newterra®

clean water. modular solutions. simple™

Odor Control

Odour Control

Newterra has been controlling odours for over 20 years.

Our technologies for controlling odours have been used for:

- Municipal waste water plants
- Composting activities challenging odours
- Mushroom farms
- Lagoon water treatment from chicken rendering and other food plants
- Sewage Pump Stations
- Remedial systems

Sources of Odour in a Sewage System

Potential Sources of Odour in an MBR system:

- Manholes along the sewer collection system if any
- Pumping stations on the sewage collection system if any
- Equalization tanks or wet pits without aeration
- Screen systems before any aeration steps

What Creates the Odour

- Sewage is allowed to go ‘septic’ or
- Sulphate reducing bacteria thrive
- Hydrogen sulphate is produced (H2S)
- This is the rotten egg smell
- Mercaptans and amines may also form

Sources of Odour in a Sewage System

Where we don't typically create odour issues with MBR:

- Equalization tanks with aeration
- Aeration tanks (high dissolved oxygen, no formation of H2S)
- Anoxic tanks (low dissolved oxygen, but still aerobic so no formationof H2S)
- Discharge tank, pond,ditch etc
- Sludge holding tank as long as the tank is aerated

Solutions to Potential Odour Areas

- Aerate if possible to prevent septic conditions
- Ventilate and treat air from areas where odours might be formed

Examples of Systems in Close to Receptors with no odour control

White House Condominium and Hotel Brockville

Barbados Resort

Beaverdams Golf Course Water Reuse - Calgary

Examples of Systems in Close to Receptors with odour control

Redpath

Vent Stack Passive Scrubber

Technologies

Our technologies and equipment:

- Media adsorption (carbon, IPH or other selective media)
- Biological treatment of soil or ponds (10 projects)
- Air scrubbers (media) either deep bed or shallow tray (Hundreds)
- Manhole media cannisters (50 supplied, including City of Ottawa)
- Passive Vent Scrubbers

Examples of newterra Odor Control Equipment Built for other customers

Quebec
Sewage Pumping Station

Saskatchewan
Sewage Pumping Station

Papermill
H2S and Mercaptan Removal

Examples of newterra Odor Control Equipment

Proctor & Gamble
Odour Abatement System

Extrata Nickel
H2S and Mercaptan Removal

Specialized Media – long lasting

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GC IPH – Impregnated Activated Carbon

Specifications

Carbon substrate

- Particle type: pelletized
- Particle diameter: 4.0 mm
- Particle length: 6.0 mm
- Mean particle diameter: 4.7 mm (min)
- CCl_4 activity: 60 % (min)
- Iodine no: 1000 mg/g (min)
- Surface area: 1000 m^2/g (min)
- Hardness: 95%(min)

Standard packaging

- 55 lb bags or 1100 lb bulk bags

Impregnated carbon

- Bulk density: 0.55 g/cc
- Moisture: 15 % (max)
- Maximum head loss at 50 fpm superficial velocity through a dense packed bed, in wc/ft. bed depth: 1.9 (max)
- Hydrogen sulphide breakthrough capacity, g H_2S/cc carbon: 0.14 (min)

GC IPH is a bituminous coal-based activated carbon that is specially impregnated for the desulphurization of gases and the removal of all acidic contaminants such as hydrogen sulphide (H_2S), hydrogen chloride (HCl), and mercaptans (thiols).

Safety message
Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels. Confined space/low oxygen procedures should be put in place before any entry is made. Such procedures should comply with all applicable local, state and federal guidelines.

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Process Knowledge and Design Tools

nwterra Deep Bed Carbon Design and quote System

Fll Quote Number	
MLEE QuoteNumbe	800140
Date:	Nov 2 07
Sales Rep	Robert Leblanc
Customer	Nano Technologies
Contact	Gil Leblanc
Airflow	250

FILL IN THIS INFORMATION

Always check contaminates for material selection
http://www.coleparmer.com/techinfo/chemcomp.asp

Round Vessel Design (Vertical UP airflow)

Airflow	250	cfm	
Residence Time	2	sec	------ FILL IN THIS NUMBER (no less than 2 sec)
Required Carbon Volume	8.3	cu ft	
	8	Carbon to use	
Diameter of Tank	74	inches	------ FILL IN THIS NUMBER using standard tank sizes
	30	Ft2 area for are to flow through	
Height of Carbon	3.3	depth in inches of media in tank	
Speed of air in Carbon	8.4	ft/min	BEST SPEED IS 50 or LESS MORE SPEED = MORE BACK PRESSURE

Square Vessel Design (horizontal air flow)

Airflow	250	cfm	
Residence Time	1.5	sec	------ FILL IN THIS NUMBER (no less than 2 sec)
Required Carbon Volume	6.3	cu ft	
	6	Carbon to use	
Thickness of Carbon Bed	36	Inches (usually 36")	------ FILL IN THIS NUMBER
Width of Carbon Bed	12	inches (whatever seem best)	------ FILL IN THIS NUMBER
	3	ft2	
Height of Carbon Vessel	25	inches (approximate, always round up)	
	2.1	Square Area for air to flow through	
Speed of air in Carbon	120	ft/min	BEST SPEED IS 50 or LESS MORE SPEED = MORE BACK PRESSURE

Standard Sizes
Metal - 30" diamter for a 8' long sheet of steel
Metal - 38" diamter for a 10' long sheet of steel
plast 30" diamter 48 tall
36 diamter x 48 tall
42 diameter x 48 or 54 tall
52 diamter x 60 tall
74 diamter x 64 tall

Remember that you need 6" plenum space below and 6" plenum space above the carbon

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