

## Equipment & Systems

Parsons Engineering Ltd is the largest UK specialist engineering and manufacturing facility producing a complete range of corrosion resistant plastic plant. We have over 40 years of experience in the design, manufacture and supply of Air Pollution Control equipment and have delivered numerous systems to treat odorous, highly corrosive, toxic and carcinogenic gases, utilising the following technologies:

- Wet Chemical Scrubbing
- Carbon Adsorption
- Catalytic Enhanced Oxidation - Odorgard™ developed by ICI

The successful growth and diversification of the business has ensured an ongoing policy of investment in technology including state of the art CAD design and drawing facilities linked to the latest CNC software. This continuous investment in technology and commitment to in house Mechanical and Chemical engineering disciplines has enabled Parsons to establish a strong UK and International customer base including:

- Pharmaceutical; GlaxoSmithKline, Pfizer, Schering-Plough, Merck Sharpe and Dhome.
- Electronics; Motorola, Siemens, Fujitsu, Intel' International Rectifier, Seagate.
- Water treatment; Thames Water, Southern Water, Anglia Water, Scottish Water, United Utilities, Wessex Water.
- Food; Coca Cola, Schweppes, Cadbury, Nestle, Carlsberg, Grampian Foods.
- Industrial; BOC, Air Products, Rolls Royce, BAe.

## Parsons Engineering - Equipment

We offer a complete range of Air Pollution Control equipment, all manufactured in accordance with British Standards, including:

- Complete range of fume scrubbers.
- Degassers.
- Plastic centrifugal fans.
- Bulk storage and process vessels.
- Plastic exhaust ductwork.
- Plastic sound attenuators / silencers.
- Plastic dampers.
- Exhaust Stacks.



## Parsons Fume Scrubbing Equipment

At Parsons we have vast experience in designing and manufacturing a wide range of fume scrubbing plant. This equipment works by removing pollutants from gas streams; its design is therefore dependent on the industrial process conditions and the nature of the air pollutants involved. Parsons understanding of these processes ensures we produce equipment tailored to individual requirements, guaranteeing optimal performance and value.

### Parsons Fume Scrubbing Equipment

- **Vertical Packed Column Scrubbers** - we manufacture according to specific requirements; changing the height to meet emission demands and space constraints and selecting the correct scrubbing medium and material construction to guarantee optimal performance.
- **Multi stage Spray Scrubbers** - used for low demand fume scrubbing.
- **Venturi Fume Scrubbers** - designed for the removal of particulates from exhaust streams.
- **Horizontal Fume Scrubbers** - used to treat large exhaust streams with low levels of contaminants. We produce these to include cross current, co-current or counter current flow depending on specific conditions. Horizontal scrubbers are especially suited for use where height limitations apply.

## Parsons CO<sub>2</sub> Degassers

Degassers are utilised to prevent plant corrosion by stripping dissolved CO<sub>2</sub> from water supplies. Parsons degassers can remove CO<sub>2</sub> levels to less than 5ppm, expressed as CaCO<sub>2</sub>.

Parsons have extensive knowledge in the manufacture of this equipment and are able to supply a wide range of degassers:

- Individually designed to suit specific purposes.
- Manufactured in a range of materials, according to Process Demands.
- Operational at low pressures for reduced operating costs.

## Parsons Centrifugal Fans

Parsons centrifugal fans are manufactured in corrosion resistant plastic and designed to meet a diverse range of applications.

The range includes conventional centrifugal fans extracting volumes from 50m<sup>3</sup>/hr to 200,000m<sup>3</sup>/hr, at pressures ranging from 100pa to 100kpa. For laboratory applications Parsons also manufacture a range of roof mounted fans.



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## Parsons Bulk Storage Vessels

Our Storage Vessels are designed according to specific process conditions and for maximum economy. The majority are vertical, circular vessels, fabricated in diameters up to 4500 mm diameter and 12 metres high. Parsons also produce rectangular, sectional vessels for specific sites where access is restricted.

