

# Carbon Adsorption Beds

For adsorbing volatile gases

May 04



**ARMATEC**

## PRODUCT DESCRIPTION

For removing volatile gases and odours from air streams.

## CARBON ADSORPTION BEDS

Carbon adsorption units are designed for removing volatile gases from air streams where the concentration of the volatiles is relatively low and the air volume is relatively large.

Activated carbon is a crude form of graphite with a highly porous structure. The pore sizes vary from visible cracks and crevices, to cracks and crevices of molecular size. Intermolecular attractions in these smallest pores result in adsorption forces which cause condensation and capture of the volatile gases.

## FEATURES

- Design flexibility allows for units to be upflow, downflow or crossflow depending on the project requirements. Some designs use a downflow and upflow bed within the same shell to minimise floor space.
- Life of carbon is dependent on the quantity of volatiles being adsorbed and the mass of carbon installed.
- Different grades of carbon from different manufacturers are available depending on the application. Our carbon suppliers provide comprehensive technical data and advice on the correct selection of carbon.
- Carbon impregnated with caustic compounds can be used to improve removal efficiencies for compounds such as hydrogen sulphide.
- They are particularly useful for removing compounds that are not water soluble and so can't be removed by a wet scrubber.
- Units are designed for easy removal and replacement of carbon.
- Standard shell design provided for pressure range of vacuum -150mm WC to +250mm WC.
- Adsorber shells are constructed in corrosion resistant fibreglass for long low maintenance life when used for handling corrosive air streams.
- Pilot plant available for site trials.

## USES

- Removing hydrogen sulphide from sewer gases
- Odour control
- Solvent recovery
- Air purification
- As final stage after a wet scrubber



Carbon adsorption beds removing hydrogen sulphide and other odours from landfill gas stream. Fibreglass construction used to handle corrosive airstream.

**ARMATEC Environmental Ltd**

P.O. Box 3046, New Plymouth, New Zealand.

Ph 06-755-0410

Fax 06-755-2346

email: k-k@armatec.co.nz

www.armatec.co.nz



## Wastewater Treatment Plant Application



Carbon bed at municipal waste water treatment plant located after chemical scrubbers ensures there are no emissions of odorous air at any time. The chemical scrubbers do the bulk of the odour control, and the resulting low inlet loading gives the carbon a long life, minimising total running costs.

## Pilot Plant for Site Trial Work



Carbon bed adsorber pilot plant removing odours from air vented from a municipal sewer. This unit features a crossflow design allowing for draining of condensation, and is available for pilot plant work or hire.

## Asphalt Plant Application



Carbon bed at asphalt plant removes odours from exhaust from manufacturing operations.

## ARMATEC Environmental Ltd

P.O. Box 3046, New Plymouth, New Zealand.

Ph 06-755-0410

Fax 06-755-2346

email: k-k@armatec.co.nz

www.armatec.co.nz

