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BIOFILTER ODOR CONTROL
BIOFILTRATION
BIOFILTRATION

- Passing odorous air through a media containing microbial populations
- Microbes use the odorous compounds as a food source
- Media must be kept moist and air must have good paths through media
- Requires long contact times and low velocities
- Systems come in a variety of designs and media configurations
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**BIOFILTRATION**

**MEDIA**
1. Organic – Wood Chips, Bark, Roots, Compost, Activated Carbon
2. Porous Rock – Laval Rock
3. Synthetic - Sponges, Scrubber Media, Foams, BioOdorSorb

**IRRIGATION**
1. Type – Overhead spray, Drip System, Pre-humidification
2. Water Source – Augmented Fresh Water, Plant Effluent

**SYSTEM**
1. In-ground
2. Basins
3. Modular Vessels
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BIOFILTRATION

MODULAR TYPES

1. Biofilter
   - Utilizes an organic media
   - Complex bioactivity, Large biomass - Heterotrophic
   - Limited Media Life
   - Low Face Velocities and High Contact Times

2. Bioscrubber
   - Utilizes an inorganic media
   - Simple bioactivity, small biomass - Autotrophic
   - Long Media Life
   - Higher Face Velocities and Lower Contact Times
BIOFILTRATION

BIOFILTER

DESIGN PARAMETERS

1. Face Velocity – Air Flow/Cross Sectional Area of Vessel
   2 to 10 feet/minute depending on compounds and load

2. Contact Time – Media/Air Flow
   20 to 60 seconds depending on compounds and load
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1. Media – Wood Chips/Compost, Sand, or Engineered Media

BIOFILTRATION
INGROUND BIOFILTER
BIOFILTRATION

BIOFILTER - Packed Bed
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BIOFILTER – Tray System
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BIOSCRUBBER

DESIGN PARAMETERS
1. Face Velocity – Air Flow/Cross Sectional Area of Vessel
   20 to 50 feet/minute depending on compounds and load

2. Contact Time – Media/Air Flow
   5 to 20 seconds depending on compounds and load
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BIOSCRUBBER

1. Media – Foam (cubes, rolled, or stacked), lava rock
2. Humidification – Not Required
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