



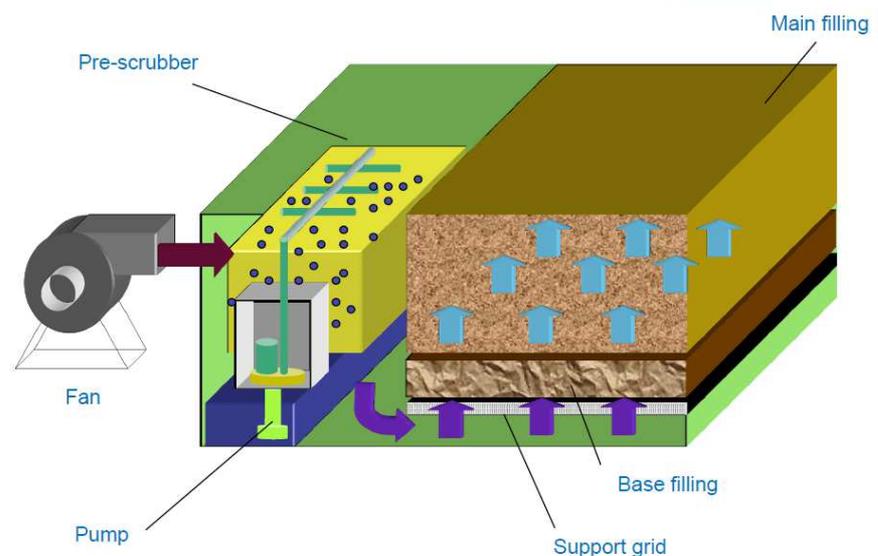
Biofilter

Like natural biodegradation the purification of air pollutants by biofiltration works with indigenous microorganisms.

Functional principle

The heart of the biofilter is the filter bed consisting of organic material. A natural microflora is colonizing on the large surface of the chosen filter medium. Good biofilter media stimulate multiplication and adaptation of micro-organisms by supplying optimal growth conditions. The pollutants are (ad)sorbed by the large inner surface of the biofilter medium and catabolized by the microorganisms within the biofilm. To use this natural processes in a highly efficient way Tholander chooses specifically treated biofilter material with a high biological activity resulting in excellent purification efficiency and an even flow.

To preserve the optimum conditions of growth and degradation for the micro-organisms Tholander configures its biofilters with an upstream scrubber unit. This unit is a packed column integrated into the distribution chamber of the biofilter and pre-conditions the inlet air: In the simplest application pre-conditioning relates to humidifying the air up to saturation. The humidification allows maintaining the water content of the biofilter medium at a sufficient level which is needed for proper functioning of the microorganisms.



In more ambitious/complex applications the scrubber removes pH-relevant waste gas constituents to avoid inactivation of the microorganisms. Compounds influencing the pH are e.g. hydrogen sulfide and ammonia, which are common in waste water treatment and composting plants. Depending on the application we add upstream components like heat exchangers, filter units etc. to maintain the optimum working conditions for the micro-organisms.

Characteristics

- Delivery of turn-key facilities
- Reduced obligations of the customer
- Corrosion-resistant materials
- Possible delivery of facilities to international clients including overseas markets
- Economical use of material
- Reduction of efforts for frost-resistance and piping
- Clearly arranged front panel
- Short assembly time
- In case of change of crude gas composition plants can be retrofitted

Application examples

- Waste water and sewage sludge treatment
- Composting, biological and mechanical waste treatment
- Food processing, slaughterhouses (abattoirs)
- Leather production
- Tobacco industry

