

# Biotrickling *Filter*<sub>System.</sub>

Purer

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Biological Odour Control System For STP



## ODOUR CONTROL TECHNOLOGIES

Odour related problems are a major concern for the communities surrounding the Sewage Treatment Plants (STP) and Waste Water Treatment Plants (WWTP).

The main challenge in the design of odour control system lies in its capability to consistently achieve complete odour removal despite the diversity of high concentration of pollutants which is the main consideration of our system.

IEC designs and manufactures Biotrickling Filter System to remove high levels of hydrogen sulfide ( $H_2S$ ) gas, Ammonia ( $NH_3$ ) and other odour causing gases from STP's and Pumping stations. Our Biotrickling Filter Systems will typically remove 99% of odorous gases without the use of chemicals.

## ABOUT PURER

IEC'S PURER Series Odour Control System is an advanced two-stage biological system that provides effective odour control. The first stage is a biotrickling reactor where oxidizing bacteria's are used to oxidize hydrogen sulfide ( $H_2S$ ), Ammonia ( $NH_3$ ) and other odorous compounds. The second stage uses activated carbon to remove the remaining odour traces.

## PROCESS DESCRIPTION

The PURER system uses a proprietary packed media bed as the primary support for the media growth. The media bed is irrigated with nutrients and . This will provide optimum environment for the preferential growth of Sulphur Oxidizing and Ammonia Oxidizing bacteria's. Better than 99 %  $H_2S$  removal can be achieved at high inlet loading of 150 ppm  $H_2S$ . Sizing is based on air flow rate,  $H_2S$  and organic odour concentrations.

# FEATURES & BENEFITS

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- 01 ● Low operating cost
- 02 ● More than 99 % H<sub>2</sub>S and NH<sub>3</sub> removal
- 03 ● Low maintenance
- 04 ● Low gas Retention Time which results smaller foot print than competitors
- 05 ● Two-Stage Design for Effective H<sub>2</sub>S and Organic Odour Removal
- 06 ● Low water usage
- 07 ● Compact & small footprint design
- 08 ● No handling or storage of hazardous chemicals
- 09 ● Integral nutrient feed system



Purer  
BIO-TRICKLING FILTERS

## TWO STAGE. REMOVAL

MADE FROM  
Glass Reinforced Plastics for  
**CORROSION  
RESISTANCE.**

# INDUSTRIAL APPLICATIONS



Sewage Treatment Plants  
(STP)

Pumping Stations



Waste Water Treatment Plants  
(WWTP)

Waste Storage & Treatment Plants

## MODELS & CONSTRUCTION

Available Capacity: 5m<sup>3</sup>/hr to 50,000m<sup>3</sup>/hr of odorous air.

| Models      | Odorous Air Handling Capacity (m <sup>3</sup> /hr) | Selection Basis<br>Volume Of Odourous Tank X Number Of Air Exchanges Per Hour |
|-------------|--|---|
| PURER – 1   | 100  | 10 x 10 Air Cycles  |
| PURER – 2   | 200  | 20 x 10 Air Cycles  |
| PURER – 3   | 300  | 30 x 10 Air Cycles  |
| PURER – 5   | 500  | 50 x 10 Air Cycles  |
| PURER – 7   | 700  | 70 x 10 Air Cycles  |
| PURER – 10  | 1000   | 100 x 10 Air Cycles   |
| PURER – 15  | 1500   | 150 x 10 Air Cycles   |
| PURER – 25  | 3500   | 350 x 10 Air Cycles   |
| PURER – 35  | 3500   | 350 x 10 Air Cycles   |
| PURER – 50  | 5000   | 500 x 10 Air Cycles   |
| PURER – 75  | 7500   | 750 x 10 Air Cycles   |
| PURER – 100 | 10000  | 1000 x 10 Air Cycles  |
| PURER – 150 | 15000  | 1500 x 10 Air Cycles  |
| PURER – 200 | 20000  | 2000 x 10 Air Cycles  |
| PURER – 250 | 25000  | 2500 x 10 Air Cycles  |
| PURER – 300 | 30000  | 4000 x 10 Air Cycles  |
| PURER – 400 | 40000  | 4000 x 10 Air Cycles  |
| PURER – 500 | 50000  | 5000 x 10 Air Cycles  |

## CONSTRUCTION

All PURER series systems are GRP constructed for durability & corrosion resistance. PURER systems are designed to remove high concentration upto 150 ppm of Hydrogen sulfide (H<sub>2</sub>S) and 40 ppm of Ammonia (NH<sub>3</sub>) to less than 1 ppm.

## TECHNICAL DETAILS

| Specifications  | Power Supply          | Operator Interface     | Outlet Concentration   | Maximum Inlet Concentration                        |
|---|-----------------------|------------------------|--|--|
| 1.First Stage – Bio Trickling Filter<br>2.Second Stage – Activated Carbon Filter<br>3.Centrifugal Draft Fan<br>4.Vent stack<br>5.Outlet H <sub>2</sub> S & NH <sub>3</sub> Monitors | 415 V AC,<br>3 Phase. | PLC/HMI Touch screen.* | < 1 ppm H <sub>2</sub> S<br>< 1 ppm NH <sub>3</sub><br>< 500 ou/m <sup>3</sup> | 150 ppm H <sub>2</sub> S<br>40 ppm NH <sub>3</sub> |



Biological Odour Control System For STP



**IEC FABCHEM LIMITED**

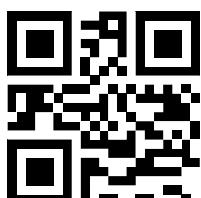
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