Parsons have extensive experience in designing and manufacturing purpose built vessels to any size or capacity. We construct our Bulk Storage Vessels from a variety of materials including:

- Polypropylene
- PVC
- PVDF
- ECTFE
- Glass reinforced plastic (GRP)

Accessories such as integral bunds, access ladders and platforms plus instrumentation can all be included to ensure that we provide the product to your exact requirements. Complete turn-key packages including scrubbing equipment are available on request.



## Parsons Ductwork

Parsons offer a complete range of duct work and accessories, available in a variety of materials and manufactured to DW151 standard. We can provide full service including AutoCAD design, on site installation, pressure testing, balancing and commissioning, as required.

We are also able to conduct site surveys using the latest Total Station survey equipment which is linked to our AutoCAD design facility.



### Parsons Dampers

Flow control is a critical element of all fluid dynamics. An integral part of any ductwork system is therefore the range of dampers required to tune the system and provide the necessary operational flexibility and system safeguards.

The aggressive chemical environments in which many systems are required to function necessitates the use of construction materials that can operate efficiently within such corrosive parameters. Parsons offer a full and comprehensive range of dampers, tailored to meet a specific process requirement, these include:

Type	Size Range
Butterfly Flow Control	110 mm – 450 mm circular or square
Butterfly Shut-off Dampers	110 mm – 450 mm circular
Multileaf Flow Control	300 mm – 4000 mm square/rectangular
Back Draft Dampers	110 mm – 3000 mm square/rectangular, some sizes are available in circular
Blast gate Shutoff/Isolation Dampers	110 mm – 4000 mm circular/square/rectangular
Actuation	All of the above are available with electric/hydraulic/pneumatic actuation with fail safe to close or open and can be installed in hazardous flameproof environments.

### Parsons Plastic Attenuators

Parsons manufacture and supply of a full range of Plastic Noise Attenuators, or silencers. These are incorporated into plastic duct work systems in situations where noise levels must be reduced, to comply with working, environmental or local planning requirements.

Parsons can also undertake site wide noise surveys to determine the compound requirement. We have particular expertise in this field and are able to design and build a full range of stack-mounted attenuators that reduce the need for special requirements and offer a neat and innovative solution to this increasingly demanding environmental issue.



## Parsons Engineering – Services

### *Parsons Odour Abatement Packages*

Parsons can provide a comprehensive package of odour abatement services:

- Advice on odour control and abatement; identification of the appropriate odour abatement techniques and equipment to ensure provision of the most cost effective solution.
- Sector specific advice; based on our extensive experience in delivering solutions for many industrial sectors, both in the UK & Worldwide.
- Preparation of odour maps; site specific plans that identify all sources of odour during normal and abnormal operations and ensure appropriate techniques processes are harnessed to minimise the odour release.
- Equipment supply; we can supply plant for short term hire, long term rental and purchase.



### *Parsons Decommissioning & Facilities Management*

Parsons are experts in decommissioning of obsolete scrubbing systems, our expertise in this area has been developed through undertaking complex projects that require high levels of skill and experience. We offer a full decommissioning service including:

- Safe transportation from site and disposal of equipment.
- Equipment testing and identification.
- Preparation of cleaning protocols to ensure the safe disposal of any contents.
- Correct containment of hazardous materials.
- Arranging and overseeing the safe disposal of toxic materials, in accordance with relevant regulatory and statutory requirements.
- The production of Method Statements to ensure the safe removal of equipment from site.
- The production of Lifting Statements to ensure safe handling and transportation procedures are in place.
- Arrangement of police escorts and support personnel, as required.
- The breaking and disposal of equipment, in accordance with all statutory requirements, including full certification and documentation.
- Development and commitment to systems and processes that minimise environmental impact. Wherever possible this includes recycling of equipment.