of organic solvents, odours, toxic gases, phenols, hydrocarbons, and acid vapours.

The reduction of odour by the use of carbon is an effective solution for exhaust volumes with low levels of contaminants, expressed as odour units per cubic metre.

As an example, waste incineration and the offensive odours emitted by refuse before incineration, have been successfully reduced by the use of fixed bed activated carbon.

The life expectancy of the carbon is directly proportional to the level of contaminants passing through.